Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

STATE OF NORTH CAROLINA
Division of Community Revitalization (DCR)
Best and Final Offer

Refer *ALL* Inquiries regarding this to: angela.dunaway@commerce.nc.gov (919) 526-8340	**Best and Final Offer (BAFO)** **RFP # Doc1539254856_Builder**
	Best and Final Offer Issue Date: September 8, 2025
	BAFO will be received until: September 15, 2025, at 10:00 am EST
Using Agency: North Carolina Department of Commerce, Division of Community Revitalization	

NOTICE TO VENDOR

Vendor may choose to accept the State's selected house plan sets and pricing shown herein and sign the Best and Final Offer (BAFO), which will finalize the contract. If a Vendor does not accept the house plan sets and pricing and sign the BAFO, Vendor will not be contracted for the services identified in Request for Proposal #Doc1539254856.

Submit the executed BAFO (this form) to angela.dunaway@commerce.nc.gov by the due date and time indicated above. Offers are subject to rejection unless submitted as described herein.

EXECUTION

In compliance with this Best and Final Offer, and subject to all the terms and conditions herein, those in the original Request for Proposal (unless superseded herein) and in Vendor's offer thereto, the undersigned offers and agrees to furnish and deliver any or all goods/services which are offered, at the prices agreed upon in the BAFO and within the time specified. Pursuant to GS §143-54 and §143-59.2 and under penalty of perjury, the undersigned Vendor certifies that this offer has not been arrived at collusively or otherwise in violation of Federal or North Carolina law and this offer is made without prior understanding, agreement, or connection with any firm, corporation, or person submitting an offer for the same services, and is in all respects fair and without collusion or fraud.

Failure to sign this BAFO will render offer invalid and it SHALL BE REJECTED.

COMPLETE/FORMAL NAME OF VENDOR: Excel Contractors LLC.		
STREET ADDRESS: 8641 United Plaza Boulevard	P.O. BOX:	ZIP: 70809
CITY & STATE & ZIP: Baton Rouge LA 70809	TELEPHONE NUMBER: 225-408-1379	TOLL FREE TEL. NO:
PRINCIPAL PLACE OF BUSINESS ADDRESS IF DIFFERENT FROM ABOVE:		
PRINT NAME & TITLE OF PERSON SIGNING ON BEHALF OF VENDOR: Jerry Johnson	FAX NUMBER:	
VENDOR'S AUTHORIZED SIGNATURE: [redacted]	DATE:	EMAIL: jjohnson@ExcelusA.Com

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Best and Final Offer

The State has determined the house plan sets to be used and the pricing provided to be paid to all Vendors for the services defined in Request for Proposal #Doc1539254856, which are included as attachments to this BAFO. Vendors may choose to accept the plan sets and pricing and sign this Best and Final Offer, which will finalize the contract. If a Vendor does not accept this BAFO, it will not be contracted for the services identified in this RFP.

IMPORTANT NOTE:

It is the Vendor's sole responsibility to ensure its BAFO has been received at angela.dunaway@commerce.nc.gov by the specified time and date. Upon receipt of the signed BAFO from the vendor, a confirmation email will be sent. If the Vendor does not receive a confirmation email within a reasonable time after BAFO submission, within normal business hours, it is the sole responsibility of the Vendor to send a follow up email to confirm receipt PRIOR to the due time and date. Vendors are cautioned not to wait until the time immediately preceding the due time and date to submit the BAFO. The State will countersign the BAFO and at that time a contract will be created. The State will send a fully executed contract (including the offer and the BAFO) to each vendor upon full execution.

CONFIDENTIALITY AND PROHIBITED COMMUNICATIONS DURING EVALUATION:

The RFP is still in the evaluation period. During this period and prior to award, possession of the BAFO, original RFP response and accompanying information is limited to personnel of the Division of Community Revitalization responsible for participating in the evaluation. Responding Vendor, including any subcontractors and suppliers, is prohibited from engaging in conversations intended to influence the outcome of the evaluation. Any Vendor not in compliance with this provision shall be disqualified from evaluation and award. See RFP Section 3.2.

ACCEPTANCE OF OFFER

If the State accepts any or all parts of this offer, an authorized representative of the Department of Commerce shall affix his/her signature to the Vendor's response to this BAFO. The acceptance shall include the response to this BAFO, any provisions and requirements of the original RFP which have not been superseded by this BAFO and all Terms and Conditions. These documents shall then constitute the written agreement between the parties. A copy of this acceptance will be forwarded to the successful vendor(s).

FOR STATE USE ONLY

Offer accepted and contract awarded this 15th *day of September 2025, as indicated on attached certification,*

by [redacted] (Authorized representative of the Department of Commerce).

Signed by:
FE0DA442C5114B4...

PRICING

Rehabilitation Cost	
Combined overhead and profit rate to be provided on top of approved Xactimate cost estimates.	
	27.76%

MHU Price

Scope of Work:

The prices are inclusive of the following items: All permits/fees; taxes/sales tax; disconnection of all utilities; Demolition and disposal of the existing storm damaged MHU in an approved facility; Sitework and grading required to install the new MHU; Purchase of the new MHU; Hauling of the new MHU to the applicant address; Installation of the new MHU to be applicant address in accordance with program and code requirements; stairs; Skirting; Connection of all appliances and HVAC system; GC testing of all mechanical, electrical, and plumbing systems; All required code inspections; Placement of a minimum of 4 pallets of sod or minimum required to pass code inspections, whichever is greater; Fill dirt included as required to ensure proper drainage; Completion of all required program inspections; Title work (title to new MHU to be issued in applicant name prior to program final inspection); Certificate of Occupancy prior to key turn over; Warranty requirements as required in GC contract. All MHUs required to be HUD Compliant for the applicable thermal and wind zones and furnished with all appliances including central HVAC (mini-splits not allowed), refrigerator, stove/oven, dishwasher, water heater.

	Price	Price	Price	Price	Price	Price
	Singlewide MHU	Singlewide MHU	Singlewide MHU	Doublewide MHU	Doublewide MHU	Doublewide MHU
	2 Bedroom / 2 Bathroom	3 Bedroom / 2 Bathroom	4 Bedroom / 2 Bathroom	2 Bedroom / 2 Bathroom	3 Bedroom / 2 Bathroom	4 Bedroom / 2 Bathroom
Price Per Square Foot	$ 152.74	$ 141.59	$ 141.33	$ 148.30	$ 138.79	$ 130.18
Price per Square Foot Wheelchair Friendly Unit	$ 164.60	$ 150.12	$ 149.76	$ 155.90	$ 144.97	$ 135.48

Reconstruction Base Plan Costs; 2 Bedroom / 2 Bathroom

All construction must be completed with radon resistant construction techniques and the pricing includes GC provided post construction radon testing results indicating that the radon levels in the home are below federal, state, or local action levels.

	2 Bedroom / 2 Bathroom
Site Work	$ 11,294.44
Foundation - Slab on Grade	$ 24,575.02
Plumbing	$ 20,251.91
Electrical	$ 16,736.99
Framing	$ 43,764.92
Doors & Windows	$ 12,046.30
Insulation	$ 7,124.78
Exterior Surface	$ 15,345.43
Interior Surface	$ 11,870.78
Mechanical	$ 17,975.12
Finish Carpentry	$ 8,158.73
Cabinets	$ 10,644.86
Appliances	$ 6,446.18
Flooring	$ 9,200.19
Paint	$ 9,453.32
Roofing	$ 11,318.63
Finish Details	$ 7,264.68
Miscellaneous	$ 10,676.57
Total Price	**$ 254,148.85**
Design Square Footage (Conditioned Space) on Selected House Plans	1184
Price Per Square Foot (Conditioned Space)	**$ 214.65**
Price Per Square Foot Slab Foundation	$ 214.65
Price Per Square Foot Pier and Beam Foundation	$ 228.36
Price Per Square Foot Stem Wall Foundation	$ 226.99
Price Per Square Foot Timber Pile Foundation up to 4' above grade	$ 234.54
Price Per Square Foot Timber Pile Foundation from 4.1' to 8' above grade	$ 244.87

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Reconstruction Base Plan Costs; 3 Bedroom / 2 Bathroom

All construction must be completed with radon resistant construction techniques and the pricing includes GC provided post construction radon testing results indicating that the radon levels in the home are below federal, state, or local action levels.

	3 Bedroom / 2 Bathroom
Site Work	$ 14,302.39
Foundation - Slab on Grade	$ 29,626.24
Plumbing	$ 22,249.78
Electrical	$ 19,036.13
Framing	$ 51,466.79
Doors & Windows	$ 14,133.71
Insulation	$ 8,546.72
Exterior Surface	$ 18,789.45
Interior Surface	$ 14,268.18
Mechanical	$ 19,724.03
Finish Carpentry	$ 9,866.08
Cabinets	$ 12,541.91
Appliances	$ 6,949.16
Flooring	$ 11,316.75
Paint	$ 11,353.58
Roofing	$ 13,094.69
Finish Details	$ 8,984.19
Miscellaneous	$ 12,846.16
Total Price	**$ 299,095.94**
Design Square Footage (Conditioned Space) on Selected House Plans	1450
Price Per Square Foot (Conditioned Space)	**$ 206.27**
Price Per Square Foot Slab Foundation	$ 206.27
Price Per Square Foot Pier and Beam Foundation	$ 218.76
Price Per Square Foot Stem Wall Foundation	$ 217.01
Price Per Square Foot Timber Pile Foundation up to 4' above grade	$ 222.72
Price Per Square Foot Timber Pile Foundation from 4.1' to 8' above grade	$ 232.30

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Reconstruction Base Plan Costs; 4 Bedroom / 2 Bathroom

All construction must be completed with radon resistant construction techniques and the pricing includes GC provided post construction radon testing results indicating that the radon levels in the home are below federal, state, or local action levels.

	4 Bedroom / 2 Bathroom
Site Work	$ 16,010.69
Foundation - Slab on Grade	$ 32,696.92
Plumbing	$ 23,435.96
Electrical	$ 21,006.80
Framing	$ 56,417.16
Doors & Windows	$ 15,409.87
Insulation	$ 9,622.79
Exterior Surface	$ 20,861.24
Interior Surface	$ 16,128.12
Mechanical	$ 21,114.59
Finish Carpentry	$ 11,029.63
Cabinets	$ 13,403.06
Appliances	$ 7,320.15
Flooring	$ 12,671.02
Paint	$ 12,548.74
Roofing	$ 14,480.24
Finish Details	$ 9,828.19
Miscellaneous	$ 13,826.97
Total Price	**$ 327,812.14**
Design Square Footage (Conditioned Space) on Selected House Plans	1645
Price Per Square Foot (Conditioned Space)	**$ 199.28**
Price Per Square Foot Slab Foundation	$ 199.28
Price Per Square Foot Pier and Beam Foundation	$ 210.62
Price Per Square Foot Stem Wall Foundation	$ 210.00
Price Per Square Foot Timber Pile Foundation up to 4' above grade	$ 225.75
Price Per Square Foot Timber Pile Foundation from 4.1' to 8' above grade	$ 223.45

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Reconstruction Site-Specific Unit Cost Pricing

All construction must be completed with radon resistant construction techniques and the pricing includes GC provided post construction radon testing results indicating that the radon levels in the home are below federal, state, or local action levels.

Demolition:	Price
Addition to MHU (100 - 500 SF)	$ 6,833.93
Addition to MHU (> 500 SF)	$ 7,902.74
House Demolition (up to 1000 SF under roof)	$ 10,650.47
House Demolition (1000 - 1500 SF under roof)	$ 14,966.79
House Demolition (1500 - 2000 SF under roof)	$ 18,731.50
House Demolition (2000 - 2500 SF under roof)	$ 21,618.36
House Demolition (2500 - 3000 SF under roof)	$ 25,662.76
House Demolition (> 3000 SF under roof)	$ 31,660.47
Shed or Carport (10-200 SF)	$ 1,341.21
Shed or Carport (201 - 400 SF)	$ 2,569.33
Shed or Carport (401 - 600 SF)	$ 3,589.72
Shed or Carport (601 - 800 SF)	$ 4,592.18
Shed or Carport (801 - 1000 SF)	$ 5,761.41
Concrete Flatwork (10-200 SF)	$ 1,383.95
Concrete Flatwork (201 - 400 SF)	$ 2,522.80
Concrete Flatwork (401 - 600 SF)	$ 3,736.59
Concrete Flatwork (601 - 800 SF)	$ 4,720.37
Concrete Flatwork (801 - 1000 SF)	$ 5,925.87
Concrete Flatwork (1001 - 1500 SF)	$ 8,841.97
Concrete Flatwork (1501 - 2000 SF)	$ 11,082.09
Concrete Flatwork (2001 - 2500 SF)	$ 13,907.34
Wooden Deck (10-200 SF)	$ 1,250.53
Wooden Deck (201 - 400 SF)	$ 2,401.44
Wooden Deck (401 - 600 SF)	$ 3,469.77
Wooden Deck (601 - 800 SF)	$ 4,644.09
Wooden Deck (801 - 1000 SF)	$ 5,663.49
Wooden Deck (1001 - 1500 SF)	$ 7,687.84
Wooden Deck (1501 - 2000 SF)	$ 10,111.84
Wooden Deck (2001 - 2500 SF)	$ 11,559.73

Accessibility Accommodations		
RA-1 Tub/Shower with Blocking & Grab Bar	$	1,644.76
RA-2 Tub/Shower with Blocking, Grab Bars, Fold-up Seat, Shower Wand	$	3,101.88
RA-3 Roll In Shower with Grab Bars, Fold-up Seat, Shower Wand	$	3,983.21
Wooden Ramp (0-4' above grade) including no step entrance	$	8,685.53
Wooden Ramp (4' - 8' above grade) including no step entrance	$	14,773.49
Exterior Platform Lift (4' - 8' above grade) - inclusive of pad, framing, electrical*	$	20,494.56
Exterior Platform Lift (8' - 12' above grade) - inclusive of pad, framing, electrical*	$	26,134.27
Accessible Kitchen (appliances with knobs in front, roll under sink)	$	2,779.19
Hearing Impaired (strobe smoke detectors)	$	624.15
Utilities		
Complete Septic System Replacement	$	17,755.44
Septic Drain Field Replacment	$	9,881.37
Decommission Septic System	$	3,620.42
Water Well Pump Replacement	$	4,433.08
Water Well Replacement (up to 100 feet below ground surface)**	$	12,071.66
Water Well Replacement (101 - 150 feet below ground surface)**	$	13,170.40
Water Well Replacement (151 - 200 feet below ground surface)**	$	14,412.29
Water Well Replacement (201 - 250 feet below ground surface)**	$	15,208.93
Water Well Replacement (251 - 300 feet below ground surface)**	$	17,366.23
Water Well Replacement (301 - 350 feet below ground surface)**	$	18,665.97
Water Well Replacement (351 - 400 feet below ground surface)**	$	20,182.93
Water Well Replacement (401 - 450 feet below ground surface)**	$	22,583.54
Water Well Replacement (451 - 500 feet below ground surface)**	$	24,604.44
Decommission Water Well	$	2,381.45

Flatwork		
Flatwork Installed (50-100 SF)	$	1,352.84
Flatwork Installed (101 - 200 SF)	$	2,441.99
Flatwork Installed (201 - 300 SF)	$	3,587.18
Flatwork Installed (301 - 400 SF)	$	4,675.15
Flatwork Installed (401 - 500 SF)	$	5,822.76
Flatwork Installed (501 - 600 SF)	$	6,958.71
Flatwork Installed (601 - 700 SF)	$	8,090.77
Flatwork Installed (701 - 800 SF)	$	9,173.97
Flatwork Installed (801 - 900 SF)	$	10,552.94
Flatwork Installed (901 - 1000 SF)	$	11,627.28
Flatwork Installed (1001 - 1500 SF)	$	15,753.34
Flatwork Installed (1501 - 2000 SF)	$	20,634.68

Other Site-Specific Costs		
Site Survey (set backs and structure location)	$	2,067.05
Elevation Survey (confirm base flood elevation and final elevation)	$	1,424.48
Garage (per SF)	$	101.06
Sod (per pallet installed)	$	654.53
Tree Trimming (per tree)	$	695.65
Stump Grinding (per stump)	$	702.68
Stump Removal	$	1,220.09
New Water Tap	$	3,302.19
New Sewer Tap	$	3,743.31
Underground electric (per linear foot)	$	65.24
Stairs for elevated home (3.1' - 6' above grade)	$	2,300.38
Stairs for elevated home (6.1' - 9' above grade)	$	3,470.05
Stairs for elevated home (9.1' - 12' above grade)	$	4,792.18
Tree removal (2" - 10" diameter)	$	806.50
Tree removal (11" - 15" diameter)	$	1,360.38
Tree removal (16" - 20" diameter)	$	1,832.06
Tree removal (21" - 25" diameter)	$	2,484.60
Tree removal (26" - 30" diameter)	$	3,065.34
Tree removal (31" - 36" diameter)	$	3,866.61
Concrete Culvert (12")	$	1,703.15
Concrete Culvert (15")	$	1,900.65
Concrete Culvert (16")	$	2,085.62
Concrete Culvert (18")	$	2,239.60
Concrete Culvert (20")	$	2,602.33
Concrete Culvert (24")	$	3,037.21
Fill Dirt (5 -15 CY)	$	658.90
Fill Dirt (16 - 25 CY)	$	1,104.24
Fill Dirt (26 - 35 CY)	$	1,442.22
Fill Dirt (36 - 45 CY)	$	1,857.20
Fill Dirt (46 - 60 CY)	$	2,419.18
Fill Dirt (61 - 80 CY)	$	2,977.30
Caliche or Crushed Concrete (5 -15 CY)	$	1,104.75
Caliche or Crushed Concrete (16 - 25 CY)	$	1,703.44
Caliche or Crushed Concrete (26 - 35 CY)	$	2,309.56
Caliche or Crushed Concrete (36 - 45 CY)	$	2,902.60

* Exterior platform lift price includes purchase of a 1 year maintenance package after installation of the lift.

** Water well replacement to include min 1 HP pump and steel casing.

Demolition - Only Site-Specific Unit Cost Pricing	
Demolition	**Price**
House Demolition (up to 1000 SF under roof)	$ 11,098.13
House Demolition (1000 - 1500 SF under roof)	$ 15,521.23
House Demolition (1500 - 2000 SF under roof)	$ 19,356.99
House Demolition (2000 - 2500 SF under roof)	$ 22,288.23
House Demolition (2500 - 3000 SF under roof)	$ 26,494.61
House Demolition (> 3000 SF under roof)	$ 32,402.10
Shed or Carport (10-200 SF)	$ 1,365.76
Shed or Carport (201 - 400 SF)	$ 2,611.36
Shed or Carport (401 - 600 SF)	$ 3,654.24
Shed or Carport (601 - 800 SF)	$ 4,663.11
Shed or Carport (801 - 1000 SF)	$ 5,872.95
Concrete Flatwork (10-200 SF)	$ 1,393.34
Concrete Flatwork (201 - 400 SF)	$ 2,517.89
Concrete Flatwork (401 - 600 SF)	$ 3,724.21
Concrete Flatwork (601 - 800 SF)	$ 4,695.10
Concrete Flatwork (801 - 1000 SF)	$ 5,877.99
Concrete Flatwork (1001 - 1500 SF)	$ 8,820.10
Concrete Flatwork (1501 - 2000 SF)	$ 11,066.78
Concrete Flatwork (2001 - 2500 SF)	$ 13,920.40
Wooden Deck (10-200 SF)	$ 1,274.59
Wooden Deck (201 - 400 SF)	$ 2,423.20
Wooden Deck (401 - 600 SF)	$ 3,519.21
Wooden Deck (601 - 800 SF)	$ 4,699.65
Wooden Deck (801 - 1000 SF)	$ 5,733.88
Wooden Deck (1001 - 1500 SF)	$ 7,763.46
Wooden Deck (1501 - 2000 SF)	$ 10,102.15
Wooden Deck (2001 - 2500 SF)	$ 12,096.73
Utilities	
Decommission Septic System	$ 3,561.58
Decommission Water Well	$ 2,643.82

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Other Site-Specific Costs	
Sod (per pallet installed)	$ 654.76
Tree Trimming (per tree)	$ 704.03
Stump Grinding (per stump)	$ 715.21
Stump Removal	$ 1,237.84
Tree Removal (2" - 10" diameter)	$ 828.37
Tree Removal (11" - 15" diameter)	$ 1,381.02
Tree Removal (16" - 20" diameter)	$ 1,895.20
Tree Removal (21" - 25" diameter)	$ 2,539.86
Tree Removal (26" - 30" diameter)	$ 3,132.03
Tree Removal (31" - 36" diameter)	$ 3,812.32
Fill Dirt (5 -15 CY)	$ 665.44
Fill Dirt (16 - 25 CY)	$ 1,114.62
Fill Dirt (26 - 35 CY)	$ 1,453.76
Fill Dirt (36 - 45 CY)	$ 1,874.04
Fill Dirt (46 - 60 CY)	$ 2,443.31
Fill Dirt (61 - 80 CY)	$ 2,997.93

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

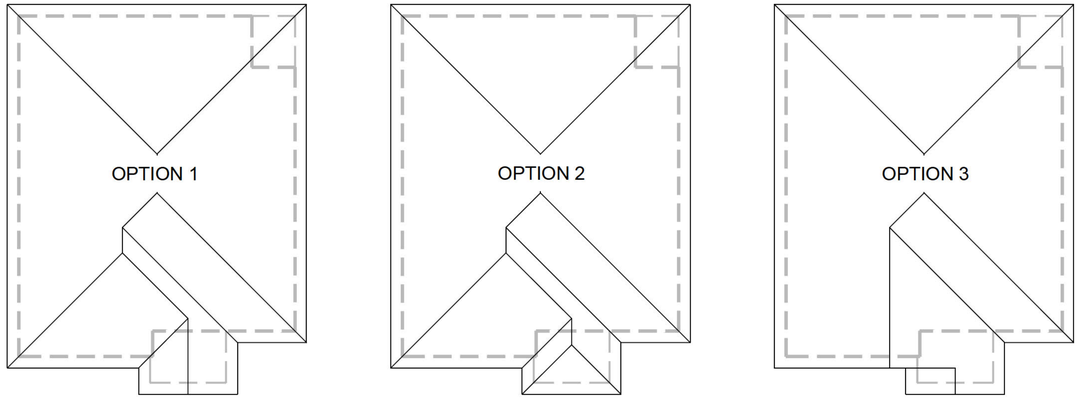
House Plan Sets

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

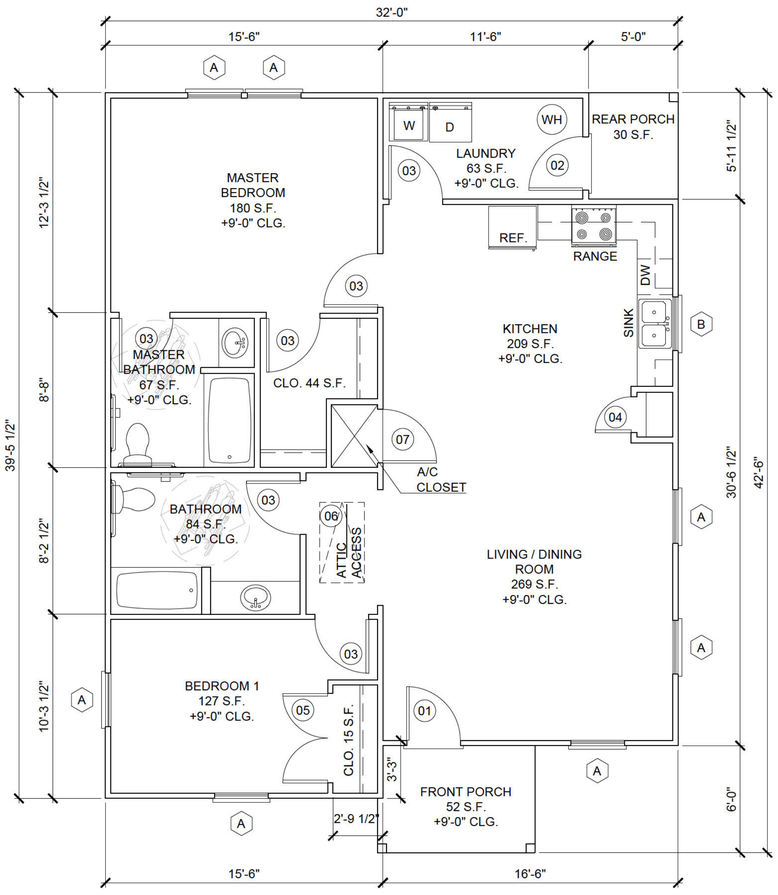
SQUARE FOOTAGE CALCULATIONS		
LOCATION	SQUARE FOOTAGE	REMARKS
FLOOR PLAN	1,184 SQFT	
FRONT PORCH	52 SQFT	
REAR PORCH	30 SQFT	

DOOR SCHEDULE			
MARK	QTY	DESCRIPTIONS	REMARKS
1	1	3'-0" X 6'-8"	EXTERIOR WITH PEEPHOLE
2	1	3'-0" X 6'-8"	EXTERIOR
3	6	3'-0" X 6'-8"	INTERIOR
4	1	2'-0" X 6'-8"	INTERIOR
5	1	(2) 2'-0" X 6'-8"	DOUBLE DOORS
6	1	30" X 54" ATTIC ACCESS	350 POUND LADDER RATING
7	1	3'-0" X 6'-8"	SELF CLOSING WITH A MINIMUM OF 20 MINUTE FIRE RATING (VENTED)

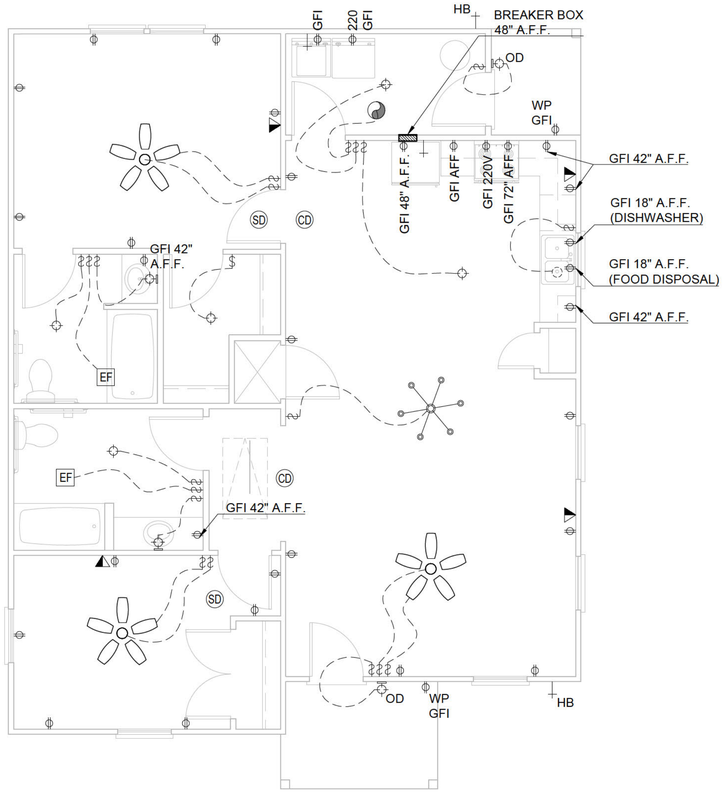
WINDOW SCHEDULE			
MARK	QTY	DESCRIPTIONS	REMARKS
A	7	3'-0" X 5'-0"	SINGLE HUNG
B	1	3'-0" X 3'-0"	SINGLE HUNG



ROOF PLAN

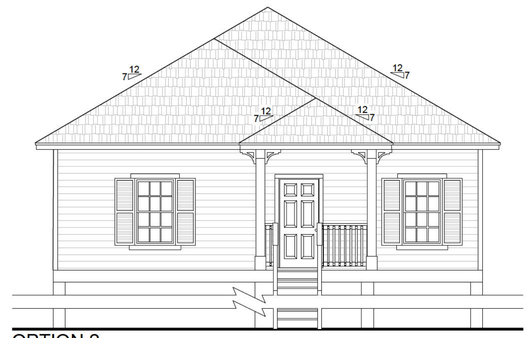


FLOOR PLAN



ELECTRICAL PLAN

OPTION 1



OPTION 2

OPTION 3

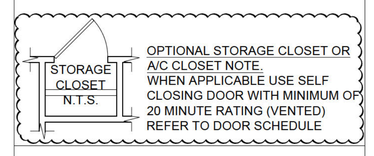
FRONT ELEVATIONS (SIDING)

NOTE: ELEVATED HOMES TO BE CONSTRUCTED OUT OF WOOD FRAME CONSTRUCTION.

COBALT
ENGINEERING AND INSPECTIONS, LLC
409.354.5925

2 BED 2 BATH

POTTOK



OPTIONAL STORAGE CLOSET OR A/C CLOSET NOTE.
WHEN APPLICABLE USE SELF CLOSING DOOR WITH MINIMUM OF 20 MINUTE RATING (VENTED)
REFER TO DOOR SCHEDULE

THIS HOUSE PLAN IS FOR THE SOLE PURPOSE AND USE FOR THE NORTH CAROLINA DIVISION OF COMMUNITY REVITALIZATION (DCR) AND THE HURRICANE HELENE HOUSING PROGRAM. AS SUCH, THIS DESIGN MAY BE REPLICATED OR RECREATED FOR USE FOR SITE SPECIFIC RECONSTRUCTION PLAN SETS. THIS SPECIFIC DRAWING SHALL NOT BE USED FOR PERMITTING.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DOOR SCHEDULE

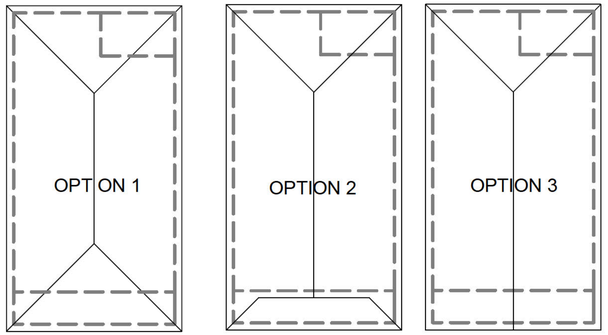
MARK	QTY	DESCRIPTIONS	REMARKS
01	1	3'-0" X 6'-8"	EXTERIOR WITH PEEPHOLE
02	1	3'-0" X 6'-8"	EXTERIOR
03	6	3'-0" X 6'-8"	INTERIOR
04	1	2'-0" X 6'-8"	INTERIOR; VENTED WHEN GAS APPLIANCE
05	2	6'-0" X 6'-8"	DOUBLE DOORS
06	1	5'-0" X 6'-8"	DOUBLE DOORS
07	1	30" X 54" ATTIC ACCESS	350 POUND LADDER RATING
08	1	2'-8 X 6'-8"	VENTED

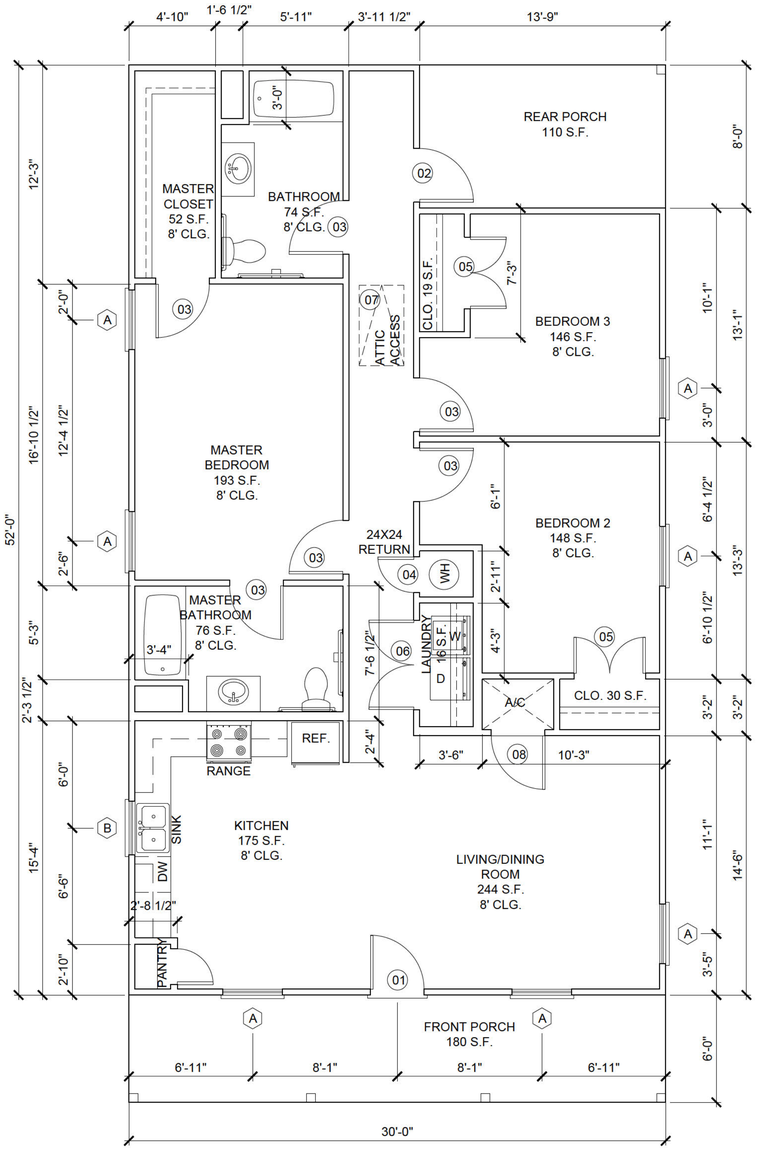
SQUARE FOOTAGE CALCULATIONS

LOCATION	SQUARE FOOTAGE	REMARKS
FLOOR PLAN	1,450 S.F.	
FRONT PORCH	180 S.F.	
REAR PORCH	110 S.F.	

WINDOW SCHEDULE

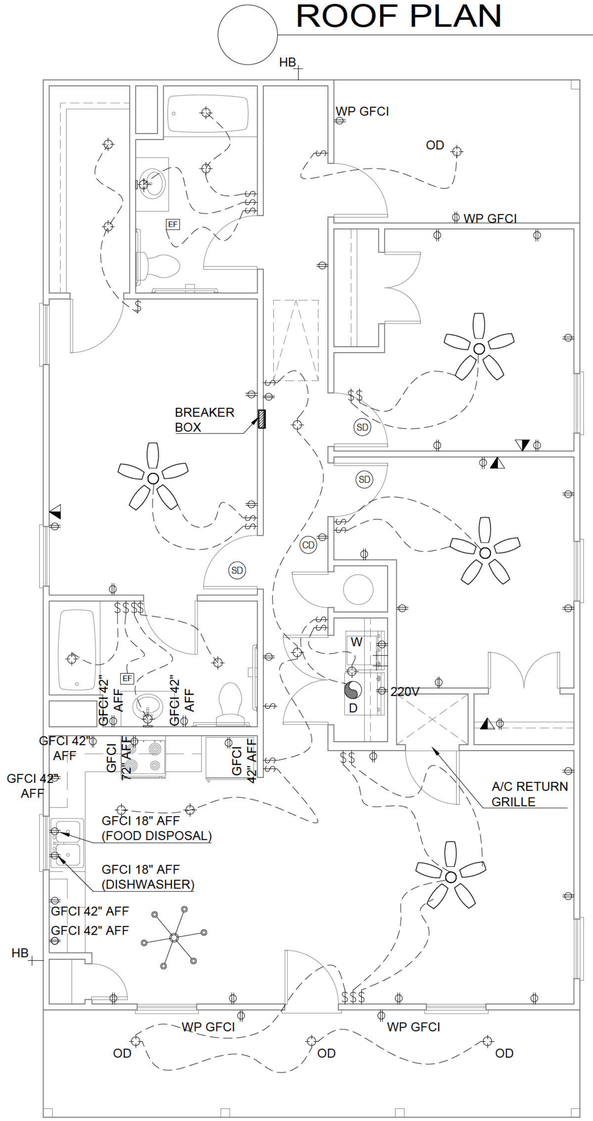
MARK	QTY.	DESCRIPTIONS	REMARKS
A	7	3'-4" X 5'-0"	SINGLE HUNG
B	1	3'-0 X 3'-0"	SINGLE HUNG



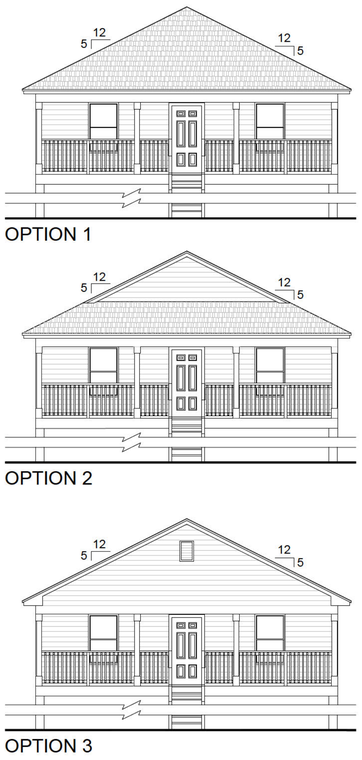


FLOOR PLAN

ROOF PLAN



ELECTRICAL PLAN



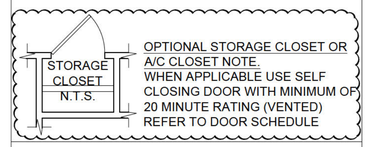
EXTERIOR ELEVATIONS (SIDING)

NOTE: ELEVATED HOMES TO BE CONSTRUCTED OUT OF WOOD FRAME CONSTRUCTION.

COBALT
ENGINEERING AND INSPECTIONS, LLC
409.354.5925

3 BED 2 BATH

SUMBA



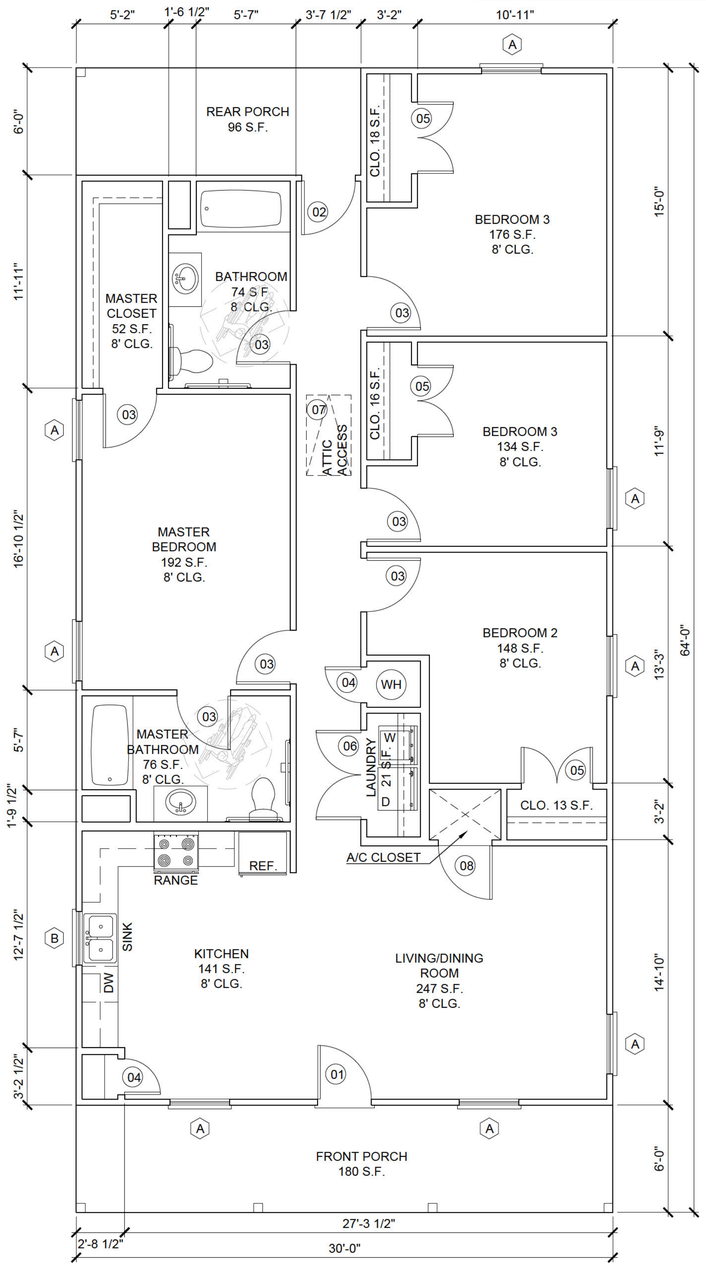
THIS HOUSE PLAN IS FOR THE SOLE PURPOSE AND USE FOR THE NORTH CAROLINA DIVISION OF COMMUNITY REVITALIZATION (DCR) AND THE HURRICANE HELENE HOUSING PROGRAM. AS SUCH, THIS DESIGN MAY BE REPLICATED OR RECREATED FOR USE FOR SITE SPECIFIC RECONSTRUCTION PLAN SETS. THIS SPECIFIC DRAWING SHALL NOT BE USED FOR PERMITTING.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

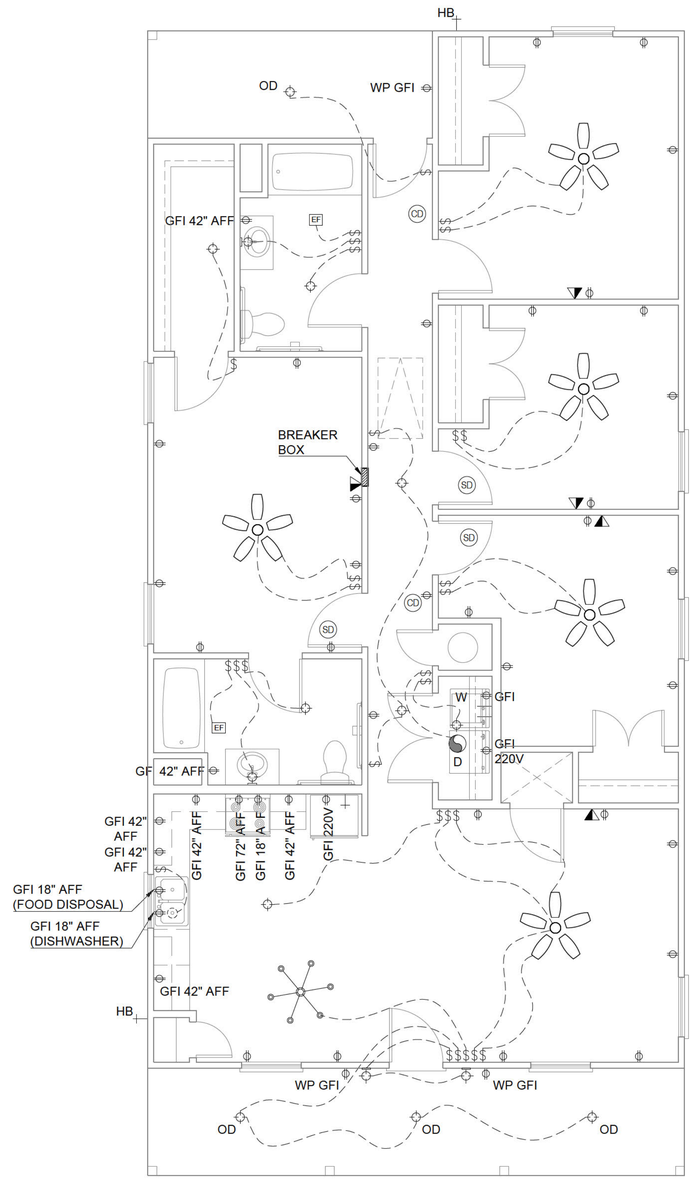
DOOR SCHEDULE			
MARK	QTY	DESCRIPTIONS	REMARKS
01	1	3'-0" X 6'-8"	EXTERIOR WITH PEEPHOLE
02	1	3'-0" X 6'-8"	EXTERIOR
03	7	3'-0" X 6'-8"	INTERIOR
04	2	2'-0" X 6'-8"	INTERIOR
05	3	6'-0" X 6'-8"	BI-FOLD
06	1	5'-0" X 6'-8"	BI-FOLD
07	1	30" X 54" ATTIC ACCESS	350 POUND LADDER RATING
08	1	3'-0" X 6'-8"	SELF CLOSING WITH A MINIMUM OF 20 MINUTE FIRE RATING (VENTED)

SQUARE FOOTAGE CALCULATIONS		
LOCATION	SQUARE FOOTAGE	REMARKS
FLOOR PLAN	1,645 S.F.	
FRONT PORCH	180 S.F.	
REAR PORCH	96 S.F.	

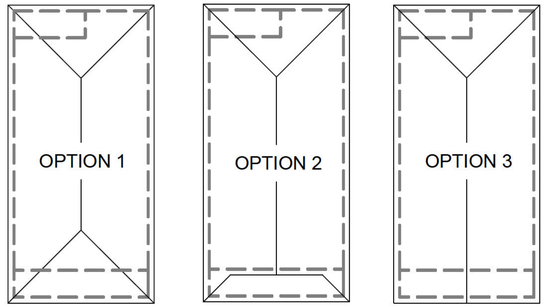
WINDOW SCHEDULE			
MARK	QTY.	DESCRIPTIONS	REMARKS
A	8	3'-4" X 5'-0"	SINGLE HUNG
B	1	3'-0 X 3'-0"	SINGLE HUNG



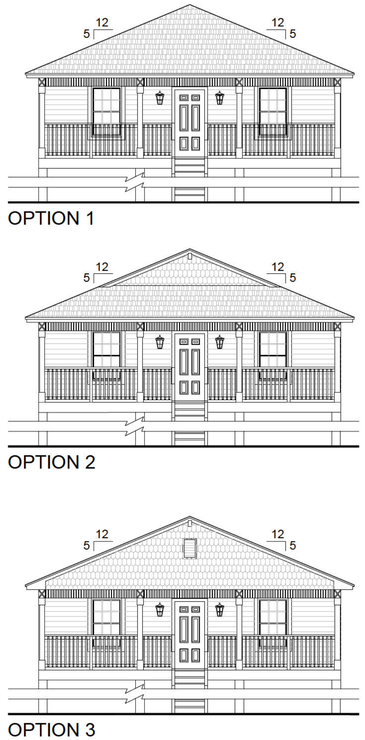
FLOOR PLAN



ELECTRICAL PLAN



ROOF PLAN



OPTION 1

OPTION 2

OPTION 3

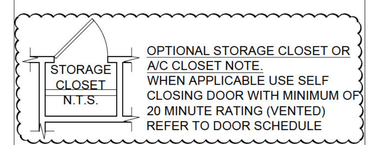
EXTERIOR ELEVATIONS (SIDING)

NOTE: ELEVATED HOMES TO BE CONSTRUCTED OUT OF WOOD FRAME CONSTRUCTION.

COBALT
ENGINEERING AND INSPECTIONS, LLC
409.354.5925

HAFLINGER

4 BED 2 BATH



OPTIONAL STORAGE CLOSET OR A/C CLOSET NOTE.
WHEN APPLICABLE USE SELF CLOSING DOOR WITH MINIMUM OF 20 MINUTE RATING (VENTED)
REFER TO DOOR SCHEDULE

THIS HOUSE PLAN IS FOR THE SOLE PURPOSE AND USE FOR THE NORTH CAROLINA DIVISION OF COMMUNITY REVITALIZATION (DCR) AND THE HURRICANE HELENE HOUSING PROGRAM. AS SUCH, THIS DESIGN MAY BE REPLICATED OR RECREATED FOR USE FOR SITE SPECIFIC RECONSTRUCTION PLAN SETS. THIS SPECIFIC DRAWING SHALL NOT BE USED FOR PERMITTING.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

STATE OF NORTH CAROLINA
DEPARTMENT OF COMMERCE

Division of Community Revitalization

Request for Proposal #: Doc1539254856

Residential Demolition, Reconstruction, Rehabilitation, and Manufactured Housing Unit Replacement for Hurricane Helene impacted Counties

Date of Issue: April 16, 2025

Proposal Opening Date: May 8, 2025, by 2:00 PM ET

Direct all inquiries concerning this RFP to:

Angie Dunaway
DCR Procurement Director
angela.dunaway@commerce.nc.gov
919-526-8340

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

STATE OF NORTH CAROLINA
Division of Community Revitalization (DCR)

Refer *ALL* Inquiries regarding this RFP to:	**Request for Proposal # Doc1539254856**
angela.dunaway@commerce.nc.gov	**Proposals will be publicly opened: May 8, 2025,** at **2:00 pm ET**
Using Agency: North Carolina Department of Commerce, Division of Community Revitalization	**Commodity No. and Description: 721110 – Single Family Dwelling Construction Services**

In compliance with this Request for Proposal (RFP), and subject to all the conditions herein, the undersigned Vendor offers and agrees to furnish and deliver any or all items upon which prices are offered, at the prices set opposite each item within the time specified herein.

By executing this proposal, the undersigned Vendor understands that False certification is a Class I felony and certifies that:

- this proposal is submitted competitively and without collusion (G.S. 143-54),
- none of its officers, directors, or owners of an unincorporated business entity has been convicted of any violations of Chapter 78A of the General Statutes, the Securities Act of 1933, or the Securities Exchange Act of 1934 (G.S. 143-59.2), and
- it is not an ineligible Vendor as set forth in G.S. 143-59.1.

Furthermore, by executing this proposal, the undersigned certifies to the best of Vendor's knowledge and belief, that:

- it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal or State department or agency.

As required by G.S. 143-48.5, the undersigned Vendor certifies that it, and each of its sub-Contractors for any Contract awarded as a result of this RFP, complies with the requirements of Article 2 of Chapter 64 of the NC General Statutes, including the requirement for each employer with more than 25 employees in North Carolina to verify the work authorization of its employees through the federal E-Verify system.

G.S. 133-32 and Executive Order 24 (2009) prohibit the offer to, or acceptance by, any State Employee associated with the preparing plans, specifications, estimates for public Contract; or awarding or administering public Contracts; or inspecting or supervising delivery of the public Contract of any gift from anyone with a Contract with the State, or from any person seeking to do business with the State. By execution of this response to the RFP, the undersigned certifies, for Vendor's entire organization and its employees or agents, that Vendor are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

By executing this proposal, Vendor certifies that it has read and agreed to the INSTRUCTIONS TO VENDORS and the NORTH CAROLINA GENERAL TERMS AND CONDITIONS. This procurement complies with the State's own procurement laws, rules and procedures per *2 CFR § 200.317.*

Failure to execute/sign proposal prior to submittal may render proposal invalid and it MAY BE REJECTED. Late proposals shall not be accepted.

COMPLETE/FORMAL NAME OF VENDOR: EXCEL Contractors, LLC		
STREET ADDRESS: 8641 United Plaza Blvd.	P.O. BOX:	ZIP:
CITY & STATE & ZIP: Baton Rouge, LA 70809	TELEPHONE NUMBER: 225-408-1300	TOLL FREE TEL. NO:
PRINCIPAL PLACE OF BUSINESS ADDRESS IF DIFFERENT FROM ABOVE :		
PRINT NAME & TITLE OF PERSON SIGNING ON BEHALF OF VENDOR: Jerry Johnson, Vice President Government Services Group	FAX NUMBER:	
VENDOR'S AUTHORIZED SIGNATURE: [redacted]	DATE: 5/8/25	EMAIL: jjohnson@excelusa.com

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

VALIDITY PERIOD

Offer valid for at least 90 days from date of proposal opening, unless otherwise stated here: _____ days, or if extended by mutual agreement of the parties. Any withdrawal of this offer shall be made in writing, effective upon receipt by the agency issuing this RFP.

ACCEPTANCE OF PROPOSAL

If your proposal is accepted, all provisions of this RFP, along with the written results of any negotiations, shall constitute the written agreement between the parties ("Contract"). The NORTH CAROLINA GENERAL TERMS AND CONDITIONS are incorporated herein and shall apply.

FOR STATE USE ONLY: Offer accepted and Contract awarded this _____ day of _____, 2025, as indicated on the attached certification, by _____ **(Authorized Representative of DCR).**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Contents

1.0 PURPOSE AND BACKGROUND 6
2.0 GENERAL INFORMATION 6
2.1 REQUEST FOR PROPOSAL DOCUMENT AND SCOPES OF WORK 6
2.2 ePROCUREMENT FEE 7
2.3 NOTICE TO VENDORS REGARDING RFP TERMS AND CONDITIONS 7
2.4 RFP SCHEDULE 7
2.5 PRE-PROPOSAL CONFERENCE 8
2.6 PROPOSAL QUESTIONS 8
2.7 PROPOSAL SUBMITTAL 9
2.8 PROPOSAL CONTENTS 10
2.9 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS 10
3.0 METHOD OF AWARD AND PROPOSAL EVALUATION PROCESS 11
3.1 METHOD OF AWARD 11
3.2 CONFIDENTIALITY AND PROHIBITED COMMUNICATIONS DURING EVALUATION 12
3.3 PROPOSAL EVALUATION PROCESS 12
3.4 EVALUATION CRITERIA 13
3.5 PERFORMANCE OUTSIDE THE UNITED STATES 15
3.6 INTERPRETATION OF TERMS AND PHRASES 15
4.0 REQUIREMENTS 15
4.1 MINIMUM QUALIFICATIONS 15
4.2 OTHER REQUIREMENTS 16
4.3 PAYMENT STRUCTURE 16
4.4 INVOICES 17
4.5 HUB PARTICIPATION 17
4.6 BACKGROUND CHECKS 17
4.7 PERSONNEL 17
4.8 VENDOR'S REPRESENTATIONS 17
4.9 BOND AND INSURANCE REQUIREMENTS 18
4.10 LOBBYING ACTIVITY CERTIFICATION FOR FEDERAL GRANTS 18
5.0 SCOPE OF WORK 19
5.1 SCOPE OF SERVICES 19
5.2 TASKS/DELIVERABLES 20

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.3 REASONABLE ACCOMMODATION REQUESTS 29
5.4 ADDITIONAL REQUIREMENTS 30
5.5 NOTICE TO PROCEED 31
5.6 PROJECT ASSIGNMENT METHODOLOGY 31
5.7 LIQUIDATED DAMAGES 31
5.8 TRANSITION ASSISTANCE 31
6.0 CONTRACT ADMINISTRATION 32
6.1 PROJECT MANAGER AND CUSTOMER SERVICE 32
6.2 PERFORMANCE 32
6.3 DISPUTE RESOLUTION 32
6.4 CONTRACT CHANGES 32
7.0 REQUIRED VENDOR INFORMATION 32
7.1 Vendor Information 32
7.2 Company Narrative 32
7.3 Company Profile 33
7.4 Key Staffing Profile 33
7.5 References 34
7.6 Litigation History 34
7.7 Conflicts 34
7.8 Annual Report 35
7.9 Safety Information 35
7.10 Quality Control Program 35
7.11 Cost Control Program 35
7.12 Warranty Program 36
7.13 Reconstruction Plan Sets (for Vendors seeking to perform reconstruction projects) 36
ATTACHMENT A: PROJECT TYPE 37
ATTACHMENT B: NORTH CAROLINA INSTRUCTIONS TO VENDORS 38
ATTACHMENT C: NORTH CAROLINA GENERAL CONTRACT TERMS & CONDITIONS 47
ATTACHMENT D: LOCATION OF WORKERS UTILIZED BY VENDOR 63
ATTACHMENT E: HISTORICALLY UNDERUTILIZED BUSINESSES INFORMATION 64
ATTACHMENT F: CERTIFICATION FOR CONTRACTS, GRANTS, LOANS AND COOPERATIVE AGREEMENTS 65
ATTACHMENT G: DISCLOSURE OF LOBBYING ACTIVITIES 66
ATTACHMENT H: EXPERIENCE, QUALIFICATIONS, REFERENCES 67

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1.0 PURPOSE AND BACKGROUND

The Department of Commerce, Division of Community Revitalization (DCR), is seeking proposals from highly qualified North Carolina licensed general contractors to perform demolition, rehabilitation, and/or reconstruction of single-family residential structures and repair and replacement of Manufactured Housing Units (MHUs) in Western North Carolina counties impacted by Hurricane Helene. Construction shall be in compliance with local, federal and state statutory requirements for grants under the United States Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) program.

The United States Department of Housing and Urban Development (U.S. HUD) announced that the State of North Carolina (the State) will receive $1,428,120,000 in funding to support long-term recovery efforts following Hurricane Helene (FEMA DR-4827-NC) through the North Carolina Department of Commerce (NCDOC). Of those funds, $807,354,000 has been allocated for the Reconstruction and Rehabilitation (R&R) Program for single family owner-occupied units and $57,400,000 has been allocated for Small Rental Reconstruction and Rehabilitation. Community Development Block Grant—Disaster Recovery (CDBG-DR) funding is designed to address needs that remain after all other assistance has been exhausted. These funds will help meet remaining unmet housing, economic development, mitigation, and infrastructure needs destroyed by Hurricane Helene in September 2024. Hurricane Helene brought historic rainfall, strong winds, and tornadoes generated by the storm. On September 27, 2024, former Governor Roy Cooper requested a Major Disaster Declaration from the federal government for thirty-nine (39) North Carolina counties and the Eastern Band of Cherokee Indians. On September 28, 2024, twenty-five (25) counties in the State were declared a major disaster by former President Biden under provisions of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or P.L. 93-288), approving Individual and Public Assistance (IA and PA) for these counties as well as the Eastern Band of Cherokee Indians. On October 5, 2024, two (2) additional North Carolina counties were declared eligible for federal individual assistance, followed by twelve more counties on October 16, 2024.

1.1 CONTRACT TERM

The Contract shall have an initial term of three (3) years, beginning on the date of final Contract execution (the "Effective Date").

At the end of the Contract's initial term, the State shall have the option, in its sole discretion, to renew the Contract on the same terms and conditions for up to three (3) additional one-year terms. The State will give the Vendors written notice of its intent to exercise each option no later than thirty (30) days before the end of the Contract's then-current term. In addition to any optional renewal terms, and with the Vendor's concurrence, the State reserves the right to extend the Contract after the last active term.

Proposals shall be submitted in accordance with the terms and conditions of this RFP and any addenda issued hereto.

2.0 GENERAL INFORMATION

2.1 REQUEST FOR PROPOSAL DOCUMENT AND SCOPES OF WORK

This RFP is comprised of the base RFP document, any attachments, and any addenda released before Contract award, which are incorporated herein by reference. DCR, or an Implementation Vendor on behalf of DCR, will issue Scopes of Work for specific project assignments to Vendors that are qualified and awarded pursuant to this RFP. The site-specific Scope of Work will contain requirements, terms, and conditions particular to that project, which are intended to supplement the requirements, terms, and conditions herein.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

2.2 ePROCUREMENT FEE

This RFP does not incorporate the eProcurement fee; however, the purchase order may be issued through the eProcurement System. See Paragraph 17 of the attached Terms and Conditions as amended. General information on the eProcurement Services can be found at: http://eprocurement.nc.gov/.

2.3 NOTICE TO VENDORS REGARDING RFP TERMS AND CONDITIONS

It shall be the Vendor's responsibility to read the Instructions to Vendors, the North Carolina General Terms and Conditions, all relevant exhibits and attachments, and any other components made a part of this RFP and comply with all requirements and specifications herein. Vendors are also responsible for obtaining and complying with all Addenda and other changes that may be issued in connection with this RFP.

If Vendors have questions or issues regarding any component of this RFP, those must be submitted as questions in accordance with the instructions in the PROPOSAL QUESTIONS Section. If the State determines that any changes will be made as a result of the questions asked, then such decisions will be communicated in the form of an RFP addendum. The State may also elect to leave open the possibility for later negotiation of specific provisions of the Contract that have been addressed during the question-and-answer period, prior to contract award.

Other than through the process of negotiation under 01 NCAC 05B.0503, the State rejects and will not be required to evaluate or consider any additional or modified terms and conditions submitted with Vendor's proposal or otherwise. This applies to any language appearing in or attached to the document as part of the Vendor's proposal that purports to vary any terms and conditions or Vendors' instructions herein or to render the proposal non-binding or subject to further negotiation. Vendor's proposal shall constitute a firm offer that shall be held open for the period required herein ("Validity Period" above).

The State may exercise its discretion to consider Vendor proposed modifications. By execution and delivery of this RFP Response, the Vendor agrees that any additional or modified terms and conditions, whether submitted purposely or inadvertently, shall have no force or effect, and will be disregarded unless expressly agreed upon through negotiation and incorporated by way of a Best and Final Offer (BAFO). Noncompliance with, or any attempt to alter or delete, this paragraph shall constitute sufficient grounds to reject Vendor's proposal as nonresponsive.

2.4 RFP SCHEDULE

The table below shows the *intended* schedule for this RFP. The State will make every effort to adhere to this schedule.

Event	Responsibility	Date and Time
Issue RFP	State	April 16, 2025
Hold **Pre-Proposal Conference**	State	**April 24, 2025,** at **10:00 am** ET via TEAMS and Call In Number
Submit **Written Questions**	Vendor	**April 28, 2025,** by **10:00 am** ET *Please attend the Pre-Proposal Conference prior to submitting questions.*
Provide Response to Questions	State	May 1, 2025
Submit Proposals	Vendor	**May 8, 2025,** BEFORE **2:00 pm** ET (by 1:59:59)
Oral Presentation (optional)	Vendor	TBD (if needed)
Contract Award	State	As soon as possible after evaluation of offers.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

2.5 PRE-PROPOSAL CONFERENCE

Urged and Cautioned Pre-Proposal Conference

Date: April 24, 2025
Time: 10:00 am Eastern Time
Virtual via **TEAMS: Join the meeting now CLICK the Link to Join the Meeting**
Meeting ID: 252 799 845 437 4
Passcode: 6Fw9Nf2W

Dial in by phone: +1 984-204-1487,,387645570#
Phone conference ID: 387 645 570#

Join on a video conferencing device:
Tenant key: ncgov@m.webex.com
Video ID: 111 212 995 2

Instructions: Vendor representatives are **URGED and CAUTIONED** to attend the pre-proposal conference and apprise themselves of the conditions and requirements which will affect the performance of the work called for by this RFP. A non-mandatory pre-proposal conference is scheduled for this RFP. Submission of a proposal shall constitute sufficient evidence of this compliance and no allowance will be made for unreported conditions which a prudent Vendor would recognize as affecting the performance of the work called for in this RFP.

Vendor is cautioned that any information released to attendees during the pre-proposal conference, and which conflicts with, supersedes, or adds to requirements in this RFP, must be confirmed by written addendum before it can be considered to be a part of this RFP and any resulting contract.

2.6 PROPOSAL QUESTIONS

Upon review of the RFP documents, Vendors may have questions to clarify or interpret the RFP in order to submit the best proposal possible. To accommodate the Proposal Questions process, Vendors shall submit any such questions by the "Submit Written Questions" date and time indicated in the RFP SCHEDULE Section above, unless modified by Addendum.

Written questions related to the content of this solicitation, shall be emailed to angela.dunaway@commerce.nc.gov by the date and time specified above. Vendors should enter "**Vendor Name_Builder RFP_Questions**" as the subject of the email. Question submittals should include a reference to the applicable RFP section and be submitted in the format shown below:

Reference	Vendor Question
RFP **Section Number** and **Section Title** RFP **Page Number**	

PLEASE attend the pre-proposal conference prior to submitting questions.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Questions received prior to the submission deadline date and time, the State's response, and any additional terms deemed necessary by the State will be posted in the form of an addendum to *the electronic Vendor Portal (eVP), https://evp.nc.gov,* and shall become an Addendum to this RFP. No information, instruction or advice provided orally or informally by any State personnel, whether made in response to a question or otherwise in connection with this RFP, shall be considered authoritative or binding. Vendors shall rely *only* on written material contained in the RFP and an addendum to this RFP.

Questions or issues related to using eProcurement Sourcing must be directed to the **eProcurement Help Desk** at 888211-7440, Option 2. Help Desk representatives are available Monday through Friday from 7:30 AM ET to 5:00 PM ET.

2.7 PROPOSAL SUBMITTAL

IMPORTANT NOTE: This is an absolute requirement. Late bids, regardless of cause, will not be opened or considered, and will be automatically disqualified from further consideration. Vendor shall bear the sole risk of late submission due to unintended or unanticipated delay. It is the Vendor's sole responsibility to ensure its proposal has been received as described in this RFP by the specified time and date of opening. The time and date of receipt will be marked on each proposal when received. Any proposal or portion thereof received after the proposal deadline will be rejected.

Offers must be submitted through eProcurement Sourcing. For training on how to use eProcurement Sourcing, https://eprocurement.nc.gov/training/vendor-training. Questions or issues related to using eProcurement Sourcing must be directed to the eProcurement Help Desk at 888-211-7440, Option 2. Help Desk representatives are available Monday through Friday from 7:30 AM ET to 5:00 PM ET.

If confidential and proprietary information is included in the proposal, also submit one (1) signed, REDACTED copy of the proposal. Such information may include trade secrets defined by N.C. Gen. Stat. § 66-152 and other information exempted from the Public Records Act pursuant to N.C. Gen. Stat. §132- 1.2. Vendor may designate information, Products, Services or appropriate portions of its response as confidential, consistent with and to the extent permitted under the statutes and rules set forth above. By so redacting any page, or portion of a page, the Vendor warrants that it has formed a good faith opinion, having received such necessary or proper review by counsel and other knowledgeable advisors, that the portions determined to be confidential and proprietary and redacted as such, meet the requirements of the Rules and Statutes set forth above. However, under no circumstances shall price information be designated as confidential.

If the Vendor does not provide a redacted version of the proposal with its proposal submission, the Department may release an unredacted version if a record request is received.

Failure to submit a proposal in strict accordance with these instructions shall constitute sufficient cause to reject a Vendor's proposal(s). Vendors are strongly encouraged to allow sufficient time to upload proposals.

Critical updated information may be included in Addenda to this RFP. It is important that all Vendors responding to this RFP periodically check the State's eVP website for any Addenda that may be issued prior to the bid opening date. All Vendors shall be deemed to have read and understood all information in this RFP and all Addenda thereto.

The public proposal opening will be held via Microsoft Teams. Below is the information regarding the public solicitation opening. Only Vendor names will be announced at the opening.

Date: May 8, 2025
Time: 2:00 pm ET
Virtual via Teams: **Join the meeting now CLICK the Link to Join the Meeting**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Meeting ID: 210 056 931 998 4
Passcode: cY2hU9H2

Dial in by phone: +1 984-204-1487,,731631828#
Phone conference ID: 731 631 828#

2.8 PROPOSAL CONTENTS

Vendor shall populate all attachments of this RFP that require the Vendor to provide information and include an authorized signature where requested. Failure to provide all required items, or Vendor's submission of incomplete items, may result in the State rejecting Vendor's proposal, in the State's sole discretion.

All pages of the RFP should be returned. Organize the offer in the exact order in which items appear in this RFP.

Vendor response to Section 7: REQUIRED VENDOR INFORMATION should not exceed twenty (20) pages. This does not include cover page (title page), cover letter, table of contents, all pages of the RFP, certificate of insurance, compensation experience modification rate (EMR), copy of safety manual, copy of quality control manual, litigation history, and the completed attachments to this RFP.

2.9 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

Relevant definitions for this RFP are provided in 01 NCAC 05A .0112 and in the Instructions to Vendors found below which are incorporated herein by this reference.

The following definitions, acronyms, and abbreviations are also relevant to this RFP:

a) **ACTION PLAN:** the State's Community Development Block Grant-Disaster Recovery (also referred to as the CDBG-DR) Funding Action Plan in Response to Hurricane Helene impacted Counties in Western North Carolina.

b) **BAFO**: Best and Final Offer, submitted by a Vendor to alter its initial offer, made in response to a request by the issuing agency.

c) **CDBG-DR**: Community Development Block Grant for Disaster Recovery grant.

d) **CONTRACT LEAD:** The Procurement Contracting Officer listed in the RFP.

e) **CONTRACT ADMINISTRATOR**: The Division of Community Revitalization program administrator.

f) **DCR**: The North Carolina Division of Community Revitalization

g) **ePROCUREMENT SERVICE(S):** The program, system, and associated Services through which the State conducts electronic procurement.

h) **HUD**: U.S. Department of Housing and Urban Development

i) **NOTICE TO PROCEED (NTP)**: Written notice provided by the Program to begin construction of a Project.

j) **OFFER**: Vendor (general contractor) entire response to this Solicitation, including all documents and information requested in this Solicitation.

k) **OSHA**: Occupational Safety and Health Administration; www.OSHA.gov.

l) **PRINCIPAL PLACE OF BUSINESS:** The principal place from which the overall trade or business of the Vendor is directed or managed.

m) **PROGRAM:** Division of Community Revitalization Hurricane Helene Recovery Program.

n) **PROJECT:** Demolition, rehabilitation, reconstruction, MHU replacement of a specified residential structure.

o) **QUALIFIED PROPOSAL:** A responsive proposal submitted by a responsible Vendor.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

p) **RFP:** Request for Proposal

q) **SERVICES or SERVICE DELIVERABLES:** The tasks and duties undertaken by the Vendor to fulfill the requirements and specifications of this solicitation.

r) **SOLICITATION:** This RFP.

s) **SOP:** Standard Operating Procedures

t) **SOR:** System of Record

u) **SOW**: Scope of Work, which is the document that will be issued to assign a specific project to an awarded Vendor and will contain site-specific requirements, terms, and conditions. The Scope of Work will incorporate by reference the Contract resulting from this RFP.

v) **STATE:** The State of North Carolina, including any of its sub-units recognized under North Carolina law.

w) **STATE AGENCY:** Any of the more than 400 sub-units within the executive branch of the State, including its departments, boards, commissions, institutions of higher education and other institutions.

x) **VENDOR:** Supplier, bidder, proposer, company, firm, corporation, partnership, individual or other entity submitting a response to a Request for Proposal.

3.0 METHOD OF AWARD AND PROPOSAL EVALUATION PROCESS

3.1 METHOD OF AWARD

This RFP first seeks to determine the qualifications of general contractors who can provide services including residential demolition, reconstruction, rehabilitation, and MHU repair and replacement. Vendors will be evaluated based on their experience, expertise, references, past performance, financial capacity, proposed methodology, and technical proposal. The State intends to select up to 25 of the most qualified Vendors. Once a pool of the most qualified Vendors is identified, the State will then engage in a Best and Final Offer (BAFO) negotiation phase. Vendors who intend to perform reconstruction projects will be asked for reconstruction plan sets as part of the BAFO process. Plans sets may include traditional Stick-Built construction or modular construction. Costs for all project types will be negotiated during that process as well. More information regarding what the State will seek during the BAFO process is included in Section 3.3. Engaging in a BAFO process with the State does not guarantee that a Vendor will be awarded a Contract pursuant to this RFP.

North Carolina G.S. 143-52 provides a general list of criteria the State shall use to award contracts, as supplemented by the additional criteria herein. All award decisions shall be in the State's best interest. All qualified proposals will be evaluated, and awards will be made to the Vendors meeting the specific RFP Specifications and achieving the highest and best final evaluation. Prospective Vendors shall not be discriminated against on the basis of any prohibited grounds as defined by Federal or State law.

While the intent of this RFP is to award a Contract to multiple Vendors, the State reserves the right to make separate awards to different Vendors for one or more project types, to not award one or more line items, or to cancel this RFP in its entirety without awarding a Contract, if it is considered to be most advantageous to the State to do so. The State makes no guarantees as to whether awarded Vendors will receive assignments, the volume of assignments, or the project types of the assignments.

The State reserves the right to waive any minor informality or technicality in proposals received.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

32 CONFIDENTIALITY AND PROHIBITED COMMUNICATIONS DURING EVALUATION

While this RFP is under evaluation, the responding Vendor, including any subcontractors and suppliers, is prohibited from engaging in conversations intended to influence the outcome of the evaluation. See Paragraph 28 of the Instructions to Vendors entitled COMMUNICATIONS BY VENDORS.

Each Vendor submitting a proposal to this RFP, including its employees, agents, subcontractors, suppliers, subsidiaries and affiliates, is prohibited from having any communications with any person inside or outside the using agency; issuing agency; other government agency office or body (including the purchaser named above, any department secretary, agency head, members of the General Assembly and Governor's office); or private entity, if the communication refers to the content of Vendor's proposal or qualifications, the content of another Vendor's proposal, another Vendor's qualifications or ability to perform a resulting contract, and/or the transmittal of any other communication of information that could be reasonably considered to have the effect of directly or indirectly influencing the evaluation of proposals, the award of a contract, or both.

Any Vendor not in compliance with this provision shall be disqualified from evaluation and award. A Vendor's proposal may be disqualified if its subcontractor and/or supplier engage in any of the foregoing communications during the time that the procurement is active (*i.e.*, the issuance date of the procurement until the date of contract award or cancellation of the procurement). Only those discussions, communications or transmittals of information authorized or initiated by the issuing agency for this RFP or inquiries directed to the purchaser named in this RFP regarding requirements of the RFP (prior to proposal submission) or the status of the award (after submission) are excepted from this provision.

33 PROPOSAL EVALUATION PROCESS

Only responsive submissions will be evaluated.

The State will conduct a One-Step evaluation of Proposals:

Proposals will be received according to the method stated in the Proposal Submittal Section above.

All proposals must be received by the issuing agency not later than the date and time specified in the RFP SCHEDULE Section above, unless modified by Addendum. Vendors are cautioned that this is a request for offers, not an offer or request to contract, and the State reserves the unqualified right to reject any and all offers at any time if such rejection is deemed to be in the best interest of the State.

At the date and time provided in the RFP SCHEDULE Section above, unless modified by Addendum, the proposal from each responding Vendor will be opened publicly and all offers (except those that have been previously withdrawn, or voided bids) will be tabulated. The tabulation shall be made public at the time it is created. Only the names of offerors and the Goods and Services offered shall be tabulated at the time of opening. Negotiation is anticipated, therefore cost and price shall become available for public inspection at the time of the award.

At their option, the evaluators may request oral presentations or discussions with any or all Vendors for clarification or to amplify the materials presented in any part of the proposal. Vendors are cautioned, however, that the evaluators are not required to request presentations or other clarification—and often do not. Therefore, all proposals should be complete and reflect the most favorable terms available from the Vendor.

Upon completion of the evaluation and BAFO process, the State will make award(s) based on the evaluation and negotiation and post the award(s) to the State's eVP website under the RFP number for this solicitation. Pursuant to

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

01 NCAC 05B .0503, the State reserves the right to negotiate with one or more vendors, or to reject all original offers and negotiate with one or more sources of supply that may be capable of satisfying the requirement.

Negotiation and Best and Final Offer (BAFO)

Cost: During the BAFO process, the State will evaluate and negotiate cost by project type, including Reconstruction Base Plan, Reconstruction Site-Specific, MHU, MHU Site-Specific, and Demolition. Rehabilitation low offer determination will be based on Overhead and Profit percentage. The State will provide pricing worksheets for the most qualified vendors to complete and submit.

Reconstruction Plans: During the BAFO process, Vendors who intend to perform reconstruction projects may submit reconstruction plan sets for single-family homes, including options for Stick-Built and/or modular homes, for consideration by the program for use in the reconstruction phase of the program. DCR will consider the plans submitted and select one or more plan sets for program use. After DCR identifies its preferred plan set(s), DCR will request reconstruction pricing from the qualified reconstruction Vendors.

The Vendor must obtain permission from the designers for free reuse by the program by any Vendor selected by the Program. Vendors will be responsible for performing site-specific engineering requirements when using the plan set selected by DCR for program use. Plan sets will be required to have 2 bathrooms. Vendors providing plan sets should provide a minimum of a 2-bedroom, 3-bedroom, and 4-bedroom plan set. Multiple plan sets per configuration are allowed if the Vendor believes it best addresses construction challenges in western North Carolina.

Bedroom / Bathroom Configuration	Conditioned Square Footage
2 Bedroom / 2 Bathroom	1000 – 1200 SF
3 Bedroom / 2 Bathroom	1200 – 1500 SF
4 Bedroom / 2 Bathroom	1300 – 1700 SF

Submitted plan sets should provide sufficient detail for DCR to assess suitability for the program and for Vendors to provide accurate pricing. Full construction drawings are not necessary at this time, but, if selected, will be required within 14 days of contract execution.

DCR prefers plan sets that align with the types of homes constructed in western North Carolina, offer reasonable cosmetic variability, accommodate reasonable home elevation, and anticipate unique topographical and lot size/set back challenges. Accessibility will be offered to all applicants with approved disability modifications. Preferred plan sets will account for the accessibility requirements detailed in this Solicitation.

3.4 EVALUATION CRITERIA

Per RFP Section 5.1 SCOPE OF SERVICES, General contractors may choose to submit an offer for MHU project types only, for rehabilitation and reconstruction projects only, or for both, to be indicated in Attachment A.

- **Project Type 1: MHU projects**. General Contractors may select to apply for MHU repair, replacement, and relocation projects only and not be considered for reconstruction, repair, or demolition project assignments.
- **Project Type 2: Rehabilitation and Reconstruction projects (non-MHU)**. General Contractors who are selected for rehabilitation and reconstruction award types will be considered for reconstruction, repair, or demolition project assignments.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

It is the intention of DCR to identify qualified vendors on the basis of demonstrated competence and qualification for the type of professional services required without regard to fee at this stage, and thereafter to negotiate for those services at a fair and reasonable fee with the most qualified vendors. Because DCR will solicit plan sets for the reconstruction work, for the avoidance of doubt, it will separate the evaluation of qualifications from the price negotiation pursuant to NCGS § 143-64.31.

DCR will evaluate responsive proposals based on the following criteria, which are listed in order of importance:

1. Qualifications
    a. Conformity with the specifications and ability to meet minimum requirements
    b. Financial stability and solvency
        i. Ability to meet short-term obligations, debts, liabilities, payroll, and expenses
        ii. Sufficient cash flow and/or available financing from a financial institution to perform the proposed contract until receiving payment from the state
        iii. Ability to meet minimum bonding capacity requirements and insurance requirements
    c. Ability and capacity to perform the work
    d. Staffing plan
2. Experience
    a. Years of experience in the business
    b. Experience with providing construction services for CDBG-DR programs, including number of homes built as part of a CDBG-DR program
    c. Past performance, including quality and timely construction and safety information
    d. Experience with relevant policies and requirements (e.g. HUD Community Development Block Grant disaster laws, regulations, and guidelines; the Davis Bacon Act; and Section 3 of the Housing and Urban Development Act of 1968; North Carolina Building Code, Municipal Building Code, local and/or regional Housing Guidelines, if applicable)
    e. Experience servicing home warranty claims for CDBG-DR programs
    f. Experience restoring historic properties (for non-MHU projects)
3. References
    a. Three references for projects of similar type and size performed within the last five years, preferably for state and/or local government entities (See Section 7.5 and Attachment H)
4. Proposed Methodology and Technical Proposal
    a. How Vendor will ensure quality and timely construction

    If awarded, EXCEL will ensure quality and timely construction by providing highly qualified management staff to be stationed in the named region. Our projects are led by seasoned project managers who oversee schedules, budgets, quality, and safety. The Project Manager amongst other staff will be necessary to execute the scope of work described in this bid package. With real-time customized software we are able to track and monitor the progress of all project aspects. Additional back-office support personnel are available to the project execution team throughout the entire project.

    b. How Vendor proposes to manage applicant service including move out, applicant communication, and warranty management

    Third party moving professionals licensed and registered in the state of North Carolina will be utilized for homeowners requiring assistance with move outs, property storage and unpacks. Excel team members will coordinate with the homeowner, NCORR's Managing Team and moving organization to determine the most effective critical path to execute all projects within the timelines required. A designated phone line for homeowners needs, concerns, questions and warranty calls, has been set up to better streamline and document all communication, processes and completions throughout each project. With proven success, Excel utilizes QuickBase applications for oversight of daily progress by all team members, change order needs and requests, TRA data, documents, work order correspondence, issues, warranties and monitoring timelines of each assigned property. Our QuickBase project database is already in place and being utilized for current assignments. This system will be continually maintained and enhanced to aid the project execution team in its quality performance as required for this RFB, if awarded.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

c. How Vendor will scale construction services across a broad geography

Excel intends to establish regional hubs to support logistics, material storage and distribution, and work force mobilization. These hubs allow us to efficiently manage resources and reduce delays. Excel is actively developing a network of prequalified subcontractors in surrounding areas who meet our performance and compliance standards, enabling rapid deployment and local expertise in remote regions.

d. How Vendor proposes to accommodate topography and challenging site conditions

As part of our commitment to delivering a safe, sustainable and cost-effective project, our team has developed a comprehensive strategy to address the mountainous topography and rock site conditions commonly found throughout North Carolinas terrain, including our partnership with a top regional architectural firm located in North Carolina. We begin each project with a detailed assessment of the site to ensure our approach is tailored and data driven. This could include Topographic and boundary surveys, subsurface testing, drainage and/or watershed analysis. Our approach integrates thoughtful planning, adaptive design, and proven construction practices to mitigate risk while preserving the character of the landscape.

e. How Vendor intends to attract and retain subcontractors and trades

Excel recognizes the importance of building strong reliable partnerships with subcontractors and skilled trades. Excels approach to attracting and retaining top-tier subcontractors is grounded in professionalism, mutual respect, and shared success. Excel maintains a database of HUB Certified subcontractors in North Carolina. We offer competitive and transparent compensation, reliable work pipeline, clear scopes and expectations, strong communication, jobsite support, training, growth, and loyalty initiatives.

DCR will evaluate proposals using a narrative evaluation method, where it identifies strengths and weaknesses of each proposal. Once DCR has identified the most qualified Vendors and after it has received cost proposals during the negotiation phase, it will select vendors using a Best Value evaluation methodology, which is defined in statute as the selection of vendors based on "the best trade-off between price and performance, where quality is considered an integral performance factor. The award decision is made based on multiple factors, including: total cost of ownership, meaning the cost of acquiring, operating, maintaining, and supporting a product or service over its projected lifetime; the evaluated technical merit of the vendor's proposal; the vendor's past performance; and the evaluated probability of performing the requirements stated in the solicitation on time, with high quality, and in a manner that accomplishes the stated business objectives and maintains industry standards compliance." N.C.G.S. § 143-135.9

DCR reserves the right to take any of the following actions: cancel this RFP if funds are not available; disqualify any responses to this RFP for nonconformance to the terms described herein; negotiate with specific Vendors to achieve

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

the best value; establish a timeline during the negotiation phase for the submission of design plans, cost worksheets, and a best and final offer; and extend the time to respond to this RFP.

3.5 PERFORMANCE OUTSIDE THE UNITED STATES

Vendor shall complete ATTACHMENT D: LOCATION OF WORKERS UTILIZED BY VENDOR. In addition to any other evaluation criteria identified in this RFP, the State may also consider, for purposes of evaluating proposed or actual contract performance outside of the United States, how that performance may affect the following factors to ensure that any award will be in the best interest of the State:

a) Total cost to the State
b) Level of quality provided by the Vendor
c) Process and performance capability across multiple jurisdictions
d) Protection of the State's information and intellectual property
e) Availability of pertinent skills
f) Ability to understand the State's business requirements and internal operational culture
g) Particular risk factors such as the security of the State's information technology
h) Relations with citizens and employees
i) Contract enforcement jurisdictional issues

3.6 INTERPRETATION OF TERMS AND PHRASES

This RFP serves two functions: (1) to advise potential Vendors of the parameters of the solution being sought by the State; and (2) to provide (together with other specified documents) the terms of the Contract resulting from this procurement. The use of phrases such as "shall," "must," and "requirements" are intended to create enforceable contract conditions. In determining whether proposals should be evaluated or rejected, the State will take into consideration the degree to which Vendors have proposed or failed to propose solutions that will satisfy the State's needs as described in the RFP. Except as specifically stated in the RFP, no one requirement shall automatically disqualify a Vendor from consideration. However, failure to comply with any single requirement may result in the State exercising its discretion to reject a proposal in its entirety.

4.0 REQUIREMENTS

This Section lists the requirements related to this RFP. By submitting a proposal, the Vendor agrees to meet all stated requirements in this Section as well as any other specifications, requirements, and terms and conditions stated in this RFP. If a Vendor is unclear about a requirement or specification, or believes a change to a requirement would allow for the State to receive a better proposal, the Vendor is urged to submit these items in the form of a question during the question and answer period in accordance with the Proposal Questions Section above.

4.1 MINIMUM QUALIFICATIONS

Vendor should indicate that it meets each of the following requirements by providing documentation and/or specific proof of experience and qualifications to carry out each task:

- Vendor must have been in the residential construction business for a minimum of five (5) years, or the principals/owners must have had a minimum of five (5) years of ownership/executive management experience in a previous company that provided residential construction services.
- Vendor must either: 1) hold a current North Carolina general contractor license; or 2) commit to securing such licenses prior to entering any contractual obligations, while meeting the timelines set out herein.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- For Project Type 2 (rehabilitation and reconstruction) Vendor must demonstrate that it has a minimum of three (3) years' experience in the rehabilitation and reconstruction of residential housing funded by Community Development Block Grant Disaster-Recovery funds, or the principals/owners must have had a minimum of three (3) years' experience in the rehabilitation and reconstruction of residential housing funded by the Community Development Block Grant Disaster-Recovery funds.
- For Project Type 1 (MHU replacement), Vendor must demonstrate that it has a minimum of three (3) years' experience in the in the installation of Manufactured Housing Units and that it has the ability to meet the Manufactured Home Construction and Safety Standards (HUD Code) in order for units to meet the definition of manufactured housing and qualify for federal program assistance.
- Vendor must demonstrate as applicable to its proposal for the project type:
    - the ability to carry residential reconstruction projects to completion within 150 days;
    - ability to carry MHU replacement projects to completion within 60 days;
    - ability to carry residential demolition projects to completion within 30 days; and/or
    - ability to carry residential rehabilitation projects to completion within 30 days for projects with a scope <$50,000, 60 days for projects with a scope >$50,000 and <$100,00, 90 days for projects with a scope >$100,000 and <$150,000, 120 days for projects with a scope >$150,000.
    - These timelines do not include pre-construction activities such as engineering.
- For Project Type 2 (rehabilitation and reconstruction) Vendor must demonstrate the ability to, and have experience with, lead based paint and asbestos removal and environmental mitigation related to the rehabilitation and reconstruction of residential properties (DCR will identify lead based paint abatement needs through its environmental review).
- Vendor and/or it's principals/owners must have experience in managing and completing projects of a similar size and nature with respect to disaster recovery.
- Vendor must have experience in achieving compliance and reporting on compliance with state and federal construction laws, regulations and procedures, and producing the payroll documentation necessary for compliance.
- Vendor must be financially solvent, adequately capitalized, and demonstrate it has the financial resources to perform and complete the work and to provide all required warranties.

4.2 OTHER REQUIREMENTS

- The work to be performed under a contract awarded pursuant to this Request for Proposal will utilize funds provided by HUD and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u. Section 3 requires that to the greatest extent feasible and consistent with existing state and federal law, opportunities for training and employment be given to lower-income residents in the project area and contracts for work in connection with this project be awarded to business concerns which are located in or owned in substantial part by persons residing in the area of the program.
- Vendors must commit to securing and/or maintain office space somewhere within the Western North Carolina Hurricane Helene impacted area for the duration of the project. Vendors should indicate in their narrative proposal where the office(s) is/are anticipated to be located and provide the vendor's plan for staffing each office.
- Vendor must provide a two-year warranty on all materials and workmanship; Vendor will remain liable for defects as provided by North Carolina law.

4.3 PAYMENT STRUCTURE

Payment will be a fixed fee for construction services based on the scope of work for each project. DCR's implementation vendor will recommend an inspection schedule for each project type and payments will be based on the Vendor completing construction milestones for each project (e.g. foundation, framing, wallboard, final, etc.).

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.4 INVOICES

Vendors will send monthly invoices to DCR's implementation vendor for validation prior to sending to DCR for payment.

a) Vendor must submit one monthly invoice within fifteen (15) calendar days following the end of each month in which work was performed.

b) Invoices must be submitted in electronic format on the Vendor's official letterhead stationery and must be identified by a unique invoice number unless otherwise directed. All invoice backup reports and spreadsheets must be provided in electronic format.

c) Invoices must bear the correct contract number and purchase order number to ensure prompt payment. Vendor's failure to include the correct purchase order number may cause delay in payment.

d) Invoices must include an accurate description of the work for which the invoice is being submitted in DCR-approved format, the services provided, the invoice date, the period of time covered, the amount of fees due to Vendor and the signature of Vendor's project manager.

4.5 HUB PARTICIPATION

Pursuant to North Carolina General Statute G.S. 143-48, it is State policy to encourage and promote the use of small, minority, physically handicapped, and women contractors in purchasing Goods and Services. As such, this RFP will serve to identify those Vendors that are minority owned or have a strategic plan to support the State's Historically Underutilized Business program by meeting or exceeding the goal of 10% utilization of diverse firms as 1st or 2nd tier subcontractors. Vendor shall complete ATTACHMENT E: HUB SUPPLEMENTAL VENDOR INFORMATION.

4.6 BACKGROUND CHECKS

Any personnel or agent of Vendor performing Services under any Contract arising from this RFP may be required to undergo a background check at the expense of the Vendor, if so requested by the State.

4.7 PERSONNEL

Vendor warrants that qualified personnel shall provide Services under this Contract in a professional manner. "Professional manner" means that the personnel performing the Services will possess the skill and competence consistent with the prevailing business standards in the industry. Vendor will serve as the prime contractor under this Contract and shall be responsible for the performance and payment of all subcontractor(s) that may be approved by the State. Names of any third-party Vendors or subcontractors of Vendor may appear for purposes of convenience in Contract documents; and shall not limit Vendor's obligations hereunder. Vendor will retain executive representation for functional and technical expertise as needed in order to incorporate any work by third party subcontractor(s).

Should the Vendor's proposal result in an award, the Vendor shall be required to agree that it will not substitute key personnel assigned to the performance of the Contract without prior written approval by the Contract Lead. Vendor shall further agree that it will notify the Contract Lead of any desired substitution, including the name(s) and references of Vendor's recommended substitute personnel. The State will approve or disapprove the requested substitution in a timely manner. The State may, in its sole discretion, terminate the Services of any person providing Services under this Contract. Upon such termination, the State may request acceptable substitute personnel or terminate the contract Services provided by such personnel.

4.8 VENDOR'S REPRESENTATIONS

If Vendor's Proposal results in an award, Vendor agrees that it will not enter any agreement with a third party that may abridge any rights of the State under the Contract. If any Services, deliverables, functions, or responsibilities not

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

specifically described in this solicitation are required for Vendor's proper performance, provision and delivery of the Service and deliverables under a resulting Contract, or are an inherent part of or necessary sub-task included within such Service, they will be deemed to be implied by and included within the scope of the Contract to the same extent and in the same manner as if specifically described in the Contract. Unless otherwise expressly provided herein, Vendor will furnish all of its own necessary management, supervision, labor, facilities, furniture, computer and telecommunications equipment, software, supplies and materials necessary for the Vendor to provide and deliver the Services and/or other Deliverables.

4.9 BOND AND INSURANCE REQUIREMENTS

Insurance requirements are indicated in ATTACHEMENT C: NORTH CAROLINA GENERAL TERM AND CONDITIONS, Paragraph 15 (b)(3) Contracts valued in excess of $1,000,000.

Vendor must maintain performance and payment bonds in an amount equal to the value of the active construction projects issued under the awarded contract. DCR's implementation vendor will award contracts in different amounts based upon the work that is required. Vendor must provide evidence of the maximum performance and payment bonding capacity with the Solicitation Response, and the form of the bond that shall be executed and produced by the selected Vendor at the time of Project assignment. For demolition, rehabilitation, and/or reconstruction of single-family residential structures, Vendor must provide evidence of a minimum bonding capacity of Five Million and No 00/100 Dollars ($5,000,000) with the Solicitation Response. For Vendors whose intention it is to complete only MHU replacement or rehabilitation projects, Vendor is encouraged to provide evidence of a minimum bonding capacity of Five Million and No 00/100 Dollars ($5,000,000); however, in its sole discretion, DCR may consider the selection of Vendors who can provide evidence of a maximum performance and payment bonding capacity of not less than Two Million and No 00/100 Dollars ($2,000,000) for a smaller number of projects. In no event shall the bond requirement be for less than one hundred percent (100%) of a Vendor's amount under contract at any given time. All bonds must be issued by a bonding agent with at least an "A" rating, and the bonding companies must be listed in the Department of the Treasury's Listing of Certified Companies. Bond riders will be required to capture increased costs resulting from
approved change orders such that 100% of the project cost is always covered by a valid performance and payment bond.

For the duration of any contract resulting from this Solicitation, Vendor shall acquire insurance and bonds with financially sound and reputable independent insurers, in the type and amount specified in this RFP. The required coverage is to be with companies licensed in the state of North Carolina, with an "A" rating from A.M. Best, authorized to provide the corresponding coverage and must be listed in the Department of the Treasury's Listing of Certified Companies. Work on any contract shall not begin until after Vendor has submitted acceptable evidence of bonds and insurance. Failure to maintain insurance coverage or acceptable alternative methods of insurance shall be deemed a breach of contract. Vendor shall submit acceptable evidence of insurance and bonds not later than seven days following the effective date of a Contract.

4.10 LOBBYING ACTIVITY CERTIFICATION FOR FEDERAL GRANTS

Federal law prohibits recipients of federal funds, whether through grants, contracts, or cooperative agreements, from using those funds to influence or attempt to influence (lobby) a federal official in connection with obtaining, extending, or modifying any federal contract, grant, loan, or cooperative agreement. Further, federal law requires that applicants for federal funds certify:

- That they abide by the above restriction;
- That they disclose any permissible (non-federal) paid lobbying on the Federal Awards being applied for; and

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- That such certification requirements will also be included in any subawards meeting the applicable thresholds.

Vendors must complete and submit ATTACHMENT F: CERTIFICATION FOR CONTRACTS, GRANTS, LOANS, AND COOPERATIVE AGREEMENTS and ATTACHMENT G: DISCLOSURE OF LOBBYING ACTIVITIES (OMB STANDARD FORM LLL) when responding to this solicitation.

5.0 SCOPE OF WORK

5.1 SCOPE OF SERVICES

The selected Vendors will perform, or cause to be performed, MHU replacement, demolition, rehabilitation, or reconstruction of residential construction projects (the "Project"), for Hurricane Helene impacted Counties in Western North Carolina, in compliance with local, federal and state statutory requirements for grants under the United States Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) program. DCR prefers vendors that have experience with the repair of historic properties. DCR makes no guarantee regarding the number of vendors awarded under this solicitation.

General contractors may choose to submit an offer for rehabilitation and reconstruction types, and/or only MHU project types, as described below. While general contractors may choose which project type, DCR nor DCR's implementation vendor makes no guarantee of award, volume of assignments selected contractors will receive, or the project types of assignments selected contractors will receive. General Contractors must clearly state in their response to this RFP (in Attachment A) which project type(s) the GC will perform work. Assignments will not be made outside of the project type selected by the General Contractor during this solicitation process. Demolition only projects are not an option. DCR does not intend to hire construction trades directly.

- **Project Type 1: MHU projects**. General Contractors may select to apply for MHU repair, replacement, and relocation projects only and not be considered for reconstruction, repair, or demolition project assignments.

- **Project Type 2: Rehabilitation and Reconstruction projects (non-MHU)**. General Contractors who are selected for rehabilitation and reconstruction award types will be considered for reconstruction, repair, or demolition project assignments.

DCR is procuring an implementation vendor to assist with the implementation of the Reconstruction and Rehabilitation (R&R) Program and the operation of intake centers for program applicants. DCR will use contractors to manage and complete the construction process for homeowners approved for funding through the Reconstruction and Rehabilitation (R&R) Program. DCR and/or DCR's implementation vendor intends to issue multiple Indefinite Delivery/Indefinite Quantity (IDIQ) contracts to create a pool of contractors to perform the services requested under this Solicitation. Related companies or individuals conducting work as an individual/independent entity are permitted to both submit proposals under this RFP. Companies sharing common insurance policies are not considered individual/independent entities.

DCR and/or DCR's implementation vendor shall assign projects to contractors based upon capacity, capability and performance. Vendors that respond to this Solicitation must demonstrate the ability to mobilize within 45 days of award and complete assigned construction projects within the contracted time (not to exceed 150 days for reconstruction projects, 30 days for demolition only, 60 days for MHU replacement projects, and 45 days for rehabilitation projects with a scope <$50,000, 60 days for rehabilitation projects with a scope >$50,000 and <$100,000, 90 days for rehabilitation projects with a scope >$100,000 and <$150,000, 120 days for rehabilitation projects with a scope >$150,000) to reduce potential hazards to public welfare and safety. These timelines do not include pre-construction activities.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

To ensure effective Low and Moderate Income (LMI) benefit in the R&R program, the State will prioritize very low and low income households, with the highest prioritization for households with incomes less than 60% of AMI (Area Median Income) as well as households that have one or more of the following characteristics: households with members 62 or older, households with children under the age of 18, and households with special needs or special accommodation requirements (disabled). Further details on these recovery programs, including the State's Action Plan and Program Manuals, can be found on the State's website: commerce.nc.gov/recovery. DCR may receive additional State and Federal funds and may require construction services of those funds as well. The Contract Award shall include the similar service for all funds, anticipated and unanticipated, received or managed by DCR during the contract term, at DCR's discretion.

General contractors will be awarded Projects at the sole discretion of DCR and/or DCR's awarded implementation vendor. Vendors must demonstrate the ability to provide services in the thirty-nine (39) counties affected by Hurricane Helene within the timeframe specified in this RFP.

5.2 TASKS/DELIVERABLES

In addition to the services and requirements described in this RFP, Contractors must perform any other ancillary construction-related services that may be required for a given property. Thus, it is imperative that vendors(s) enumerate any other services they can provide. These ancillary services may go beyond what would be required for the repair/construction and/or demolition of a property.

Vendor must be familiar with North Carolina Building Code, Municipal Building Code, local and/or regional Housing Guidelines, if applicable. Each municipality will be nuanced depending on local construction requirements, community recovery needs, program goals and other applicable locally approved program requirements.

5.2.1 DEMOLITION

Demolition Scope of Work

In certain cases, a property owner may only be eligible for the demolition of his/her home and site restoration of the parcel to open space. The Scope of Work for each demolition will vary but may include, although not be limited to, the following:

- Coordination with the property owner and his/her family from assignment to obtaining a certificate of completion (or permit signoff equivalent) for closing;
- Utility disconnection and deactivation;
- Demolition of existing structure;
- Debris removal in accordance with all federal, state, and local requirements, including the disposal of potential asbestos containing materials;
- Conduct site specific analysis for surveying, zoning, and plot plans;
- Final site restoration to open space.

5.2.2 REPAIR

Eligible applicants may qualify for repair scopes depending on the extent of damage and the policies established by DCR. Eligible applicants with manufactured housing unit (MHU) properties qualify for a repair award type when the estimated cost to repair is less than $25,000 and the MHU is fewer than five (5) years old, and the property is not otherwise deemed not suitable for rehabilitation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Not Suitable for Rehabilitation

"Not suitable for rehabilitation" is defined as:

- The amount needed to bring the unit to housing habitability standards will exceed the program cap.
- Condemned or tagged for demolition by local jurisdiction.
- Property owners have received a substantial damage letter for the local jurisdiction.
- The housing unit has been demolished.
- Structural assessment by licensed engineer deems the home not safe for rehabilitation.
- The housing unit is a construction on a slab on grade and requires elevation.
- Mobile home units requiring more than $25,000 in repairs.

Eligible applicants with homes deemed not suitable for rehabilitation may be offered reconstruction assistance, if the applicant owns the land on which the structure sits and reconstruction is feasible. Such eligibility determination will be made by the Division of Community Revitalization and/or DCR's implementation vendor.

Repair Scope of Work

Program repairs are intended to repair remaining storm damage and to make the home decent, safe and sanitary. The Division of Community Revitalization Program ("Program") does not provide "like for like" repairs. Program repairs will be completed using standard economy/builders' grade materials, not with materials that were there before. For example, if a repair award calls for replacement of cabinets, the program will replace existing cabinets with standard grade cabinets regardless of the grade of the pre-existing cabinets.

Repair Scopes of Work will be limited to those items identified by the program as in need of repair to bring the home back up to safe conditions. Repairs, upgrades or modifications requested by the homeowner will not be considered. For example, if some windows are in need of repair or replacement, the program will replace those windows in need of repair only; other operable windows will not be replaced or repaired.

Standard essential appliances that are not functioning or non-existent at the time of damage assessment will be replaced. Essential appliances include stove/range, oven, water heater and refrigerator only. Dishwashers may be replaced only if a dishwasher previously existed in the home. Repair awards will not include a dishwasher if a dishwasher was not present at time of damage assessment. Washing machines and dryers, microwaves, stand-alone freezers and other non-essential appliances are not eligible for replacement. Any obsolete products replaced as part of the repairs must be replaced with ENERGY STAR®, Water Sense, or other Federal Energy Management Program (FEMP)-designated products or appliances.

Luxury items, including but not limited to, high-end countertops, high-end appliances, stone flooring, security systems, swimming pools, spas, fireplaces, sheds, outbuildings, fences and television satellite dishes are not eligible under this program.

Because repair scopes of work only address items in need of repair for the home to be decent, safe, and sanitary, the Program does not guarantee that work completed as part of a repair award will match other items in the home. Some examples of this include, but are not limited to:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Flooring replaced in portions of a home may not match flooring in other rooms. The Program will replace flooring by room, to the nearest cased opening;
- Light fixtures replaced may not match pre-existing light fixtures or fixtures in other parts of the home;
- If only a portion of the windows require replacement, all the windows in the home may not match;
- If a portion of the home requires paint, paint in the repaired portion of the home may not match paint in other rooms (interior) or on other elevations (if exterior). The Program will paint whole interior rooms, to the door casing, or whole exterior sections to the next architectural break. Additional rooms or elevations will not be painted for aesthetic reasons alone.

Reasonable Accommodations – Repair Award Type

Applicants who qualify for a repair award type may qualify for reasonable accommodations in rooms/areas where program Scope of Work exists. In general, reasonable accommodations will only be made in repair projects if the program scope of work impacts the item and room where a reasonable accommodation is requested. For example, if the program scope of work does not include removal/replacement of a tub/shower, the program will not modify the existing tub/shower for the sole purpose of installing or modifying the existing facilities to include accessibility features.

If the Program Scope of Work impacts the kitchen, bathroom or entryway in a repair project, the applicant may request reasonable accommodations in those areas. Reasonable accommodations for bathrooms are offered in three (3) tiers, so that the applicant may request the level of accommodation that best suits his/her need.

Applicants who request accommodations in a bathroom may select one (1) of three (3) standard available options. Accessibility modifications will only be made in one (1) bathroom. If the repair project scope includes more than one (1) bathroom, the reasonable accommodation will be installed in the bathroom that is in the program scope of work where modifications are the most feasible within the existing dimensions and scope of work in the room.

The program will not move walls to expand the size of an existing bathroom or move plumbing lines to install an accessibility accommodation. Because repair projects are largely constrained by the size of existing rooms, there is no standard width/length size requirements for tub/shower compartments. The program will attempt to replace tub/showers with fixtures similar in size to the existing fixtures.

Bathroom Reasonable Accommodation 1 (RA-1)

Applicants who opt for Reasonable Accommodation 1 (RA-1) will be provided one (1) bathroom with the following accessibility modifications:

- Tub/Shower combination with blocking and a grab bar
- Chair height toilet with grab bars

Bathroom Reasonable Accommodation 2 (RA-2)

Applicants who request Reasonable Accommodation 2 (RA-2) will be provided one (1) bathroom with the following accessibility modifications:

- Tub/Shower combination with blocking, grab bars, seat and shower wand
- Chair height toilet with grab bars

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Bathroom Reasonable Accommodation 3 (RA-3)

Applicants who request Reasonable Accommodation 3 (RA-3) will be provided one (1) bathroom with the following accessibility modifications:

- Roll-in shower compartment to fit existing tub/shower space, equipped with grab bars, seat and shower wand
- Chair height toilet with grab bars
- Roll under vanity, only upon request

Kitchen Reasonable Accommodations

Applicants may indicate reasonable accommodations to make a kitchen more accessible. Reasonable accommodations in kitchens for repair award types must be accommodations to items included in the Program Scope of Work, and may include:

- Wheelchair accessible cook top (knobs on front of the appliance)
- Roll under kitchen sink

Items not included in the Program Scope of Work will not be modified for the sole purpose of providing an accessibility modification. Accessibility modifications will only be made to the primary kitchen at the property, in the event the property has more than one kitchen.

Repair Scope of Work

It is anticipated that homes eligible for rehabilitation will require an array of repairs ranging from minor to major. The Scope of Work for each repaired structure will vary, but may include, although not be limited to, the following:

- Coordination with the property owner and his/her family and case management from assignment to obtaining a certificate of occupancy (or permit signoff equivalent) for closing;
- Coordinating applicant move out, and providing temporary housing, if eligible;
- Development of a thorough scope of necessary repairs using a program-prescribed form;
- Obtaining all necessary state and local permits and approvals prior to the commencement of the work for each structure;
- Providing architectural and house plan renderings (no particular software program has been determined for those renderings and Vendors are encouraged to select a design software that is capable of satisfying local permitting and plan review requirements, including, but not limited to digital seal/signature requirements for professional services);
- Demolition of damaged interior and exterior materials;
- Foundation leveling, repair and/or elevation, including the Vendor providing all structural drawings for the scope when required;
- Structural damage repair;
- Building envelope repair, including:
  - Roof repair or replacement and attendant damage
  - Door and window replacement
  - Siding/veneer repair or replacement
  - Mechanical (HVAC), electrical, and plumbing systems repair or replacement
  - Drywall repair or replacement
- Rough and trim carpentry;
- Surface preparation and painting;
- Flooring repair or replacement;
- Cabinet, countertop and appliance replacement;

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Appliances to be replaced must meet federal register requirements for energy efficiency;
- Lead-based paint mitigation;
- Specialty construction elements associated with historic properties, including coordination with State Historic Preservation Office (SHPO), and other local historic districts and stakeholders in other jurisdictions;
- Addressing special needs accessibility requirements; and Conducting close-outs for each project, which may include obtaining certificate(s) of occupancy from applicable state and local authorities, elevation certificates, flood insurance policies and/or as-built surveys.

5.2.3 RECONSTRUCTION

Eligible applicants may qualify for a reconstruction award type when the estimated cost to repair exceeds DCR policy. Eligible applicants with properties otherwise deemed not suitable for rehabilitation may also qualify for a reconstruction award if the applicant owns the land and it is feasible to reconstruct the structure on the property.

Eligible applicants with Manufactured Housing Units (MHUs) may qualify for reconstruction if it is infeasible to replace an MHU on the applicant's property and the applicant owns the land on which the MHU is situated. The Program considers it infeasible to replace an MHU if it must be elevated above the standard 3-foot installation height, if zoning or municipal regulations prohibit installation of a MHU on the property, or if other engineering, environmental or site constraints make installation of an MHU onsite infeasible. Applicants with MHU property types shall not be awarded a reconstruction award on the basis of applicant preference only.

Homes that meet the threshold for a reconstruction award will be demolished and reconstructed in substantially the same footprint, when feasible. Reconstructed homes will meet local building codes and will incorporate HUD building requirements and resilience measures to the extent possible.

Size and New Unit Configuration

The Program will provide applicants who qualify for reconstruction awards with standard program floorplan homes. The program offers 2-, 3-, and 4-bedroom homes; all standard floorplans include 2 bathrooms. Which standard floorplan the applicant receives is based on DCR policy. Exceptions to reconstructed home bedroom/bathroom configuration will only be considered if overcrowding exists within the home or if an applicant elects to reduce the number of bedrooms and/or bathrooms to reduce a DOB gap.

To reduce the required time from award to completion as related to reconstruction, the Program will provide plans and specifications for "model homes" available to applicants. The Vendor will be given floor plans only. Architectural and Structural plans will be the responsibility of Vendor. The Vendor is responsible for necessary site surveys and elevation surveys to confirm structure location and base flood elevation. The Vendor is responsible for ensuring completion of all plans required for permit issuance and ultimately, Certificate of Occupancy issuance. The Program has available 2-, 3-, and 4-bedroom "model homes." Standard floorplans are offered in the following square footage ranges only.

Bedroom / Bathroom Configuration	Conditioned Square Footage
2 Bedroom / 2 Bathroom	1000 – 1200 SF
3 Bedroom / 2 Bathroom	1200 – 1500 SF
4 Bedroom / 2 Bathroom	1300 – 1700 SF

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Reconstructed homes do not include reconstruction of garages (attached or detached), sheds, pool houses or other outbuildings. Such outbuildings may be demolished during reconstruction to allow enough space for the new home to be built or because such structures pose a health or safety issue. Attached garages are allowable when required by code or HOA requirements.

The following is a non-exhaustive list of items that are not included or considered when determining the floorplan, bedroom/bathroom configuration, or size of the reconstructed home. The Program does not reconstruct like for like:

- Interior or exterior finishes;
- Square footage;
- Number of bathrooms (if more than 2);
- Extra/Bonus rooms such as dens, playrooms, offices, studies, libraries, etc.

Reasonable Accommodations – Reconstruction Award Type

All reconstruction projects are designed with the following accommodations. All reconstructions will receive the following universal accommodations, regardless of whether a Reasonable Accommodation has been requested by the applicant:

- 36" hallways, wide enough to accommodate a standard wheelchair;
- Adequate turning radius for a wheelchair in the kitchen;
- Adequate turning radius for a wheelchair in both bathrooms[1];
- All doors installed with levers instead of knobs;
- Exterior doors, all bedroom doors and all bathroom doors are 36" wide.

In addition, the applicant may request reasonable accommodations in the bathroom, kitchen, entrance, and/or strobe smoke detectors throughout.

Reasonable Accommodations – Bathroom

Applicants who request accommodations in a bathroom may select one (1) of three (3) standard available options. Accessibility modifications will only be made in one (1) bathroom. By default, the modified bathroom will be the master bathroom, unless otherwise specified on a completed Reasonable Accommodation Request Form.

Bathroom Reasonable Accommodation 1 (RA-1)

Applicants who opt for Reasonable Accommodation 1 (RA-1) will be provided one (1) bathroom with the following accessibility modifications:

- Tub length of 60" and tub width of 36" in master bath. Hallway bathtub is 60" x 30", with no seat[2]; grab bars installed in tub/shower enclosure;
- Chair height toilet with grab bars.

Bathroom Reasonable Accommodation 2 (RA-2)

Applicants who request Reasonable Accommodation 2 (RA-2) will be provided one (1) bathroom with the following accessibility modifications:

[1] If the applicant requests a reasonable accommodation for the bathroom, the reasonable accommodation will be installed in the bathroom with adequate turning radius for a wheelchair, unless otherwise specified on the Verification of Disability Form.
[2] If a bathroom is removed for scope reduction this may vary.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Tub/Shower combination with blocking, grab bars, seat and shower wand;
- Chair height toilet with grab bars.

Bathroom Reasonable Accommodation 3 (RA-3)

Applicants who request Reasonable Accommodation 3 (RA-3) will be provided one (1) bathroom with the following accessibility modifications:

- 30" x 60" roll-in shower compartment, equipped with grab bars, seat and shower wand;
- Chair height toilet with grab bars;
- Roll under vanity.

Reasonable Accommodation – Kitchen

Applicants may request reasonable accommodations to make a kitchen more accessible. Standard reasonable accommodations for kitchens in reconstruction project types include:

- Wheelchair accessible cook top (knobs on front of appliance);
- Roll under kitchen sink.

Reconstruction Scope of Work

In certain cases, a property owner may only be eligible for the complete reconstruction of his/her home, either substantially within the same footprint as the prior home (reconstruction) or a different footprint. The Scope of Work for each reconstructed or newly constructed structure will vary but may include, although not be limited to, the following:

- Coordination with the property owner and his/her family from assignment to obtaining a certificate of occupancy for closing;
- Coordinating applicant move out, and providing temporary housing, if eligible;
- Utility disconnection and deactivation;
- Demolition of existing structure;
- Debris removal in accordance with all federal, state, and local requirements, including the disposal of potential asbestos containing materials;
- Providing architectural and house plan renderings that meet the following requirements, at a minimum:
  - Comply with local code requirements;
  - Fiber cement siding or Stucco (for Concrete Block/CMU Homes);
  - Roof shall be constructed with radiant barrier sheathing, ice & water shield with architectural shingles;
  - Strapping and impact resistant window requirements per local code;
  - Vinyl windows;
  - Flooring shall be either carpet or vinyl plank flooring (no sheet goods);
  - Plans must be adaptable for all 3 different accessibility accommodation scenarios outlined herein (RA-1, RA-2, and RA-3);
  - Bedrooms shall be a minimum of 100 SF with a minimum of 25 SF closet space for the master bedroom; and
  - Comply with HUD building requirements.
- Conduct site specific analysis for surveying, zoning, plot plans, elevation and site specific engineering;
- Site preparation;
- Construction of new residential structures including 2-, 3-, and 4-bedroom floor plans in accordance with all applicable local and state codes and standards; and

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Addressing special needs accessibility accommodations in accordance with program guidelines.

5.2.4 MANUFACTURED HOUSING UNITS

Eligible applicants with manufactured housing unit (MHU) properties qualify for a replacement award type when the estimated cost to repair is greater than $25,000 and/or the MHU is five (5) years old or older. Eligible applicants with MHUs on leased land must have landowner consent to replace an MHU on the land prior to award, or must have identified a suitable alternate location. Homes that meet the threshold for a replacement award will be demolished and a new MHU will be installed in substantially the same footprint, when feasible. MHU projects that require elevation may be awarded reconstruction and will follow the Reconstruction requirements outline in Section 5.2.3.

Size and New Unit Configuration

The Program will provide applicants who qualify for replacement awards with 2-, 3-, and 4-bedroom singlewide or doublewide MHUs; all bedroom configurations include 2 bathrooms. Which unit configuration an applicant receives is based on DCR policy. After-market additions are not considered when determining the width or number of bedrooms in the storm damaged MHU (i.e., if a 3rd bedroom was added on to a singlewide 2-bedroom MHU, the home will be considered a 2-bedroom, singlewide MHU). Exceptions to replacement MHU bedroom configuration will only be considered by the County if overcrowding exists within the home or if the applicant elects to reduce the number of bedrooms via scope reduction to reduce or eliminate a DOB gap.
The storm-damaged MHU width configuration will also be based on the width of the storm-damaged MHU. The Program only provides singlewide and doublewide units. Triple-wide or larger units are not provided.

- If the storm damaged MHU was a singlewide, the applicant will receive a singlewide.
- If the storm damaged MHU was a doublewide, triple wide or larger width configuration, the applicant will receive a doublewide.

To reduce the required time from award to completion as related to replacement awards, the Program will task the assigned General Contractor to source an MHU in the awarded singlewide or doublewide bedroom/bathroom configuration. The Program does not offer standard floorplans for MHUs. The Program offers standard bedroom/bathroom configurations in singlewide or doublewide units in the following standard square footage ranges. All MHUs sourced by the program must be HUD approved units. The table below outlines square footage ranges for singlewide and doublewide units.

Bedroom / Bathroom Configuration	Conditioned Square Footage
Singlewide 2 Bedroom / 2 Bathroom	750 – 900 SF
Singlewide 3 Bedroom / 2 Bathroom	1000 – 1200 SF
Singlewide 4 Bedroom / 2 Bathroom	1000 – 1200 SF
Doublewide 2 Bedroom / 2 Bathroom	1000 – 1250 SF
Doublewide 3 Bedroom / 2 Bathroom	1250 – 1500 SF
Doublewide 4 Bedroom / 2 Bathroom	1400 – 1800 SF

Program replacement MHUs do not include replacement or reconstruction of garages (attached or detached), sheds, pool houses, carports or other outbuildings. Such outbuildings may be demolished during construction to allow ample space for the new MHU to be delivered/installed, or in the event such structures pose a health or safety issue. However, the Vendor will be required to satisfy all

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

community association requirements, covenants, and AHJ requirements such as a mobile home park that requires a car port or shed.

The following is a non-exhaustive list of items that are not included or considered when determining the bedroom/bathroom configuration or size of the replacement MHU. The Program does not provide like for like:

- Interior or exterior finishes;
- Square footage;
- Manufacturer of the storm damaged unit;
- Number of bathrooms (if more than 2);
- Extra/Bonus rooms such as dens, playrooms, offices, etc.;
- After market additions such as additional rooms or covered porches.

Manufactured Housing Unit (MHU) Relocation

The Program allows for replacement of a manufactured housing unit (MHU) in an alternate location only when replacing the MHU in the same location as the storm damaged MHU is not feasible or is prohibited. MHU relocations may be considered under the following circumstances:

- If an otherwise eligible applicant does not own the land on which the storm damaged MHU is situated, and the landowner does not consent to a new unit being replaced on the land;
- If MHU must be elevated above the standard 3-foot installation height;
- If zoning or municipal regulations prohibit installation of a MHU on the property; or
- If other engineering, environmental or site constraints make installation of an MHU onsite infeasible or unreasonable.

The Program does not provide replacement property for applicants. To be allowed to replace an MHU on an alternate property, the applicant must source and obtain ownership or permission to install a MHU at the alternate location. Alternate locations must be zoned to allow for installation of a MHU, have ready access to sewer, water, and electric connections, and must not be located in a 100-year floodplain. Alternate MHU sites must pass an environmental review before the applicant makes a binding commitment to lease or purchase land (environmental reviews will be provided to the GC from the program). If an applicant enters into a binding agreement to lease or purchase alternate land before the program has environmentally cleared the alternate parcel, the applicant may be ineligible for assistance, as this constitutes a choice-limiting action.[3]

Reasonable Accommodations – Manufactured Housing Unit Replacement Award Type

Applicants who qualify for a replacement award type may request reasonable accommodations. Reasonable accommodations in MHU projects are limited by manufacturer specifications and unit availability. Applicants who request reasonable accommodation will be provided with a "wheelchair friendly" MHU.

Wheelchair friendly Mobile Home Units should include at minimum:

[3] 24 CFR 58.22(a) Neither a recipient nor any participant in the development process, including public or private nonprofit or for-profit entities, or any of their contractors, may commit HUD assistance under a program listed in § 58.1(b) on an activity or project until HUD or the state has approved the recipient's RROF and the related certification from the responsible entity. In addition, until the RROF and the related certification have been approved, neither a recipient nor any participant in the development process may commit non-HUD funds on or undertake an activity or project under a program listed in § 58.1(b) if the activity or project would have an adverse environmental impact or **limit the choice of reasonable alternatives.**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- One bathroom with:
  - Step-in, low-threshold shower, with threshold no higher than nine (9) inches from the floor covering,
  - Shower wand on an adjustable rail and a seat in the shower, and
  - Comfort height toilet, with seat 17" – 19" above the floor
- Minimum 32" width for exterior doors
- Minimum 36" hallway width, and
- Minimum 32" bathroom and bedroom doors

Additional accommodations, such as hearing-impaired smoke detectors or roll-in/no threshold shower compartments will be considered separately and, on a case-by-case basis, based on the applicant's needs.

Manufactured Housing Unit (MHU) Replacement Scope of Work

Property owners of MHUs may qualify for a MHU replacement award, which consists of the demolition and disposal of the existing MHU and installation of a new MHU, either substantially within the same footprint as the prior home (reconstruction) or a different footprint. The Scope of Work for each MHU replacement will vary but may include, although not be limited to, the following:

- Coordination with the property owner and his/her family for all activities, from assignment to obtaining a certificate of occupancy for closing;
- Coordinating applicant move out, and providing temporary housing, if eligible;
- Utility disconnection / reconnection;
- Demolition of existing structure;
- Debris removal in accordance with all federal, state and local requirements, including the disposal of potential asbestos containing materials;
- Obtaining applicant approval of replacement MHU floorplan;
- Conduct site specific analysis for surveying, zoning, plot plans or any activity required to obtain permits/certificate of occupancy;
- Site preparation;
- Order, delivery and installation of new, HUD-certified MHU and all supporting activities to complete per industry standard;
- Incorporation of accessibility needs prior to key turnover; and
- Provide MHU manufacturer's warranty registered in applicant's name.

5.3 REASONABLE ACCOMMODATION REQUESTS

Physically disabled homeowners, or homeowners with a disabled household member, may be entitled to additional construction considerations such as low threshold showers, bathroom grab bars, outward swinging doors, exterior ramps, comfort height toilet with grab bars or other accessibility features that will assist with an individual's functional needs. DCR and/or DCR's implementation vendor will assess eligibility for these features on a case-by-case basis per assistance benefit type. Awards may include expenses for additional costs related to accessibility modifications for the disabled.

Reasonable accommodations are available for repair, reconstruction, and MHU replacement projects. Standard reasonable accommodations to the bathroom for each repair or reconstruction award type are offered in three 'tiers' to allow each applicant to select the level of modification most appropriate for his/her household. Applicants for any award type may also request reasonable accommodations including a "no step" entrance or strobe smoke detectors.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Standard reasonable accommodations for home entrance and strobe smoke detectors are standard for all award types. A no step entrance is a home entrance that has no steps and a minimal threshold. Only one (1) no step entrance will be installed upon request, per property. If a home is above grade, a no step entrance may require installation of a ramp or lift. Homes on grade may not require installation of anything to accommodate a no step entrance. Ramps will be the preferred method to achieve a no step entry. Lifts will be considered on a case-by-case basis, based on cost reasonableness compared to the cost of a site-built ramp, site conditions, and local zoning/set back requirements.

5.4 ADDITIONAL REQUIREMENTS

These requirements apply to both project types included in this solicitation:

- Provide professional labor, equipment, and materials adequate to perform the work in accordance with the Scope of Work issued for each eligible applicant's residential structure while ensuring that all applicable housing standards and codes are met;
- Comply with all applicable local, state and federal laws, regulations, and guidelines, which may include: HUD Community Development Block Grant disaster laws, regulations, and guidelines; the Davis Bacon Act, as applicable; and Section 3 of the Housing and Urban Development Act of 1968;
- Mobilize in the Western North Carolina Hurricane Helene impacted counties within 45 days from the execution of a Contract;
- Provide documentation and tracking of construction progress in the program system of record and upon request by any DCR or DCR implementation vendor staff;
- All communications, updates, interactions, site visits, etc. with any applicant or in direct support of progressing an applicant must be recorded in the system of record supporting the program implementation. It is expected that General Contractors will input notes in the system of record no less than twice weekly for all assigned, active projects. System of record access will be provided to awarded vendors by DRC's implementation vendor;
- Meet with the program and individual property owners to review the Scope of Work to be performed, including establishing a work schedule acceptable to property owners and reviewing work upon final inspection. The initial meeting between the general contractor, applicant and Program will be done through a preconstruction meeting at one of the Program offices located within the Western North Carolina Hurricane Helene impacted counties area;
- Start construction activities within 90 days of the Pre-Construction phase from project assignment to Notice to Proceed. The 90-day Pre-Construction phase starts at the time of Cost estimate approval and execution of the project work order;
- Meet Program 150-day Construction Phase completion requirement from the Notice to Proceed to passed Final Inspection for reconstruction projects, 30-day Construction Phase completion requirement from the Notice to Proceed to passed Final Inspection for demolition only, 60-day Construction Phase completion requirement from the Notice to Proceed to passed Final Inspection for MHU replacement projects, and 30-day Construction Phase completion requirement from the Notice to Proceed to passed Final Inspection for rehabilitation projects with a scope <$50,000, 60-day Construction Phase completion requirement from the Notice to Proceed to passed Final Inspection for rehabilitation projects with a scope >$50,000 and <$100,00, 90-day Construction Phase completion requirement from the Notice to Proceed to passed Final Inspection for rehabilitation projects with a scope >$100,000 and <$150,000, 120-day Construction Phase completion requirement from the Notice to Proceed to passed Final Inspection for rehabilitation projects with a scope >$150,000;
- Meet all federal, state and local requirements for the transport and disposal of municipal solid, industrial, hazardous and other wastes from demolished structures;
- Provide a two-year warranty for all work performed; and
- Assist homeowners in vacating their damaged home, if necessary.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.5 NOTICE TO PROCEED

A notice to proceed (NTP) will be issued by the DCR implementation vendor. No onsite construction activities are to proceed without an NTP.

5.6 PROJECT ASSIGNMENT METHODOLOGY

DCR's implementation vendor will assign projects to general contractor's based on the general contractor's performance history and the general contractor's capacity to take on additional jobs at the time the project is ready to be assigned.

All project Scopes of Work shall be in writing, and shall include a scope of services, a list of tasks to be performed by the general contractor, a time schedule, a list of deliverables, if any, and such other information or special conditions as may be necessary for the work requested.

Initial assignment of projects will be based on the implementation vendor's construction management methodology. DCR's implementation vendor will determine which GC is best suited to receive an assignment by considering factors including, but not limited to, the location and award type of projects, GC capacity at the time the project is ready for assignment, and GC score at time of assignment. As such, the highest scoring GC at the time projects are ready for assignment is not guaranteed to receive the projects.

GCs who are assigned projects can accept or reject the project. If projects are rejected, the GC must provide an explanation for why they were rejected. Rejection of projects may impact the likelihood of the GC receiving additional projects.

If a project must change award type after being assigned, DCR's implementation vendor reserves the right to assign the project with new award type to the same GC who accepted the project originally, or to a different contractor who is more suitable to complete the project at the time the project is again ready for assignment. Although rare, projects may change award type for a variety of reasons including but not limited to zoning regulations, changed property conditions, change order, or municipal regulations.

Projects may be taken away from assigned GCs if performance, capacity or customer service fail to meet DCR's expectations.

5.7 LIQUIDATED DAMAGES

The Program has set liquidated damages for not completing the work within 150 calendar days for reconstruction projects, 60 calendar days for MHU replacement projects, 30 calendar days for demolition projects, and 30 calendar days for rehabilitation projects with a scope <$50,000, 60 calendar days for rehabilitation projects with a scope >$50,000 and <$100,00, 90 calendar days for rehabilitation projects with a scope >$100,000 and <$150,000, 120 calendar days for rehabilitation projects with a scope >$150,000 commencing on the date specified in written Notice to Proceed, including all officially approved extensions thereto, to be One Hundred Dollars and No/100 ($100.00) PER DAY, per individually assigned Project. The Contractor may be liable for liquidated damages in the amount of One Hundred Dollars and No/100 ($100.00) PER DAY, per affected Projects, if Contractor fails to complete the work within the contracted period. Additionally, DCR will not compensate the general contractor for storage fees or temporary housing expenses beyond the approved construction timelines.

5.8 TRANSITION ASSISTANCE

If the contract, or any part thereof, is not renewed or is terminated for any reason, or as part of the closeout process, the Vendor shall provide, at DCR's sole discretion, immediate and ongoing transition assistance to the new Vendor until the project is complete.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

6.0 CONTRACT ADMINISTRATION

6.1 PROJECT MANAGER AND CUSTOMER SERVICE

The Vendor shall designate and make available to the State a Project Manager. The project manager shall be the State's point of contact for contract related issues and issues concerning performance, progress review, scheduling, and service. The services of the Project Manager will not be invoiced. The Project Manager will be a representative of the Vendor authorized to make decisions on its behalf.

6.2 PERFORMANCE

The Contract Administrator for the State will conduct quarterly performance reviews of performance under the contract. The format and content of the quarterly review will be shared with the Vendor Project Manager. The quarterly performance reviews will assess the onsite staff and Vendor's compliance with the Scope of Work and the individual performance of the onsite contract staff as needed. The performance reviews may include requirements of the Vendor to take corrective action related to onsite staff performance.

6.3 DISPUTE RESOLUTION

The parties agree that it is in their mutual interest to resolve disputes informally. A claim by the Vendor shall be submitted in writing to the State's Contract Administrator for resolution. A claim by the State shall be submitted in writing to the Vendor's Project Manager for resolution. The Parties shall negotiate in good faith and use all reasonable efforts to resolve such dispute(s). During the time the Parties are attempting to resolve any dispute, each shall proceed diligently to perform their respective duties and responsibilities under this Contract. If a dispute cannot be resolved between the Parties within thirty (30) days after delivery of notice, either Party may elect to exercise any other remedies available under this Contract, or at law. This term shall not constitute an agreement by either party to mediate or arbitrate any dispute.

6.4 CONTRACT CHANGES

Contract changes, if any, over the life of the contract shall be implemented by contract amendments agreed to in writing by the State and Vendor.

7.0 REQUIRED VENDOR INFORMATION

Vendor response should not exceed twenty (20) pages.

7.1 Vendor Information

Vendor must provide satisfactory evidence of its ability to manage and coordinate the types of activities described in this Solicitation and to provide the services within the timeframe (period of performance) described in this RFP.

7.2 Company Narrative

A detailed narrative explaining why Vendor is qualified to provide the services in this RFP, focusing on its company's key strengths and competitive advantages. Vendor must provide a summary of capacity based on past experience including, at minimum, number of projects completed annually on a single program, number of projects assigned at a single time on a single program.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

7.3 Company Profile

A company profile to include:

a) The company ownership structure (corporation, partnership, LLC, or sole proprietorship), including any wholly-owned subsidiaries, affiliated companies, or joint ventures. (*Please provide this information in a narrative and as a graphical representation*). If Vendor is an Affiliate of, or has a joint venture or strategic alliance with, another company, please identify the percentage of ownership and the percentage of the parent's ownership. Finally, please provide a proposed operating structure for the services requested under this Solicitation and which entities (i.e. parent company, Affiliate, Joint Venture, subcontractor) will be performing them;

b) The year the company was founded and/or legally organized. If organized as a business entity other than a sole proprietorship (e.g., corporation, LLC, LLP, etc.), please indicate the type of entity, the state under whose laws the company is organized and the date of organization;

c) The location of company headquarters and any field office(s) that may provide services for any resulting contract under this Solicitation, including subcontractors. Identify the location(s) served by your company;

d) The number of employees in the company, both locally and nationally, and the location(s) from which employees may be assigned;

e) The name, title, mailing address, e-mail address, telephone number, and fax number of Vendor's point of contact for any resulting contract under this Solicitation;

f) Whether the company has ever been engaged under a contract with the state of North Carolina. If "Yes," specify when, for what duties, and for which project; and

g) Whether the company has ever been engaged under a contract for CDBG funded residential construction and whether you were involuntarily terminated from participation in the program or voluntarily ceased participation in the program without completing all construction projects.

NOTE: A Company that is not organized under the laws of the state of North Carolina must register with the State before it may transact business in North Carolina.

7.4 Key Staffing Profile

Vendor must provide a key staffing profile and résumés for staff that will be responsible for the day-to-day performance of the services required under this Solicitation. Vendor shall designate a dedicated construction lead who will be located in the Western North Carolina Hurricane Helene recovery area.

Staff members listed in the Key Staffing Profile who are independent contractors and not employees of the Vendor may also qualify as subcontractors. Vendor shall use only licensed subcontractors as required by the State of North Carolina.

Vendor's staffing profile must not reflect a greater than 8:1 jobsites to superintendent ratio.

Vendor must identify which employees, including if applicable the Project Manager, will be physically located in the responding area as regular face-to-face meetings with the program and applicants will be required (i.e., mandatory preconstruction meetings with applicants for each application).

Key staff must include the following (DCR prefers for the three referenced positions to be held by three separate individuals qualified to perform each role):

- **Project Manager** – The project manager is the individual who is ultimately responsible for all Program CDBG-DR related operations. The project manager is accountable for planning and allocating resources, preparing

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

budgets, monitoring progress, and keeping applicants and DCR's implementation vendor informed throughout the project lifecycle;

- **Superintendent(s)** – Superintendents are responsible for managing a group of individual project sites. Superintendent(s) should manage a maximum of eight (8) active project sites at any given time.

- **Warranty Coordinator** – The warranty coordinator is responsible for ensuring timely completion of all warranty claims assignable to the General Contractor. The warranty coordinator is responsible for recording warranty claims in the program system of record, communicating with the applicant to schedule warranty repairs and keep the applicant apprised of progress to completion of the repairs. The warranty coordinator is also responsible for providing evidence of completed warranty repairs to the program.

7.5 References

Vendor shall provide a minimum of three references for projects of similar type and size performed within the last five years, preferably for state and/or local government entities. DCR reserves the right to check references prior to making any award hereunder. Any negative responses received may be grounds for disqualification of the proposal. DCR reserves the right to contact programs other than those listed by the Vendor in which DCR knows the Vendor participated.

Vendor must verify current contacts. Information provided shall include:

a) Client name;
b) Project description;
c) Total dollar amount of project;
d) Key staff assigned to the referenced project that will be designated for work under this Solicitation; and
e) Client project manager name, telephone number, and e-mail address. Vendors who do not provide accurate contact information (e-mail addresses and phone numbers) waive the right to have those references considered in the evaluation of their Solicitation Response.

7.6 Litigation History

Vendor must include in its Solicitation Response a complete disclosure of any actual or alleged breaches of contract, which have been asserted or claimed against it. In addition, Vendor must disclose any civil or criminal litigation or investigation pending at any point during the last three years to which Vendor is/was a party or in which Vendor has been judged guilty or liable. For each instance of litigation or investigation, Vendor shall list: basic case information (e.g., cause number/case number, venue information, names of parties, name of investigating entity); a description of claims alleged by or against Vendor or its parent, subsidiary, or other affiliate; for each resolved case, a description of the disposition of Vendor's involvement (e.g., settled, dismissed, judgment entered, etc.).

Failure to comply with the terms of this provision may disqualify any Vendor. Solicitation Responses may be rejected based upon Vendor's prior history with any other party that demonstrates, without limitation, unsatisfactory performance, adversarial or contentious demeanor or significant failure(s) to meet contractual obligations.

If Vendor has no litigation history, as described above, it must so indicate in the appropriate section of the Solicitation Response.

7.7 Conflicts

Vendor must disclose any potential conflict of interest it may have in providing the services described in this Solicitation, including all existing or prior business dealings resulting in such conflicts. Vendor must also disclose any

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

such activities of affiliated or parent organizations and individuals who may be assigned to manage this account. If there are no conflicts, as described herein, Vendor must indicate same in the appropriate section of the Solicitation Response.

7.8 Annual Report

If Vendor is an entity that is required to prepare audited financial statements, Vendor shall submit an annual report that includes:

a) Last two years of audited accrual-basis financial statements, including an income statement, cash flow statement and balance sheet;

b) If applicable, last two years of consolidated statements for any holding companies or affiliates;

c) An audited or un-audited accrual-basis financial statement of the most recent quarter of operation; and

d) A full disclosure of any events, liabilities, or contingent liabilities that could affect Vendor's financial ability to perform this contract.

If Vendor is a privately-owned entity or sole proprietorship for which audited financial statements are not required, Vendor shall submit an annual report that includes:

a) Last two years of un-audited accrual-basis financial statements, including an income statement, cash flow statement and balance sheet;

b) An audited or un-audited accrual-basis financial statement of the most recent quarter of operation; and

c) A full disclosure of any events, liabilities, or contingent liabilities that could affect Vendor's financial ability to perform this contract;

OR

d) Other financial information sufficient for the Program, in its sole judgement, to determine if Vendor is financially solvent and adequately capitalized.

7.9 Safety Information

Vendor must provide its workers' compensation experience modification rate (EMR) for the last five years. Vendor shall submit this information on its insurance carrier's letterhead, signed by the carrier. Vendor must also provide the name and job title of the person in its organization that manages its safety program, and a description of that program. A copy of Vendor's safety manual may also be required. The safety manual will become part of the Contract if your Solicitation Response is selected.

7.10 Quality Control Program

Vendor must provide the name and job title of the person responsible for the Vendor's quality control program, as well as a description of the quality control program. A copy of Vendor's quality control manual may be required. The quality control manual will become part of the Contract if Vendor's Solicitation Response is selected.

7.11 Cost Control Program

Vendor is encouraged to suggest any possible cost reduction items to be taken into consideration prior to awarding a contract under this Solicitation. Vendor should include possible cost reduction items in their Narrative Proposal and provide a full description of the alternative work and the estimated cost savings. In addition, Vendor should detail the necessity of any additional drawings, specifications, or revisions to the construction sequencing and schedule that may be needed as a result of the implementation of the cost saving measures.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

7.12 Warranty Program

Vendor must provide a description of their warranty program, including key personnel, and timeframes within which warranty complaints will be resolved. Warranty claims, communications, and resolutions will be required to be maintained in the DCR and/or DCR's implementation vendor system of record.

7.13 Reconstruction Plan Sets (for Vendors seeking to perform reconstruction projects)

Provide examples of single-family construction projects where you have provided the plan sets and specifications; DCR is specifically interested in examples of any CDBG-DR work where you have provided the plan sets and specifications. During the BAFO process, Vendors who intend to perform reconstruction projects may submit reconstruction plan sets of single-family homes, including options for Stick-Built or Modular homes, for consideration by the program for use in the reconstruction phase of the program. The Contractor must obtain permission from the designers for free reuse by the program by any contractor selected by the Program.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT A: PROJECT TYPE

Per RFP Section 5.1 SCOPE OF SERVICES, General contractors may choose to submit an offer for MHU project types only, for rehabilitation and reconstruction projects only, or for both. Indicate below which project type(s) Vendor would like to perform work.

☐ YES X **NO Project Type 1**: **MHU projects only**. General Contractors may select to apply for MHU repair, replacement, and relocation projects only and not be considered for reconstruction, repair, or demolition project assignments.

☐ YES X **NO Project Type 2**: **Rehabilitation and Reconstruction projects only (non-MHU)**. General Contractors who are selected for rehabilitation and reconstruction award types will be considered for reconstruction, repair, or demolition project assignments.

X **YES** ☐ NO **BOTH Project Type 1: MHU Projects** and **Project Type 2: Rehabilitation and Reconstruction Projects**.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT B: NORTH CAROLINA INSTRUCTIONS TO VENDORS

I. READ, REVIEW AND COMPLY

It shall be the Vendor's responsibility to read this entire document; review all enclosures, attachments, and any Addenda; and comply with all requirements specified, whether appearing in these Instructions to Vendors or elsewhere in the Solicitation document.

Any gender-specific pronouns used herein, whether masculine or feminine, shall be read and construed as gender neutral, and the singular of any word or phrase shall be read to include the plural and vice versa.

II. REQUEST FOR OFFERS

Vendors are cautioned that this is a request for Offers, not an offer or request to contract, and the State reserves the unqualified right to reject any and all bids at any time if such rejection is deemed to be in the best interest of the State.

By submitting Your Bid or Proposal, You are offering to enter into a contract with the State.

The Contract is a separate document that represents the Vendor's and the State's entire agreement. If Your bid is accepted and results in a Contract, You will be expected to accept the North Carolina General Terms And Conditions included in the Solicitation document as part of the Contract. Depending upon the good or service being offered, other terms and conditions may apply.

III. DUTY TO INQUIRE

Offeror, by submitting an Offer, represents that it has read and understands the Solicitation and that its Offer is made in compliance with the Solicitation. Offerors are expected to examine the Solicitation thoroughly and should request an explanation for any ambiguities, discrepancies, errors, omissions, or conflicting statements in the Solicitation. Failure to do so will be at the Offeror's risk. All ambiguities, discrepancies, errors, omissions, or conflicting statements in the Solicitation shall be interpreted to require the better quality or greater quantity of work and/or materials, unless otherwise directed by Addendum. Offeror assumes responsibility for any patent ambiguity in the Solicitation that Offeror does not bring to the State's attention.

IV. DEFINITIONS, ACRONYMS AND ABBREVIATIONS

The following definitions, acronyms, and abbreviations may be used within the Solicitation document.

1. **AGENCY SPECIFIC TERM CONTRACT:** A contract generally intended to cover all normal requirements for a commodity for a specified period of time based on estimated quantities for a single entity.

2. **ADDENDUM:** a document issued to supplement or modify the original Solicitation document. Addenda may be issued following a pre-bid/pre-proposal conference or as a result of a specification or work scope changes to the Solicitation.

3. **BAFO:** Best and Final Offer, submitted by a Vendor to alter its initial bid, made in response to a request by the issuing agency.

4. **BUYER:** The employee of the State or Other Eligible Entity that places an order with the Vendor.

5. **COMMUNITY COLLEGE:** Any of the fifty-eight (58) public North Carolina Community Colleges.

6. **CONTRACT:** A contract resulting from or arising out of Vendor responses to this Solicitation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

7. CONTRACT ADMINISTRATOR: A representative of the Agency who is responsible for the functions that are performed after all parties have signed a contract, including any modifications to the contract.

8. CONTRACT MANAGER: A representative of the agency or awarded vendor who ensures compliance with the contract terms and conditions while giving attention to the achievement of the stated output and outcome of the contract.

9. ELECTRONIC VENDOR PORTAL (eVP): System for vendors to do business with the State of North Carolina, including registering to do business, responding to bid opportunities, and certifying as a HUB and/or NCSBE.

0. E-PROCUREMENT SERVICES: The program, system, and associated services through which the State conducts electronic procurement.

1. FOB-DESTINATION: Title changes hand from Vendor to purchaser at the destination point of the shipment; Vendor owns the commodity in transit and files any claims. Vendor pays all freight and any related transportation charges. A Solicitation may request that a Vendor separately identify freight charges in its bid, but no amount or charge not included as part of the total bid price will be paid.

2. HUB: Historically Underutilized Business https://ncadmin.nc.gov/businesses/hub

3. IFB: Invitation for Bids (a type of Solicitation document)

4. LOT: A grouping of similar products within this Solicitation document.

5. OFFER: the bid or proposal submitted in response this Solicitation. The terms Bid and Proposal are used interchangeably with the term Offer.

6. OFFEROR: the single legal entity submitting the Offer. The term Bidder is used interchangeably with the term Offeror. See bidding provisions entitled Signing Your Offer and Bid/Proposal As Offer To Contract.

7. ON-TIME DELIVERY: The delivery of all items within a single order to the receiving point designated by the ordering entity within the delivery time required.

8. PROCUREMENT LEAD: Representative of the agency identified on the first page of the Solicitation document who will correspond with potential Vendors concerning Solicitation issues, will contract with the Vendor providing the best offer to the State, and is the individual who will administer the Contract for the State.

9. QUALIFIED BID/PROPOSAL: A responsive bid submitted by a responsible Vendor.

10. RESPONSIBLE: Refers to a Vendor who demonstrates in its Offer that it has the capability to perform the requirements of the Solicitation.

11. RESPONSIVE: Refers to an Offer that conforms to the Requirements of the Solicitation in all respects to be considered by the State for award.

12. RFI: Request for Information (an information gathering tool that does not result in a contract)

13. RFP: Request for Proposals (a type of Solicitation document)

14. RFPQ: Request for Pre-Qualifications (a type of Solicitation document)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

25.RFQ: Request for Quotes (a type of Solicitation document)

26.STATE: The State of North Carolina, including any of its sub-units recognized under North Carolina law.

27.STATE AGENCY: Any of the more than 400 sub-units within the executive branch of the State, including its departments, institutions, boards, commissions, universities, and units of the State.

28.STATE DEPARTMENTS: Department of Administration, Department of Agriculture and Consumer Services, Department of Commerce, Department of Natural and Cultural Resources, Department of Environmental Quality, Department of Health and Human Services, Department of Information Technology, Department of Insurance, Department of Justice, Department of Labor, Department of Military and Veteran Affairs, Department of Public Instruction, Department of Public Safety, Department of Revenue, Department of State Treasurer, Office of the Secretary of the State, Department of Transportation, Wildlife Resources Commission, Office of Budget and Management, Office of the Governor, Office of the Lieutenant Governor, Office of The State Auditor, Office of the State Controller.

29.VENDOR: The supplier, bidder, proposer, company, firm, corporation, partnership, individual or other entity submitting a response to a Solicitation document. Following award of a contract, the term refers to an entity receiving such an award.

30.WORK: All labor, materials, equipment, services, or property of any type, provided or to be provided by the Contractor to fulfill the Contractor's obligations under the Contract.

31.YOU and YOUR: Offeror.

V. INTERPRETATION OF TERMS AND PHRASES

The Solicitation document serves to advise potential Vendors of the parameters of the solution being sought by the State. The use of phrases such as "shall," "must," and "requirements" are intended to create enforceable contract conditions. In determining whether bids should be evaluated or rejected, the State will take into consideration the degree to which Vendors have proposed or failed to propose solutions that will satisfy the State's needs as described in the Solicitation. Except as specifically stated in the Solicitation, no one requirement shall automatically disqualify a Vendor from consideration. However, failure to comply with any single requirement, if determined to be essential under the circumstances then existing, may result in the State exercising its discretion to reject a bid in its entirety.

VI. BID SUBMISSION

1. VENDOR'S REPRESENTATIVE: Each Vendor shall submit with its bid the name, address, and telephone number of the person(s) with authority to bind the Vendor and answer questions or provide clarification concerning the Vendor's bid.

2. SIGNING YOUR OFFER: Every Offer must be signed by an individual with actual authority to bind the Offeror.

a) If the Offeror is an individual, the Offer must be signed by that individual. If the Offeror is an individual doing business as a firm, the Offer must be submitted in the firm name, signed by the individual, and state that the individual is doing business as a firm.

b) If the Offeror is a partnership, the Offer must be submitted in the partnership name, followed by the words by its Partner, and signed by a general partner.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

c) If the Offeror is a corporation, the Offer must be submitted in the corporate name, followed by the signature and title of the person authorized to sign.

d) An Offer may be submitted by a joint venture involving any combination of individuals, partnerships, or corporations. If the Offeror is a joint venture, the Offer must be submitted in the name of the Joint Venture and signed by every participant in the joint venture in the manner prescribed in paragraphs (a) through (c) above for each type of participant.

e) If an Offer is signed by an agent, other than as stated in subparagraphs(a)through (d) above, the Offer must state that is has been signed by an Agent. Upon request, Offeror must provide proof of the agent's authorization to bind the principal.

3. **EXECUTION:** Failure to sign the Execution Page (numbered page 1 of the Solicitation document) in the indicated space may render an Offer nonresponsive, and it may be rejected.

4. **STATE OFFICE CLOSINGS:** If an emergency or unanticipated event interrupts normal government processes so that Offers cannot be received at the State office designated for receipt of bids by the exact time specified in the Solicitation, the time specified for receipt of Offers will be deemed to be extended to the same time of day specified in the Solicitation on the first work day on which normal government processes resume. In lieu of an automatic extension, an Addendum may be issued to reschedule the bid opening. If State offices are closed at the time a pre-bid or pre-proposal conference is scheduled, an Addendum will be issued to reschedule the conference.

5. **BID IN ENGLISH and DOLLARS:** Offers submitted in response to this Solicitation shall be in the English language and in US dollars, unless otherwise permitted by the Solicitation.

6. **LATE BIDS:** Late bids, regardless of cause, will not be opened or considered, and will automatically be disqualified from further consideration. It shall be the Vendor's sole responsibility to ensure delivery at the designated office by the designated time.

a) Vendor shall bear the risk for late submission due to unintended or unanticipated delay— whether submitted electronically, delivered by hand, U.S. Postal Service, courier or other delivery service. It is the Vendor's sole responsibility to ensure that its bid has been received by this Office by the specified time and date of opening. The date and time of submission will be marked on each bid when received, and any bid received after the bid submission deadline will be rejected.

b) For proposals submitted via U.S. mail, please note that the U.S. Postal Service generally does not deliver mail to a specified street address but to the State's Mail Service Center. Vendors are cautioned that proposals sent via U.S. Mail, including Express Mail, may not be delivered by the Mail Service Center to the agency's purchasing office on the due date in time to meet the proposal deadline. All Vendors are urged to take the possibility of delay into account when submitting a proposal by U.S. Postal Service, courier, or other delivery service.

7. **DETERMINATION OF RESPONSIVENESS:** Any Offer which fails to conform to the material requirements of the Solicitation maybe rejected as nonresponsive. Offers which impose conditions that modify material requirements of the Solicitation may be rejected. If a fixed price is required, an Offer will be rejected if the total possible cost to the State cannot be determined. Offerors will not be given an opportunity to correct any material nonconformity. Any deficiency resulting from a minor informality may be cured or waived at the sole discretion of the Procurement Officer.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

8. CONTENTS OF OFFER:

a) Offers should be complete and carefully worded and should convey all of the information requested.

b) Offers should be prepared simply and economically, providing a straightforward, concise description of the Offeror's capabilities to satisfy the requirements of the Solicitation. Emphasis should be on completeness and clarity of content.

c) If Your Offer includes any comment over and above the specific information requested in the Solicitation, you are to include this information as a separate appendix to Your Offer. Offers which include either modifications to any of the Solicitation's contractual requirements or an Offeror's standard terms and conditions may be deemed non-responsive and not considered for award at the State's discretion.

9. MULTIPLE OFFERS. If specifically stated in the Solicitation document, Offerors may submit more than one Offer, provided that each Offer has significant differences other than price. Each separate Offer must satisfy all Solicitation requirements.

10. CLARIFICATION: The State may elect to communicate with You after bid opening for the purpose of clarifying either Your Offer or the requirements of the Solicitation. Such communications may be conducted only with Offerors who have submitted an Offer which obviously conforms in all material aspects to the Solicitation. Clarification of an Offer must be documented in writing and included with the Offer. Clarifications may not be used to revise an Offer or the Solicitation.

11. ACCEPTANCE AND REJECTION: The State reserves the right to reject any and all bids, to waive any informality in bids and, unless otherwise specified by the Vendor, to accept any item in the bid.

12. BASIS FOR REJECTION: Pursuant to 01 NCAC 05B .0501, the State reserves the right to reject any and all Offers, in whole or in part, by deeming the Offer unsatisfactory as to quality or quantity, delivery, price or service offered, noncompliance with the requirements or intent of this Solicitation, lack of competitiveness, error(s) in specifications or indications that revision would be advantageous to the State, cancellation or other changes in the intended project or any other determination that the proposed requirement is no longer needed, limitation or lack of available funds, circumstances that prevent determination of the best offer, or any other determination that rejection would be in the best interest of the State.

13. INFORMATION AND DESCRIPTIVE LITERATURE: Vendor shall furnish all information requested in the Solicitation document. Further, if required elsewhere in this bid, each Vendor shall submit with its bid any sketches, descriptive literature, and/or complete specifications covering the goods and services offered. Reference to literature submitted with a previous bid or available elsewhere will not satisfy this provision. Do not submit bid samples or descriptive literature unless expressly requested. Unsolicited bid samples or descriptive literature will not be examined or tested, will not be used to determine responsiveness, and will not be deemed to vary any of the provisions of the Solicitation. Failure comply with these requirements shall constitute sufficient cause to reject a bid without further consideration.

14. WITHDRAWAL OF BID OR PROPOSAL: Proposals submitted electronically may be withdrawn at any time prior to the date for bid opening identified on the cover page of this Solicitation document (or such later date included in an Addendum). Proposals that have been delivered by hand, U.S. Postal Service, courier, or other delivery service may be withdrawn only in writing and if receipt is acknowledged by the office issuing the Solicitation document prior to the time for opening identified on the cover page of the Solicitation document (or such later date included in an Addendum). Written withdrawal requests shall be submitted on the Vendor's letterhead and signed by an official of

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

the Vendor authorized to make such request. Any withdrawal request made after bid opening shall be allowed only for good cause shown and in the sole discretion of the Division of Purchase and Contract.

15. **COST FOR BID OR PROPOSAL PREPARATION:** Any costs incurred by Vendor in preparing or submitting Offers are the Vendor's sole responsibility.

16. **INSPECTION AT VENDOR'S SITE:** The State reserves the right to inspect, at a reasonable time, the equipment, item, plant, or other facilities of a prospective Vendor prior to Contract award, and during the Contract term as necessary for the State's determination that such equipment, item, plant, or other facilities conform with the specifications/requirements and are adequate and suitable for the proper and effective performance of the Contract.

17. **RECYCLING AND SOURCE REDUCTION:** It is the policy of the State to encourage and promote the purchase of products with recycled content to the extent economically practicable, and to purchase items which are reusable, refillable, repairable, more durable, and less toxic to the extent that the purchase or use is practicable and cost-effective. We also encourage and promote using minimal packaging and the use of recycled/recyclable products in the packaging of commodities purchased. However, no sacrifice in quality of packaging will be acceptable. The company remains responsible for providing packaging that will adequately protect the commodity and contain it for its intended use. Companies are strongly urged to bring to the attention of purchasers those products or packaging they offer which have recycled content and that are recyclable.

18. **CERTIFICATE TO TRANSACT BUSINESS IN NORTH CAROLINA:** As a condition of Contract award, each out-of-State Vendor that is a corporation, limited-liability company, or limited-liability partnership shall have received, and shall maintain throughout the term of The Contract, a Certificate of Authority to Transact Business in North Carolina from the North Carolina Secretary of State, as required by North Carolina law. A State contract requiring only an isolated transaction completed within a period of six months, and not in the course of a number of repeated transactions of like nature, shall not be considered transacting business in North Carolina and shall not require a Certificate of Authority to Transact Business.

19. **SUSTAINABILITY:** To support the sustainability efforts of the State of North Carolina we solicit Your cooperation in this effort. Pursuant to Executive Order 156 (1999), it is desirable that all responses meet the following:

a) If paper copies are requested, all copies of the bid are printed double sided. All submittals and copies are printed on recycled paper with a minimum post-consumer content of 30%.

b) Unless absolutely necessary, all bids and copies should minimize or eliminate use of non- recyclable or non-reusable materials such as plastic report covers, plastic dividers, vinyl sleeves, and GBC binding. Three-ringed binders, glued materials, paper clips, and staples are acceptable.

c) Materials should be submitted in a format which allows for easy removal, filing and/or recycling of paper and binder materials. Use of oversized paper is strongly discouraged unless necessary for clarity or legibility.

20. **HISTORICALLY UNDERUTILIZED BUSINESSES (HUB):** The State is committed to retaining Vendors from diverse backgrounds, and it invites and encourages participation in the procurement process by businesses owned by minorities, women, disabled, disabled business enterprises and non-profit work centers for the blind and severely disabled. In particular, the State encourages participation by Vendors certified by the State Office of Historically Underutilized Businesses, as well as the use of HUB-certified vendors as subcontractors on State contracts.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

21. **RECIPROCAL PREFERENCE:** G.S. 143-59 establishes a reciprocal preference requirement to discourage other states from favoring their own resident Vendors by applying a percentage increase to the price of any bid from a North Carolina resident Vendor. To the extent another state does so, North Carolina applies the same percentage increase to the bid of a Vendor resident in that state. Residency is determined by a Vendor's "Principal Place of Business," defined as that principal place from which the overall trade or business of the Vendor is directed or managed.

22. **INELIGIBLE VENDORS:** As provided in G.S. 147-86.59 and G.S. 147-86.82, the following companies are ineligible to contract with the State of North Carolina or any political subdivision of the State:

a) any company identified as engaging in investment activities in Iran, as determined by appearing on the Final Divestment List created by the State Treasurer pursuant to G.S. 147-86.58, and

b) any company identified as engaged in a boycott of Israel as determined by appearing on the List of restricted companies created by the State Treasurer pursuant to G.S. 147-86.81. A contract with the State or any of its political subdivisions by any company identified in a) or b) above shall be void *ab initio*.

23. **VALID TAXPAYER INFORMATION:** All persons or entities desiring to do business with the State must provide correct taxpayer information on North Carolina specified forms. The Substitute W-9 and Instructions are here: https://files.nc.gov/ncosc/documents/NCAS_forms/State_of_North_Carolina_Sub_W-9_01292019.pdf

24. **VENDOR REGISTRATION AND SOLICITATION NOTIFICATION SYSTEM:** The North Carolina electronic Vendor Portal (eVP) allows Vendors to electronically register free with the State to receive electronic notification of current procurement opportunities available as well as notifications of status changes to those Solicitations. Online registration and other purchasing information is available at the following website: https://evp.nc.gov.

25. The status of a Vendor's E-Procurement Services account(s) shall be considered a relevant factor in determining whether to approve the award of a Contract resulting from this Solicitation document. Any Vendor with an E-Procurement Services account that is in arrears by 91 days or more at the time of bid opening may be suspended or deactivated, at the State's discretion, and may be disqualified from further evaluation or consideration.

26. TABULATIONS: Bid tabulations can be electronically retrieved at the Electronic Vendor Portal (eVP), https://evp.nc.gov.. Tabulations will normally be available at this web site not later than one working day after the bid opening. If negotiation is anticipated under 01 NCAC 05B.0503, pricing may not be public until award. Lengthy or complex tabulations may be summarized, with other details not made available on eVP. Requests for additional details or information concerning such tabulations cannot be honored.

27. CONFIDENTIAL INFORMATION: To the extent permitted by applicable statutes and rules, the State will maintain as confidential trade secrets in bids that the Vendor does not wish disclosed. As a condition to confidential treatment, each page containing trade secret information shall be identified in boldface at the top and bottom as "CONFIDENTIAL" by the Vendor, with specific trade secret information enclosed in boxes, marked in a distinctive color or by similar indication. Cost information shall not be deemed confidential under any circumstances. Regardless of what a Vendor may label as a trade secret, the determination whether it is or is not entitled to protection will be determined in accordance with G.S. 132-1.2. Any material labeled confidential constitutes a representation by the Vendor that it has made a reasonable effort in good faith to determine that such material is, in fact, a trade secret under G.S. 132-1.2. Vendors are urged to limit the marking of information as a trade secret or as confidential so far as is possible. If a legal action is brought to require the disclosure of any material so marked confidential, the State will notify Vendor of such action and allow Vendor to defend the confidential status of its information.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

28. COMMUNICATIONS BY VENDORS: In submitting its bid, the Vendor agrees not to discuss or otherwise reveal the contents of its bid to any source, government or private, outside of the using or issuing agency until after the award of the Contract or cancellation of this Solicitation. All Vendors are forbidden from having any communications with the using or issuing agency, or any other representative of the State concerning the Solicitation, during the evaluation of the bids (i.e., after the public opening of the bids and before the award of the Contract), unless the State directly contacts the Vendor(s) for purposes of seeking clarification or another reason permitted by the Solicitation. A Vendor shall not: (a) transmit to the issuing and/or using agency any information commenting on the ability or qualifications of any other Vendor to provide the advertised good, equipment, commodity; (b) identify defects, errors and/or omissions in any other Vendor's bid and/or prices at any time during the procurement process; and/or (c) engage in or attempt any other communication or conduct that could influence the evaluation or award of a Contract related to this Solicitation. Failure to comply with this requirement shall constitute sufficient justification to disqualify a Vendor from a Contract award. Only those communications with the using agency or issuing agency authorized by this Solicitation are permitted.

29. INFORMAL COMMENTS: The State shall not be bound by informal explanations, instructions or information given at any time by anyone on behalf of the State during the competitive process or after award. The State is bound only by information provided in writing in this Solicitation document and in formal Addenda.

30. PROTEST PROCEDURES: When a Vendor wishes to protest a contract awarded by the Division of Purchase and Contract or awarded by an agency when the award amount exceeds the agency's general delegation and the contract is not subject to a special delegation or exemption, a Vendor shall submit a written request addressed to the State Purchasing Officer at: Division of Purchase and Contract, 1305 Mail Service Center, Raleigh, NC 27699-1305.

When a Vendor wishes to protest a contract awarded by an agency when the award amount is less than an agency's general delegation or when the contract is subject to a special delegation or exemption the Vendor shall submit a written request to protest to the purchasing officer of the agency that issued the award.

The protest request must be received in the proper office within thirty (30) consecutive calendar days from the date of the Contract award. Protest letters shall contain specific grounds and reasons for the protest, how the protesting party was harmed by the award made and any documentation providing support for the protesting party's claims.

Note: Contract award notices are sent only to the Vendor actually awarded the contract, and not to every person or firm responding to a Solicitation. Award notices are posted on eVP at https://evp.nc.gov. All protests will be handled pursuant to the North Carolina Administrative Code, 01 NCAC 05B .1519.

31. ORDER OF PRECEDENCE: In cases of conflict between specific provisions in this Solicitation or those in any resulting Contract documents, the order of precedence shall be (high to low) (1) any special terms and conditions specific to this Solicitation document, including any negotiated terms, (2) requirements and specifications and administration, (3) North Carolina General Terms and Conditions in North Carolina General Terms And Conditions, (4) Instructions To Vendors, (5) Pricing, and (6) Vendor's Bid.

32. ADDENDA: Critical updated information may be included in Addenda to the Solicitation. It is important that all Vendors bidding on the Solicitation periodically check for any Addenda that may be issued prior to the bid opening date. All Vendors shall be deemed to have read and understood all information in the Solicitation document and all Addenda thereto. Vendors are also responsible for obtaining and complying with all Addenda and other changes that may be issued concerning the Solicitation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

33. ORAL EXPLANATIONS NON-BINDING: Oral explanations or instructions will not be binding. Any information given a prospective Offeror concerning a Solicitation will be furnished promptly to all other prospective Offerors as an Addendum to the Solicitation, if that information is necessary for submitting offers or if the lack of it would be prejudicial to other prospective Offerors. See clause herein entitled "Duty to Inquire." The State will not identify You in its answer to Your question.

34. MAXIMUM COMPETITION: The State seeks to permit the maximum practicable competition. Offerors are urged to advise the State, as soon as possible, regarding any aspect of this procurement, including any aspect of the Solicitation that unnecessarily or inappropriately limits full and open competition. If the State determines that any changes will be made resulting from the questions asked, then such decisions will be communicated in the form of an Addendum.

35. FIRM OFFER: Vendor's bid shall constitute a firm offer. By execution and delivery of a bid in response to a Solicitation, the Vendor agrees that any additional or modified terms and conditions, whether submitted purposefully or inadvertently, shall have no force or effect, and will be disregarded. Any bid that contains language that indicates the bid is non-binding or subject to further negotiation before a contractual document may be signed shall be rejected.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT C: NORTH CAROLINA GENERAL CONTRACT TERMS & CONDITIONS

1. PERFORMANCE:

a) It is anticipated that the tasks and duties undertaken by the Vendor under the contract which results from the State solicitation in this matter (Contract) shall include Services, and/or the manufacturing, furnishing, or development of goods and other tangible features or components, as deliverables.

b) Vendor agrees to perform under the Contract in at least the same or similar manner provided to comparable users and customers. The State shall notify the Vendor of any defects or deficiencies in performance or failure of deliverables to conform to the standards and specifications provided in this Contract. Vendor agrees to timely remedy defective performance or any nonconforming deliverables on its own or upon such notice provided by the State.

c) Vendor has a limited, non-exclusive license to access and use State Data provided to Vendor, but solely for performing its obligations under and during this Agreement and in confidence as further provided for herein or by law.

d) Vendor or its suppliers, as specified and agreed in the Contract, shall provide support assistance to the State related to all Services performed or other deliverables procured hereunder during the State's normal business hours. Vendor warrants that its support, customer service, and assistance will be performed at a minimum in accordance with generally accepted and applicable industry standards.

e) The State may document and take into account in awarding or renewing future procurement contracts the general reputation, performance, and performance capabilities of the Vendor under this Contract as provided by G.S. 143-52 and 143-135.9 (a) and (b) (Best Value).

2. DEFAULT AND TERMINATION.

a) In the event of default by the Vendor, the State may, as provided by NC law, procure goods and services necessary to complete performance hereunder from other sources and hold the Vendor responsible for any excess cost occasioned thereby. *See,* G.S. 25-2-712. In addition, and in the event of default by the Vendor under the Contract, or upon the Vendor filing a petition for bankruptcy or the entering of a judgment of bankruptcy by or against the Vendor, the State may immediately cease doing business with the Vendor, terminate the Contract for cause, and take action to recover relevant damages, and if permitted by applicable law, debar the Vendor from doing future business with the State. 01 NCAC 05B.1520.

b) Liquidated damages for not completing the work within 150 calendar days for reconstruction projects, 60 calendar days for MHU replacement projects, 30 calendar days for demolition projects, and 30 calendar days for rehabilitation projects with a scope <$50,000, 60 calendar days for rehabilitation projects with a scope >$50,000 and <$100,00, 90 calendar days for rehabilitation projects with a scope >$100,000 and <$150,000, 120 calendar days for rehabilitation projects with a scope >$150,000 commencing on the date specified in written Notice to Proceed, including all officially approved extensions thereto, are to be One Hundred Dollars and No/100 ($100.00) PER DAY, per individually assigned Project. The Contractor may be liable for liquidated damages in the amount of One Hundred Dollars and No/100 ($100.00) PER DAY, per affected Project, if Contractor fails to complete the work within the contracted period. If, through any cause, Vendor shall fail to fulfill in a timely and proper manner the obligations under the Contract, including, without limitation, in these North Carolina General Terms and Conditions, the State shall have the right to impose liquidated damages per affected Project as described herein, issue a Stop Work Order requiring Vendor to immediately Stop Work on any or all of Vendor's Projects, demand return of expended funds, and/or terminate the Contract by giving at least five days written notice to the Vendor and specifying the effective date thereof. In the event of a Stop Work Order or a Contract termination, any or all finished or unfinished deliverables that are prepared by the Vendor under the Contract shall, at the option of the

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

State, become the property of the State until such time as the State can identify another Vendor to complete the work (and shall include any applicable Vendor license and permits to the extent necessary for the State to use such property), and the Vendor may be entitled to receive just and equitable compensation for any acceptable deliverable completed (or partially completed at the State's sole discretion) as to which such option is exercised. Notwithstanding, Vendor shall not be relieved of liability to the State for damages sustained by the State by virtue of any breach of the Contract, and the State may withhold any payment due the Vendor for the purpose of setoff until such time as the exact amount of damages due the State from such breach can be determined. The State, if failing to receive proper performance or provision of goods deliverables, or if documented Vendor Services performance issues exist, under this Contract, may make a claim upon the Vendor's surety. G.S. 143-52(a); 01 NCAC 05B.1521; G.S. 25-2-609. If this Contract contemplates deliveries or performance over a period of time, the State may terminate this Contract for convenience at any time by providing 30 days' notice in writing from the State to the Vendor. In that event, any or all finished or unfinished deliverables prepared by the Vendor under this Contract shall, at the option of the State, become its property, and under any applicable Vendor license and permits to the extent necessary for the State to use such property. If the Contract is terminated by the State for convenience, the State shall pay for those items or Services for which such option is exercised, less any payment or compensation previously made.

c) The State may terminate this Contract, and any Scope of Work assigned under this Contract, immediately upon discovery of the Vendor's commission of fraud.

d) This Contract may be terminated at any time by mutual agreement of the State and the Vendor, to be effective upon a date agreed to by the State and the Vendor.

e) If funds for the project become unavailable for any reason, including without limitation, a change in state or federal laws, the State shall have the right to terminate this Contract, and any Scope of Work assigned thereto, after giving Vendor written notice of termination at least 5 calendar days in advance of the termination date. The notice of termination shall contain the effective termination date of this Contract. Upon notice, the Vendor shall not expend any funds without the State's express written authorization.

f) The Vendor acknowledges and agrees that the rights and remedies of the State as set forth herein and elsewhere in this Contract are not exclusive and are in addition to any other rights and remedies provided by law.

3. INTERPRETATION, CONFLICT OF TERMS.

a) The definitions in the Instructions to Vendors in the relevant solicitation for this Contract, and in 01 NCAC 05A.0112 are specifically incorporated herein.

b) If federal funds are involved in the transactions under this Contract, the Vendor shall comply with all applicable state and federal requirements and laws, except where State requirements are more restrictive. See the additional federal requirements included in the "Federal Funds Provisions" section below.

c) "Purchasing Agency" herein is as defined in 01 NCAC 05A.0112, except that if this Contract has been entered into by the NC Department of Administration, Division of Purchase and Contract (P&C) as indicated in the Contract (e.g., a State Term Contract), then P&C will then be a Purchasing Agency for the purposes herein and in the Federal Funds Provisions, below.

d) Contracts made in contravention of General Statutes, Chapter 143, Article 3 and the Rules in 05 NCAC Chapter 5, are void. G.S. 143-58.

e) In cases of conflict between specific provisions in this Contract and any other referenced documents, the Order of Precedence shall be (high to low) (1) any special terms and conditions specific to this Contract, including any negotiated terms; (2) requirements, specifications and administrative terms; (3) these NORTH CAROLINA GENERAL TERMS AND CONDITIONS, including the Federal Funds Provisions; (4)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Definitions and other provisions in INSTRUCTIONS TO VENDORS in this solicitation, which is specifically incorporated in this Contract; (5) PRICING, and (6) Vendor's Bid, to the extent specifically and mutually incorporated into this Contract.

f) In the event of conflict of terms between applicable provisions of the Federal Funds Provisions and the other provisions of these North Carolina General Contract Terms and Conditions, the more restrictive provision will govern.

4. **GOVERNMENTAL RESTRICTIONS:** In the event any Governmental restrictions are imposed which necessitate alteration of the goods, material, quality, workmanship, or performance of the Services offered, prior to acceptance, it shall be the responsibility of the Vendor to notify the State Contract Lead or Administrator indicated in the Contract at once, in writing, indicating the specific regulation which requires such alterations. The State reserves the right to accept any such alterations, including any price adjustments occasioned thereby, or to cancel the Contract.

5. **AVAILABILITY OF FUNDS:** Any and all payments to the Vendor shall be dependent upon and subject to the availability of funds appropriated or allocated to the agency for the purpose set forth in the Contract.

6. **TAXES:** Any applicable taxes shall be invoiced as a separate item.

a) G.S. 143-59.1 bars the Secretary of Administration from entering into Contracts with Vendors if the Vendor or its affiliates meet one of the conditions of G.S. 105-164.8(b) and refuses to collect use tax on sales of tangible personal property to purchasers in North Carolina. Conditions under G.S. 105-164.8(b) include: (1) Maintenance of a retail establishment or office, (2) Presence of representatives in the State that solicit sales or transact business on behalf of the Vendor and (3) Systematic exploitation of the market by media-assisted, media-facilitated, or media-solicited means. By execution of the proposal document the Vendor certifies that it and all of its affiliates, (if it has affiliates), collect(s) the appropriate taxes.

b) The agency(ies) participating in the Contract are exempt from Federal Taxes, such as excise and transportation. Exemption forms submitted by the Vendor will be executed and returned by the using agency.

c) Prices offered are not to include any personal property taxes, nor any sales or use tax (or fees) unless required by the North Carolina Department of Revenue.

7. **SITUS AND GOVERNING LAWS:**

a) This Contract is made under and shall be governed by and construed in accordance with the laws of the State of North Carolina, including, without limitation, the relevant provisions of G.S. Chapter 143, Article 3, and the Rules in 01 NCAC Chapter 05, and any applicable successor provisions, without regard to its conflict of laws rules, and within which State all matters, whether sounding in Contract, tort or otherwise, relating to its validity, construction, interpretation and enforcement shall be determined. G.S. 22B-3.

b) Vendor shall comply with all laws, ordinances, codes, rules, regulations, and licensing requirements that are applicable to the conduct of its business and its performance in accordance with the Contract, including those of federal, state, and local agencies having jurisdiction and/or authority, and including, without limitation, the applicable requirements in the Federal Funds Provisions, below.

c) Non-resident Vendor corporations not formed under NC law must be domesticated in the Office of the NC Secretary of State in order to contract with the State of North Carolina. G.S. 55A-15-01.

8. **NON-DISCRIMINATION COMPLIANCE:**

a) The Vendor will take affirmative action in complying with all State requirements and laws concerning fair employment and employment of people with disabilities, and concerning the treatment of all employees without regard to discrimination by reason of race, color, religion, sex, national origin or disability or rights, such as preserved by Governor Roy Cooper Order E.O. 24 or 25, and will take necessary action to ensure

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

that its internal employee policies and procedures are consistent with Executive Order #82 (Roy Cooper, December 6, 2018), which extends workplace protections and accommodations to pregnant employees.

b) Federal Law, such as the following, applies as provided for therein: Titles VI and VII of the Civil Rights Act of 1964 (PL 88-352), and the regulations issued pursuant thereto (prohibiting discrimination on the basis race, color, national origin and ensuring that individuals are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age); Title IX of the Education Amendments of 1972 (codified as amended at 20 U.S.C. § 1681 et seq.) (prohibiting discrimination on the basis of sex); Titles I, II, III, IV, and V of the Americans with Disability Act of 1990 (prohibiting discrimination on the basis of disability); Section 504 of the Rehabilitation Act of 1973 (codified as amended at 29 U.S.C. § 794) (prohibiting discrimination on the basis of handicap); the Age Discrimination Act of 1975 (codified as amended at 42 U.S.C. § 6101 et seq.) (prohibiting age discrimination); and Section 109 of the Housing and Community Development Act of 1974, as amended.

9. PAYMENT TERMS: Payment terms are net not later than 30 days after receipt of a correct invoice or acceptance of goods, whichever is later. The Procuring Agency is responsible for all payments to the Vendor under the Contract. Payment by some agencies may be made by procurement card. If the Vendor accepts Visa, MasterCard, etc., from other customers, it shall accept procurement card payment by the State under the terms provided for the procurement card. 01 NCAC 05B.1523. If payment is made by procurement card, then payment for amounts then due may be processed immediately by the Vendor.

The State does not agree in advance, in contract, pursuant to Constitutional limitations, to pay costs such as interest, late fees, penalties or attorney's fees. This Contract will not be construed as an agreement by the State to pay such costs, and will be paid only as ordered by a court of competent jurisdiction.

10. CONDITION AND PACKAGING: Unless otherwise expressly provided by special terms and conditions or specifications in the Contract or by express, specific federal law or rule, it is understood and agreed that any item offered or shipped has not been sold or used for any purpose, is newly manufactured, and shall be in first class condition. All containers/packaging shall be suitable for handling, storage or shipment.

11. INTELLECTUAL PROPERTY WARRANTY AND INDEMNITY: Vendor shall hold and save the State, its officers, agents and employees, harmless from liability of any kind, including costs and expenses, resulting from infringement of the rights of any third party in any Services or copyrighted material, patented or patent-pending invention, article, device or appliance delivered in connection with the Contract.

a) Vendor warrants to the best of its knowledge that:

i) Performance under the Contract does not infringe upon any intellectual property rights of any third party; and

ii) There are no actual or threatened actions arising from, or alleged under, any intellectual property rights of any third party;

b) Should any deliverables supplied by Vendor become the subject of a claim of infringement of a patent, copyright, trademark or a trade secret in the United States, the Vendor, shall at its option and expense, either procure for the State the right to continue using the deliverables, or replace or modify the same to become non-infringing. If neither of these options can reasonably be taken in Vendor's judgment, or if further use shall be prevented by injunction, the Vendor agrees to cease provision of any affected deliverables and refund any sums the State has paid Vendor for such deliverables and make every reasonable effort to assist the State in procuring substitute deliverables. If, in the sole opinion of the State, the cessation of use by the State of any such deliverables due to infringement issues makes the retention of other items acquired from the Vendor under this Agreement impractical, the State shall then have the option of terminating the Agreement, or applicable portions thereof, without penalty or termination charge; and Vendor agrees to refund any sums the State paid for unused Services or other deliverables.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

c) The Vendor, at its own expense, shall defend any action brought against the State to the extent that such action is based upon a claim that the deliverables supplied by the Vendor, their use or operation, infringe on a patent, copyright, trademark or violate a trade secret in the United States. The Vendor shall pay those costs and damages finally awarded or agreed in a settlement against the State in any such action. Such defense and payment shall be conditioned on the following:

i) That the Vendor shall be notified within a reasonable time in writing by the State of any such claim; and

ii) That the Vendor shall have the sole control of the defense of any action on such claim and all negotiations for its settlement or compromise provided, however, that the State shall have the option to participate in such action at its own expense.

d) Vendor will not be required to defend or indemnify the State to the extent any claim by a third party against the State for infringement or misappropriation results solely from the State's material alteration of any Vendor-branded deliverables or Services, or from the continued use of the Services or other deliverables after receiving written notice from the Vendor of the claimed infringement.

12. ADVERTISING: Vendor agrees not to use the existence of the Contract or the name of the State of North Carolina as part of any commercial advertising or marketing of products or Services except as provided in 01 NCAC 05B.1516. A Vendor may inquire whether the State is willing to be included on a listing of its existing customers.

13. ACCESS TO PERSONS AND RECORDS:

a) During, and after the term hereof during the relevant period required for retention of records by State law (G.S. 121-5, 132-1 *et seq.*, typically five years), the State Auditor and any Purchasing Agency's internal auditors shall have access to persons and records related to the Contract to verify accounts and data affecting fees or performance under the Contract, as provided in G.S. 143-49(9). However, if any audit, litigation or other action arising out of or related in any way to this project is commenced before the end of such retention of records period, the records shall be retained for one (1) year after all issues arising out of the action are finally resolved or until the end of the record retentions period, whichever is later.

b) The following entities may audit the records of this contract during and after the term of the contract to verify accounts and data affecting fees or performance:

i. The State Auditor.

ii. The internal auditors of the affected department, agency or institution.

iii. The Joint Legislative Commission on Governmental Operations and legislative employees whose primary responsibility is to provide professional or administrative services to the Commission.

c) The Joint Legislative Commission on Governmental Operations has the authority to:

i. Study the efficiency, economy and effectiveness of any non-State entity receiving public funds.

ii. Evaluate the implementation of public policies, as articulated by enacted law, administrative rule, executive order, policy, or local ordinance, by any non-State entity receiving public funds.

iii. Investigate possible instances of misfeasance, malfeasance, nonfeasance, mismanagement, waste, abuse, or illegal conduct by officers and employees of a non-State entity receiving, directly or indirectly, public funds, as it relates to the officer's or employee's responsibilities regarding the receipt of public funds.

iv. Receive reports as required by law or as requested by the Commission.

v. Access and review

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1. Any documents or records related to any contract awarded by a State agency, including the documents and records of the contractor, that the Commission determines will assist in verifying accounts or will contain data affecting fees or performance; and
2. Any records related to any subcontract of a contract awarded by a State agency that is utilized to fulfill the contract, including, but not limited to (i) records related to the drafting and approval of the subcontract, and (ii) documents and records of the contractor or subcontractor that the Commission determines will assist in verifying accounts or will contain data affecting fees or performance.

d) The Joint Legislative Commission on Governmental Operations has the power to:

i. Compel access to any document or system of records held by a non-State entity receiving, directly or indirectly, public funds, to the extent the documents relate to the receipt, purpose or implementation of a program or service paid for with public funds.

ii. Compel attendance of any officer or employee of any non-State entity receiving public funds, provided the officer or employee is responsible for implementing a program or providing a service paid for with public funds.

e) Unless prohibited by federal law, the Commission and Commission staff in the discharge of their duties under this Article shall be provided access to any building or facility owned or leased by a non-State entity receiving public funds provided (i) the building or facility is used to implement a program or provide a service paid for with public funds and (ii) the access is reasonably related to the receipt, purpose, or implementation of a program or service paid for with public funds.

f) Any confidential information obtained by the Commission shall remain confidential and is not a public record as defined in G.S. 132-1.

g) Any document or information obtained or produced by Commission staff in furtherance of staff's duties to the Commission is confidential and is not a public record as defined in G.S. 132-1.

h) A person who conceals, falsifies, or refuses to provide to the Commission any document, information, or access to any building or facility as required by this Article with the intent to mislead, impede, or interfere with the Commission's discharge of its duties under this Article shall be guilty of a Class 2 misdemeanor.

14. ASSIGNMENT OR DELEGATION OF DUTIES.

a) As a convenience to the Vendor, the State may include any person or entity designated by the Vendor in writing as a joint payee on the Vendor's payment check. In no event shall such approval and action obligate the State to anyone other than the Vendor.

b) If Vendor requests any assignment, or delegation of duties, the Vendor shall remain responsible for fulfillment of all Contract obligations. Upon written request, the State may, in its unfettered discretion, approve an assignment or delegation to another responsible entity acceptable to the State, such as the surviving entity of a merger, acquisition or a corporate reorganization if made as part of the transfer of all or substantially all of the Vendor's assets. 01 NCAC 05B.1507. Any purported assignment or delegation made in violation of this provision shall be void and a material breach of the Contract. G.S. 143-58.

15. INSURANCE: This section provides minimum insurance coverage rates that are applicable to most moderate risk solicitations. Agency Risk Analysis will determine if higher insurance coverage amounts are needed based on the likelihood and severity of exposure to the State. The analysis is documented in writing in the official file and considers the following non-exclusive factors:

1. Potential for damage to State property or property of a third party,
2. Potential for bodily injury to State employees or third parties,

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

3. Whether Vendor will transport State property, clients, or employees,
4. Use of a vehicle to accomplish the work or to travel to or from State locations,
5. Anticipated physical contacts of the Vendor with the State,
6. Anticipated number and activity of Vendor personnel within the State, and
7. Any other unique considerations that could result in harm, bodily injury, or property damage.

The Purchasing Agency has specified elsewhere in this Contract any increase in the minimum insurance coverage requirements below if the risk from the above factors is high.

a) REQUIREMENTS - Providing and maintaining adequate insurance coverage is a material obligation of the Vendor and is of the essence of the Contract. All such insurance shall meet all laws of the State of North Carolina. Such insurance coverage shall be obtained from companies that are authorized to provide such coverage and that are authorized by the NC Commissioner of Insurance to do business in North Carolina. The Vendor shall at all times comply with the terms of such insurance policies, and all requirements of the insurer under any such insurance policies, except as they may conflict with existing North Carolina laws or the Contract. The limits of coverage under each insurance policy maintained by the Vendor shall not be interpreted as limiting the Vendor's liability and obligations or the indemnification requirements under the Contract. As provided above, a State agency is authorized, upon written evaluation and substantiation in the official file of the significant risk of bodily injury and/or property or other damage in the contract, to require and enforce higher coverage limits to mitigate the potential risk of liability to the State.

b) COVERAGE - During the term of the Contract, the Vendor at its sole cost and expense shall provide commercial insurance of such type and with such terms and limits as may be reasonably associated with the Contract. At a minimum, the Vendor shall provide and maintain the following coverage and limits, subject to higher requirements by an agency after the risk analysis indicated above:

1. **For Small Purchases** as defined under North Carolina Administrative Code 01 NCAC 05A.0112 (35) and 05B.0301 (1), the minimum applicable insurance requirements for Worker's Compensation and Automobile Liability will apply as required by North Carolina law. The Purchasing Agency may require Commercial General Liability coverage consistent with the assessed risks involved in the procurement.
2. **For Contracts valued in excess of the Small Purchase threshold, but up to $1,000,000.00 the following limits shall apply:**
    - i. **Worker's Compensation** - The Vendor shall provide and maintain Worker's Compensation Insurance, as may be required by the laws of North Carolina, as well as employer's liability coverage, with minimum limits of $250,000.00, covering all of Vendor's employees who are engaged in any work under the Contract in North Carolina. If any work is sub-Contracted, the Vendor shall require the sub-contractor to provide the same coverage for any of its employees engaged in any work under the Contract within the State.
    - ii. **Commercial General Liability** - General Liability Coverage on a Comprehensive Broad Form on an occurrence basis in the minimum amount of $500,000.00 Combined Single Limit. Defense costs shall be in excess of the limit of liability.
    - iii. **Automobile** - Automobile Liability Insurance, to include liability coverage covering all owned, hired and non-owned vehicles, used within North Carolina in connection with the Contract. The minimum combined single limit shall be $250,000 bodily injury and property damage; $250,000 uninsured/under insured motorist; and $2,500 medical payment.
3. **For Contracts valued in excess of $1,000,000 the following limits shall apply:**
    - i. **Worker's Compensation** - The Vendor shall provide and maintain Worker's Compensation Insurance, as may be required by the laws of North Carolina, as well as employer's liability coverage, with minimum limits of $500,000, covering all of Vendor's employees who are engaged

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

in any work under the Contract in North Carolina. If any work is sub-Contracted, the Vendor shall require the sub-contractor to provide the same coverage for any of its employees engaged in any work under the Contract within the State.

ii. **Commercial General Liability** - General Liability Coverage on a Comprehensive Broad Form on an occurrence basis in the minimum amount of $1,000,000 Combined Single Limit. Defense costs shall be in excess of the limit of liability.

iii. **Automobile** - Automobile Liability Insurance, to include liability coverage covering all owned, hired and non-owned vehicles, used within North Carolina in connection with the Contract. The minimum combined single limit shall be $500,000 bodily injury and property damage; $500,000 uninsured/under insured motorist; and $5,000 medical payment.

16. GENERAL INDEMNITY:

a) The Vendor shall indemnify, defend and hold and save the State, its officers, agents, and employees, harmless from liability of any kind, including all claims and losses accruing or resulting to any other person, firm, or corporation furnishing or supplying work, Services, materials, or supplies in connection with the performance of the Contract, and also from any and all claims and losses accruing or resulting to any person, firm, or corporation that may be injured or damaged by the Vendor in the performance of the Contract that are attributable to the negligence or intentionally tortious acts of the Vendor, provided that the Vendor is notified in writing within 30 days from the date that the State has knowledge of such claims.

b) The Vendor, at its own expense shall defend any action brought against the State, under this section. The Vendor shall have the sole control of the defense of any action on such claim and all negotiations for its settlement or compromise, provided, however, that the State shall have the option to participate in such action at its own expense.

c) The Vendor represents and warrants that it shall make no claim of any kind or nature against the State's agents who are involved in the delivery or processing of Vendor deliverables or Services to the State.

d) As part of this provision for indemnity, if federal funds are involved in this procurement, the Vendor warrants that it will comply with all relevant and applicable federal requirements and laws, and will indemnify, defend and hold and save the State harmless from any claims or losses resulting to the State from the Vendor's noncompliance with such federal requirements or law in the performance of this Contract. The representations and warranties in the preceding two sentences shall survive the termination or expiration of the Contract.

e) The State does not participate in indemnification due to Constitutional restrictions, or arbitration, which effectively and unacceptably waives jury trial. *See,* G.S. 22B-3, -10.

17. ELECTRONIC PROCUREMENT:

a) Purchasing shall be conducted through the Statewide E-Procurement Service. The State's third-party agent shall serve as the Supplier Manager for this E-Procurement Service. The Vendor shall register for the Statewide E-Procurement Service within two (2) business days of notification of award in order to receive an electronic purchase order resulting from award of this Contract.

b) RESERVED. The Supplier Manager will capture an order from a State approved user, including the shipping and payment information, and submit the order in accordance with E-Procurement Service procedures. Subsequently, the Supplier Manager will send those orders to the appropriate Vendor on State Contract. The State or State-approved user, not the Supplier Manager, shall be responsible for the solicitation, bids received, evaluation of bids received, award of Contract, and the payment for goods delivered.

c) Vendor shall at all times maintain the confidentiality of its username and password for the Statewide E-Procurement Services. Vendor shall be responsible for all activity and all charges by its agents or employees.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Vendor agrees not to permit a third party to use its E-Procurement Services account. If there is a breach of security through the Vendor's account, Vendor shall immediately change its password and notify the Supplier Manager of the security breach by email. Vendor shall cooperate with the State and the Supplier Manager to mitigate and correct any security breach.

18. **SUBCONTRACTING:** The Vendor may subcontract the performance of required Services under the Contract. Upon request, Vendor shall identify its subcontractors to the State; identify any financial interest it has in any subcontractor to the State; and/or provide the State with complete copies of any agreements made by and between Vendor and any subcontractors. The Vendor remains solely responsible for the performance of its subcontractors. Subcontractors shall adhere to all applicable requirements, terms, and conditions set forth in this Contract and the subsequent Scope of Work. It may be required as a condition of award that an authorized officer or agent of a subcontractor sign a statement to the effect that the subcontractor has read, and will agree to abide by, Vendor's obligations under any contract awarded pursuant to this Solicitation. Any contracts made by the Vendor with a subcontractor shall include an affirmative statement that the State is an intended third party beneficiary of the Agreement; that the subcontractor has no agreement with the State; and that the State shall be indemnified by the Vendor for any claim presented by the subcontractor. Notwithstanding any other term herein, Vendor shall timely exercise its contractual remedies against any non-performing subcontractor and, when appropriate, substitute another subcontractor. **CONFIDENTIALITY:** Vendor information that cannot be shown to be, e.g., a trade secret, may be subject to public disclosure under the terms of the State Public Records Act (SPRA), beginning at G.S. 132.1. Blanket assertions of confidentiality are not favored, but confidentiality of specific material meeting one or more exceptions in the SPRA will be honored. Vendors are notified that if the confidentiality of material is challenged by other parties, the Vendor has the responsibility of defending the assertion of confidentiality. G.S. 143-52(a).

19. **CARE OF STATE DATA AND PROPERTY:** Any State property, information, data, instruments, documents, studies or reports given to or prepared or assembled by or provided to the Vendor under the Contract shall be kept as confidential, used only for the purpose(s) required to perform the Contract and not divulged or made available to any individual or organization without the prior written approval of the State.

    The State's data and property in the hands of the Vendor shall be protected from unauthorized disclosure, loss, damage, destruction by a natural event or another eventuality. The Vendor agrees to reimburse the State for loss or damage of State property while in Vendor's custody. Such State Data shall be returned to the State in a form acceptable to the State upon the termination or expiration of this Agreement.

    The Vendor shall notify the State of any security breaches within 24 hours as required by G.S. 143B-1379. For further information, *see*, G.S. 75-60 *et seq.* **Notice** is given to the Vendor that the NC Department of Information Technology (DIT) has requirements relating to the security of the State network, and rules relating to the use of the State network, IT software and equipment, that the Vendor must comply with, as applicable. *See,* e.g., G.S. 143B-1376.

20. **OUTSOURCING:** Any Vendor or subcontractor providing call or contact center services to the State of North Carolina or any of its agencies shall disclose to inbound callers the location from which the call or contact center services are being provided.

    If, after award of a Contract, and consistent with any applicable NC DIT security provisions, the Contractor wishes to relocate or outsource any portion of performance to a location outside the United States, or to Contract with a subcontractor for any such performance, which subcontractor and nature of the work has not previously been disclosed to the State in writing, prior written approval must be obtained from the State Purchasing Agency. Vendor shall give notice to the Purchasing Agency of any relocation of the Vendor, employees of the Vendor, subcontractors of the Vendor, or other persons providing performance under a State Contract to a location outside of the United States. *See,* G.S. 143-59.4.

21. **ENTIRE AGREEMENT:** The Contract (including any documents mutually incorporated specifically therein) resulting

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

from a relevant solicitation represents the entire agreement between the parties and supercedes all prior oral or written statements or agreements. All promises, requirements, terms, conditions, provisions, representations, guarantees, and warranties contained herein shall survive the Contract expiration or termination date unless specifically provided otherwise herein, or unless superseded by applicable Federal or State statutes of limitation.

22. **ELECTRONIC RECORDS:** The State will digitize all Vendor responses to the relevant solicitation, if not received electronically, as well as any awarded Contract together with associated procurement-related documents. These electronic copies shall constitute a preservation record and shall serve as the official record of this procurement with the same force and effect as the original written documents comprising such record. Any official electronic copy, printout or other output readable by sight shown to reflect such record accurately shall constitute an "original."

23. **AMENDMENTS:** This Contract may be amended only by a written amendment duly executed by the State and the Vendor.

24. **NO WAIVER:** Notwithstanding any other language or provision in the Contract or in any Vendor-supplied material, nothing herein is intended nor shall be interpreted as a waiver of any right or remedy otherwise available to the State under applicable law. The waiver by the State of any right or remedy on any one occasion or instance shall not constitute or be interpreted as a waiver of that or any other right or remedy on any other occasion or instance.

25. **FORCE MAJEURE:** Neither party shall be deemed to be in default of its obligations hereunder if and so long as it is prevented from performing such obligations as a result of events beyond its reasonable control, including, without limitation, fire, power failures, any act of war, hostile foreign action, nuclear explosion, riot, strikes or failures or refusals to perform under subcontracts, civil insurrection, earthquake, hurricane, tornado, other catastrophic epidemic or pandemic, natural event or Act of God.

26. **SOVEREIGN IMMUNITY:** Notwithstanding any other term or provision in the Contract, nothing herein is intended nor shall be interpreted as waiving any claim or defense based on the principle of sovereign immunity or other State or federal constitutional provision or principle that otherwise would be available to the State under applicable law.

27. **FEDERAL FUNDS PROVISIONS**

***Where federal funds are utilized in connection with this procurement, and to the extent applicable* and absent stricter or controlling State provisions, the following federal provisions (in addition to the North Carolina General Terms and Conditions above) may apply consistent with Uniform Guidance in 2 C.F.R. § 200.326 and 2 C.F.R. Part 200, and its Appendix II and HUD requirements. Relevant federal authorities may require additional provisions depending on the scope and context of the Contract.** Failure or unwillingness of the Vendor to continually meet any of these requirements, as applicable, may result in Contract termination.

Any links to websites not maintained by the State are provided as a courtesy. The State does not warrant or guarantee the accuracy of the hyperlink or the information contained therein.

a) **No governmental non-competes.** Vendor shall not impose or enforce any non-competition agreement upon the employees included in Vendor's bid that would prevent those employees from accepting any offer of employment from the State of North Carolina outside of the first Term of the Contract. By executing this Contract, the Vendor affirms this condition. This affirmation is a material condition for the State's award of any work under this Contract.

b) **Program Monitoring**. Vendor agrees to assist and cooperate with the Federal grantor or funding agency and the relevant Purchasing Agency or their duly designated representatives in the monitoring of the project or projects to which this Contract relates, and to provide in form and manner approved by the Purchasing Agency such monitoring reports, progress reports, and the like as may be required and to provide such reports at the times specified.

c) **Remedies and Termination**, For purposes of this section the State Remedies and Termination provisions above apply as written.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

d) **Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708).**

Compliance with the Contract Work Hours and Safety Standards Act.

1. *Overtime requirements*. No Vendor or subcontractor contracting for any part of the Contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in 29 C.F.R. §5.5(b)(1) the Vendor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Vendor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in 29 C.F.R. §5.5(b)(1), in the sum of $33 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in 29 C.F.R. §5.5(b)(1).

3. *Withholding for unpaid wages and liquidated damages*. The Purchasing Agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Vendor or subcontractor under any such contract or any other Federal contract with the same prime Vendor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Vendor, such sums as may be determined to be necessary to satisfy any liabilities of such Vendor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in 29 C.F.R. §5.5(b)(2).

4. *SubContracts*. The Vendor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of 29 C.F.R. §5.5 and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Vendor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in 29 C.F.R. §5.5(b)(2) through (4).

e) **CLEAN AIR ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT.**

Clean Air Act

1. The Vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
2. The Vendor agrees to report each violation to the Purchasing Agency and understands and agrees that the Purchasing Agency will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
3. The Vendor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal assistance.

Federal Water Pollution Control Act

1. The Vendor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
2. The Vendor agrees to report each violation to the Purchasing Agency and understands and agrees that the Purchasing Agency will, in turn, report each violation as required to assure notification to the federal agency providing funds hereunder, and the appropriate Environmental Protection Agency Regional Office.
3. The Vendor agrees that these requirements will be included in each subcontract exceeding $150,000

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

financed in whole or in part with Federal assistance.

f) **Debarment and Suspension.**

1. This Contract, if federal funding is used, is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the Vendor is required to verify that none of the Vendor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
2. The Vendor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
3. This certification is a material representation of fact relied upon by a federal agency providing federal funds herein and the Purchasing Agency. If it is later determined that the Vendor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to federal agency providing federal funds herein and the Purchasing Agency, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
4. The Vendor agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of the Contract resulting from a relevant solicitation herein. The Vendor further agrees to include a provision requiring such compliance in its lower tier covered transactions.

g) **Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)** (as Amended).

To the extent applicable, Vendors that apply or bid for an award of $100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal Contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

Required Certification. Vendors must sign and submit to the Purchasing Agency the certification attached hereto as Attachment F and, if applicable, complete the disclosure form in Attachment G. See the latest version of "Certification for Contracts, Grants, Loans, and Cooperative Agreements" found at https://ncadmin.nc.gov/documents/vendor-forms.

h) **Procurement of Recovered Materials.**

1. Unless specified otherwise in the Contract, in the performance of this Contract, the Vendor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:
   - Competitively within a timeframe providing for compliance with the Contract performance schedule;
   - Meeting Contract performance requirements; or
   - At a reasonable price.
2. Information about this requirement, along with the list of EPA designated items, is available at EPA's Comprehensive Procurement Guidelines web site: https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.
3. The Vendor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

i) **Access to Records**. In addition to the North Carolina General Contract Terms & Conditions section entitled "**ACCESS TO PERSONS AND RECORDS**" included in this Contract, the following access to records requirements apply to this Contract:

1. The Vendor agrees to provide the Purchasing Agency, the Administrator of the federal agency providing funds hereunder, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Vendor which are directly pertinent to this Contract for the purposes of making audits, examinations, excerpts, and transcriptions.
2. The Vendor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
3. The Vendor agrees to provide the Administrator of the federal agency providing funds hereunder or his authorized representative access to construction or other work sites pertaining to the work being completed under the Contract.
4. In compliance with the Disaster Recovery Act of 2018, the Purchasing Agency and the Vendor acknowledge and agree that no language in this Contract is intended to prohibit audits or internal reviews by the Administrator of the federal agency providing funds hereunder or the Comptroller General of the United States.

j) **Modifications to Contract.** Modifications to the Contract are governed by the North Carolina General Contract Terms & Conditions section above entitled "**AMENDMENTS**," except as approval and signature by any federal official may also be required.

k) **Records Retention.** All records required to be kept on the project shall be maintained for at least eight (8) years after final payments and until all other pending matters under the grant for this project have been closed. However, if any audit, litigation or other action arising out of or related in any way to this project is commenced before the end of the eight (8) year period, the records shall be retained for one (1) year after all issues arising out of the action are finally resolved or until the end of the eight (8) year period, whichever is later.

l) **Energy Efficiency**. All participants in the projects funded hereby shall recognize mandatory standards and policies relating to energy efficiency, which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (PL 94-163).

m) **Program Fraud and False or Fraudulent Statements or Related Acts.** Vendor acknowledges that 31 U.S.C. Chapter 38 (Administrative Remedies for False Claims and Statements) applies to its actions pertaining to the Contract.

n) **No Obligation by Federal Government.** The Federal Government is not a party to this Contract and is not subject to any obligations or liabilities to the non-Federal entity, Vendor, or any other party pertaining to any matter resulting from the Contract.

o) **Compliance with Federal Law, Regulations, and Executive Orders.** This is an acknowledgement that federal financial assistance will be used to fund all or a portion of the Contract. The Vendor will comply with all applicable Federal law, regulations, executive orders, the policies of the federal agency(ies) providing funding, procedures, and directives.

p) **Federal Seals, Logos, and Flags**. In addition to the prohibitions of the North Carolina General Contract Terms & Conditions section above entitled "**ADVERTISING,**" the Vendor shall not use the seal(s), logos, crests, or reproductions of flags of a federal agency providing funding herein, or likenesses of federal agency officials without specific pre-approval of the relevant federal agency.

q) **System for Awards Management**. Vendor shall be responsible to ensure that it has checked the federal System for Awards Management (SAM) https://www.sam.gov/SAM and the State Debarred Vendors Listing, https://ncadmin.nc.gov/documents/nc-debarred-vendors to verify that Contractors or sub-Recipients have

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

not been suspended or debarred from doing business with federal or State government.

r) **Section 3 Clause**. Vendor will comply with the following clauses from 24 CFR 135.38:

The Contractor shall comply with the provisions of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 USC 1701u, and implementing its regulations at 24 CFR Part 75, as expressed below:

1. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended by the Housing and Community Development Act of 1992 (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

2. The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 75, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 75 regulations.

3. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

4. The contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 75. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 75.

5. The contractor will certify that any vacant employment positions, including training positions that are filled (1) after the contractor is selected by before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 75 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 75.

6. Noncompliance with HUD's regulations in 24 CFR part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

7. With respect to work performed in connection with Section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of Section 3 and Section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with Section 7(b).

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

s) **Non-Discrimination**. Vendor will comply with all Federal statutes relating to non-discrimination. These include but are not limited to:

1. Title VI of the Civil Rights Act of 1964 (42 U.S.C 2000(d)) and implementing regulations (24 CFR part 1), which provide that no person in the United States shall, on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or otherwise be subject to discrimination under any program or activity that receives Federal financial assistance.
2. Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), as amended, and implementing regulations at 24 CFR part 8, the American Disabilities Act (42 U.S.C. §§ 12101 et.seq.), and implementing regulations at 28 CFR part 35 or 36, as applicable, and the Age Discrimination Act of 1975 (42 U.S.C. §§ 6101-6107) as amended, and implementing regulations at 24 CFR part 146, which together provide that no person in the United States shall, on the grounds of disability or age, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity that receives Federal financial assistance.
3. The Fair Housing Act (42 U.S.C. 3601- 19), as amended, and the implementing regulations at 24 CFR part 100, which prohibit discrimination in housing on the basis of race, color, religion sex (including gender identity and sexual orientation), disability, familial status, or national origin and will affirmatively further fair housing, will apply.
4. Title IX of the Education Amendments of 1972, as amended (20 USC §§ 1681 – 1683, and 1685-1686), which prohibits discrimination on the basis of sex.
5. The Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse.
6. The Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism.
7. §§ 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C §§ 290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records.
8. Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental, or financing of housing.
9. Any other applicable Federal nondiscrimination requirements, including those listed at 24 CFR §§ 5.105(a) and 5.106 as applicable.

t) **URA.** The acquisition and relocation requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601) and implementing regulations at 49 CFR part 24 and, as applicable, Section 104(d) of the Housing and Community Development Act of 1974 (42 U.S.C. 5304(d)) and implementing regulations at 24 CFR part 42, subpart A, will apply.

u) **National Environmental Policy Act.** The environmental requirements of the National Environmental Policy Act (42 U.S.C. 4321 et.seq.) and related Federal authorities prior to the commitment or expenditure of funds for property will apply.

v) **Plans, supervision, and reports.** Vendor will comply with HUD requirements with regard to the drafting, reviewing and approval of construction plans and specifications. Vendor will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by HUD or the State.

w) **Davis-Bacon Act.** Vendor will comply with the David-Bacon Act, as amended (40 U.S.C. 3141-3148), if required by the federal program legislation, in Construction contracts involving an excess of $2000, and

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

subject to any other federal program limitations, all laborers and mechanics must be paid at a rate not less than those determined by the Secretary of Labor to be the prevailing wages. These wage rates are a federally mandated minimum only, and will be superseded by any State or local requirement mandating higher wage rates. Vendor also agrees to comply with Department of Labor Regulations pursuant to the Davis-Bacon Act found in 29 CFR Parts 1, 3, 5 and 7 which enforce statutory labor standards provisions. Wage determinations are available at https://sam.gov/wage-determinations.

x) **Lead Based Paint.** Vendor will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§ 4801 et seq.), which prohibits the use of lead-based paint in construction or rehabilitation of residence structures, and HUD's lead based paint regulations at 24 CFR Part 35.

y) **Copeland Act**. Vendor will comply, as applicable, with the Copeland Act (40 U.S.C. §§ 276c and 18 U.S.C. §874).

z) **Environmental.** Vendor will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91- 190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

aa) **Wild and Scenic Rivers Act of 1968.** Vendor will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

bb) **Preservation.** Vendor will assist HUD and the State in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).

cc) **Audits.** Vendor will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and 2 CFR Part 200 Subpart F Audit Requirements.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT D: LOCATION OF WORKERS UTILIZED BY VENDOR

In accordance with NC General Statute 143-59.4, the Vendor shall detail the location(s) at which performance will occur, as well as the manner in which it intends to utilize resources or workers outside of the United States in the performance of this Contract. The State will evaluate the additional risks, costs, and other factors associated with such utilization prior to making an award. Please complete items a, b, and c below.

a) Will any work under this Contract be performed outside the United States? ☐ YES **X NO**

If the Vendor answered "YES" above, Vendor must complete items 1 and 2 below:

1. List the location(s) outside the United States where work under this Contract will be performed by the Vendor, any sub-Contractors, employees, or other persons performing work under the Contract:

   N/A

2. Describe the corporate structure and location of corporate employees and activities of the Vendor, its affiliates or any other sub-Contractors that will perform work outside the U.S.:

   N/A

b) The Vendor agrees to provide notice, in writing to the State, of the relocation of the Vendor, employees of the Vendor, sub-Contractors of the Vendor, or other persons performing services under the Contract outside of the United States. ☐ YES **X NO**

N/A

NOTE: All Vendor or sub-Contractor personnel providing call or contact center services to the State of North Carolina under the Contract **shall** disclose to inbound callers the location from which the call or contact center services are being provided.

c) Identify all U.S. locations at which performance will occur:

N/A

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT E: HISTORICALLY UNDERUTILIZED BUSINESSES INFORMATION

The State is committed to retaining Vendors from diverse backgrounds, and it invites and encourages participation in the procurement process by businesses owned by minorities, women, disabled, disabled business enterprises and nonprofit work centers for the blind and severely disabled. In particular, the State encourages participation by Vendors certified by the State Office of Historically Underutilized Businesses, as well as the use of HUB-certified vendors as subcontractors on State contracts.

Historically Underutilized Businesses (HUBs) consist of minority, women and disabled business firms that are at least fifty-one percent owned and operated by an individual(s) of the categories. Also included in this category are disabled business enterprises and non-profit work centers for the blind and severely disabled.

Pursuant to G.S. 143B-1361(a), 143-48 and 143-128.4, the State invites and encourages participation in this procurement process by businesses owned by minorities, women, disabled, disabled business enterprises and nonprofit work centers for the blind and severely disabled. This includes utilizing subcontractors to perform the required functions in this RFP. Any questions concerning NC HUB certification, contact the **North Carolina Office of Historically Underutilized Businesses** at (919) 807-2330. The Vendor shall respond to question a) and b) below.

a) Is Vendor a Historically Underutilized Business? ☐ **Yes** X **No**

b) Is Vendor Certified with North Carolina as a Historically Underutilized Business? ☐ **Yes** X **No**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT F: CERTIFICATION FOR CONTRACTS, GRANTS, LOANS AND COOPERATIVE AGREEMENTS

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal Contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal Contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal Contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and Contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Vendor, **EXCEL Contractors, LLC** certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Vendor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

[redacted]

Signature of Vendor's Authorized Official

Jerry Johnson, Vice President

Name and Title of Vendor's Authorized Official

05/08/25

Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT G: DISCLOSURE OF LOBBYING ACTIVITIES

The Disclosure of Lobbying Activities form, is located at https://www.doa.nc.gov/pandc/onlineforms/form-omb-standard-form-lll-7-2020/download.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DISCLOSURE OF LOBBYING ACTIVITIES

Approved by OMB
0348-0046

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

1. Type of Federal Action:
☐ a. contract N/A
b. grant
c. cooperative agreement
d. loan
e. loan guarantee
f. loan insurance

2. Status of Federal Action:
☐ a. bid/offer/application
b. initial award
c. post-award
N/A

3. Report Type:
☐ a. initial filing
b. material change N/A
For Material Change Only:
year _____ quarter _____
date of last report _____

4. Name and Address of Reporting Entity:
☐ Prime ☐ Subawardee
Tier _____, *if known*
N/A
Congressional District, *if known*:

5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:
N/A
Congressional District, *if known*:

6. Federal Department/Agency:
N/A

7. Federal Program Name/Description:
N/A
CFDA Number, *if applicable*: _____

8. Federal Action Number, *if known*:
N/A

9. Award Amount, *if known*:
$ N/A

10. a. Name and Address of Lobbying Registrant
(*if individual, last name, first name, MI*):
This form is N/A as Excel is not a registered lobbist.

b. Individuals Performing Services (*including address if different from No. 10a*)
(*last name, first name, MI*):
N/A

11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Signature: [redacted]
Print Name: Jerry Johnson
Title: Vice President
Telephone No.: (225) 408-1300 Date: 05/08/25

Federal Use Only:

Authorized for Local Reproduction
Standard Form LLL (Rev. 7-97)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.

4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

    (b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).

11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT H: EXPERIENCE, QUALIFICATIONS, REFERENCES

Complete one form for each of up to three (3) examples of **CDBG-DR housing engagements** delivered by the proposing General Contractor (prime contractor). Subcontractor qualifications will not be considered. Client Points of Contact must have an adequate understanding of the services delivered. Reference points will not be awarded if the client cannot be contacted with the contact information provided. If the program example provided is not for CDBG-DR single family housing, then the program example will be considered non-responsive. The proposing entity must submit at least one minimally qualified program example for award consideration. Each program example can earn up to 15 points for a total maximum score of 45 points.

Example 1: CDBG-DR Housing Engagements Delivered

Client Name:	Florida Department of Economic Opportunity/FloridaCommerce
Program:	Rebuild Florida - HUD CDBG-DR Residential Housing Permanent Construction 2019-2025
Client Point of Contact:	Florida Department of Economic Opportunity Kelvin Rosier
POC Contact Information (email and phone):	Ph # 850-717-8449 Kelvin.rosier@commerce.fl.gov
Total Number of Homes Completed:	150+ homes completed

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Brief Description of Services Rendered:	EXCEL performed residential construction for over 150 damaged properties associated with Hurricane Irma, Michael & Ian throughout the state of Florida which included: • Rehabilitation projects • Reconstruction projects • MHU replacement projects

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Example 2: CDBG-DR Housing Engagements Delivered

Client Name:	Puerto Rico Department of Housing
Program:	Puerto Rico Sheltering & Temporary Essential Power (STEP) Program 2017-2020
Client Point of Contact:	Puerto Rico Department of Housing Bruce Conant
POC Contact Information (email and phone):	Ph # 228-234-3548 Bruce.conant@tidalbasingroup.com
Total Number of Homes Completed:	12,000+ homes completed
Brief Description of Services Rendered:	EXCEL was responsible for construction services across the entire southwest region of Puerto Rico on the program. This is the largest FEMA-funded STEP program in history, and EXCEL repaired approximately 12,000 residences. The Puerto Rico Sheltering & Temporary Repair Program ("Tu Hogar Renace") was intended to help eligible residents impacted by the Major Disaster Declaration (FEMA-4339-DR, PR Disaster Declaration Hurricane María) to return to their homes with safe and code-compliant utilities, hot water, bedroom and bathroom facilities. The goal was to provide a

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

	quality habitable level to allow for temporary shelter in homes. The program also provided expedient and temporary repairs to protect the home from further weather-related damage.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Example 3: CDBG-DR Housing Engagements Delivered

Client Name:	North Carolina Office of Recovery and Resiliency
Program:	Rebuild NC - HUD CDBG-DR Residential Housing Permanent Construction 2019-2022
Client Point of Contact:	North Carolina Office of Recovery and Resiliency Kevin Walsh
POC Contact Information (email and phone):	Ph # 919-576-6449 Kevin.walsh@NCDPS.gov
Total Number of Homes Completed:	200+ homes completed

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Brief Description of Services Rendered:	EXCEL performed mobilization, initial scope alignments, permitting, construction, closeout, warranty, change order management, homeowner temporary relocation, project controls (scheduling and cost management), project management and data system implementation and management for more than 200 residential properties throughout the state of North Carolina, as part of the State's Hurricane Matthew HUD CDBG-DR allocation. EXCEL ensured compliance with federal regulations, Section 3 utilization requirements and minority and woman-owned business utilization requirements. Construction types included: • Rehabilitation projects • MHU replacement projects

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

NC DEPARTMENT of COMMERCE
COMMUNITY REVITALIZATION

Josh Stein
GOVERNOR

Lee Lilley
SECRETARY

Stephanie McGarrah
DEPUTY SECRETARY

BID ADDENDUM

May 1, 2025

FAILURE TO RETURN THIS ADDENDUM MAY SUBJECT YOUR BID TO REJECTION

Solicitation Number	**Doc1539254856**
Solicitation Description	**Residential Demolition, Reconstruction, Rehabilitation, and Manufactured Housing Unit Replacement for Hurricane Helene impacted Counties**
Addendum Number	**1**

CHANGE TO SOLICITATION:

1. **ATTACHMENT H: EXPERIENCE, QUALIFICATIONS, REFERENCES** the reference to "points" has been removed. Amended to read:

   Complete one form for each of up to three (3) examples of **CDBG-DR housing engagements** delivered by the proposing General Contractor (prime contractor). Subcontractor qualifications will not be considered. Client Points of Contact must have an adequate understanding of the services delivered. ~~Reference points will not be awarded if the client cannot be contacted with the contact information provided. If the program example provided is not for CDBG-DR single family housing, then the program example will be considered non-responsive. The proposing entity must submit at least one minimally qualified program example for award consideration. Each program example can earn up to 15 points for a total maximum score of 45 points.~~

2. **2.8 PROPOSAL CONTENTS** amended to read:

   Vendor response to Section 7: REQUIRED VENDOR INFORMATION should not exceed twenty (20) pages. This does not include cover page (title page), cover letter, table of contents, all pages of the RFP, **résumés, Annual Report, Litigation History**, certificate of insurance, compensation experience modification rate (EMR), copy of safety manual, copy of quality control manual, litigation history, and the completed attachments to this RFP.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RESPONSE TO QUESTIONS:

State's Responses to Questions Received by the due date and time of April 28, 2025, by 10:00 am ET. The Question appears exactly as submitted by the Vendor.

	CITATION	VENDOR QUESTION	DCR RESPONSE
1	7.13 Reconstruction Plan Sets, Page 36	Do plan sets have to be included with the RFP submittal or only during the BAFO process?	Plan sets are not required to be provided with the RFP submittal. Plan sets will be requested during the BAFO process.
2	7.13 Reconstruction Plan Sets, Page 36	Can you please clarify what is required in the section? Should the vendor simply list previous CDBG-DR programs where the vendor has provided plan sets?	Correct, list previous CDBG-DR programs where the vendor has provided plan sets.
3	2.8 Proposal Contents, Page 10	Will resumes be included against the 20 page limit?	The 20-page limit does not include résumés.
4	4.9 Bond and Insurance Requirements, Page 18	Will blanket payment & performance bonds be allowed for this program?	DCR will consider, but not require, blanket payment & performance bonds.
5	5.1 Scope of Services, Page 19	Please clarify the time requirement for rehab projects with a scope less than $50,000. Page 19 says 45 days, other pages state 30 days.	Rehabilitation projects with a scope <$50,000 shall be completed within **45 calendar days** from the Notice to Proceed to passed Final Inspection.
6	2.8 Proposal Contents, Page 10	Are the personnel resumes, project history, and Annual Report included in the 20 page limit?	The 20-page limit does not include résumés and Annual Report. The 20-page limit does include project history.
7	7.4 Key Staffing Profile, Pages 33-34	May resumes be excluded from the 20-page limit?	See answer to Question #3 and #6.
8	7.5 References, Page 34 Attachment H, Page 67	May a Letter of Reference be included as proof of endorsement if a person is unreachable when the Program attempts to contact them?	Yes.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

9	7.6 Litigation History, Page 34	May the Litigation History be excluded from the 20-page limit? May it be included as an appendix to Section 7?	The 20-page limit does not include Litigation History.
10	7.8 Annual Report, Page 35	May the Annual Report (financial statements) be excluded from the 20-page limit? May it be included as an appendix to Section 7?	See answer to Question #6.
11	ATTACHMENT C: NORTH CAROLINA GENERAL CONTRACT TERMS & CONDITIONS, Section 7c) SITUS AND GOVERNING LAWS, Page 49	Please clarify the requirement for domestication. If the Vendor corporation is not legally formed in North Carolina but registered with the North Carolina Secretary of State as a foreign corporation in North Carolina and in good standing, does this satisfy the "domestication" process?	Yes. A foreign corporation must obtain a Certificate of Authority from the N.C. Secretary of State, which will satisfy the domestication requirement in Attachment C, Section 7c.
12	5.0 Scope of Work, Page 19 4.1 Minimum Qualifications, Page 16	There are two different timeframes prescribed for rehabilitation projects <$50,000. We recommend 45 days as the standard acceptable timeframe. Please clarify. Section 5.0 Scope of Work (page 19) states "...***45 days*** for rehabilitation projects with a scope <$50,000..." Section 4.1 Minimum Qualifications (page 16) states "ability to carry residential rehabilitation projects to completion within ***30 days*** for projects with a scope <$50,000..."	Rehabilitation projects with a scope <$50,000 shall be completed within **45 calendar days** from the Notice to Proceed to passed Final Inspection.
13	5.7 Liquidated Damages, Page 31	On the pre-bid call, one of the speakers said that these timelines would be enforced unless there are "excusable delays approved by the state." Can you please provide a list of excusable delays and how the state will manage approving them? For example, are delays in getting permits, environmental mitigation delays or inspections from local governments excusable delays?	An exhaustive list of excusable delays cannot be provided. Requests by general contractors for an extension to the period of performance will be reviewed on a case-by-case basis.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

14	4.9 Bonds and Insurance, Page 18	With respect to the ongoing value of the P&P bonds, will Contractor be permitted to reduce the value of the bonds by the contract amount associated with completed projects? If so, will the trigger to reduce the bond value be based on the date of passed final inspection or the date of final payment for the completed project?	Yes, as long as the vendor maintains performance and payment bonds in an amount equal to (or greater than) the value of the active construction projects issued under the awarded contract. Reduction will be based on the date of final payment.
15	4.9 Bonds and Insurance, Page 18	The RFP states that bond riders will be required to capture increased costs resulting from approved change orders such that 100% of the project cost is always covered by a valid P&P bond. Assuming change orders will be relatively frequent, will Contractor be permitted to establish a set interval (i.e. quarterly) to reconcile the contract and bond values to a change order log and issue such riders based on changes that occur within that period? Else, it's possible that multiple riders will need to be issued weekly.	If the builder is operating at its bond ceiling, then riders will need to be issued in a timely manner to account for change orders.
16	4.3 Payment Structure, Page 16	Is it DCR's intention to withhold retainage on Vendor's monthly invoices? If so, what % will be withheld and what will be the trigger for DCR to release the retainage?	The implementation vendor will inform the payment schedule as a part of its construction management strategy.
17	4.3 Payment Structure, Page 16	In lieu of withholding retainage, if any, will DCR accept a Retention Bond in addition to the P&P bonds?	DCR may consider a Retention Bond if it integrates with the implementation vendor's construction management strategy.
18	5.2.4 Manufactured Housing Units, Page 27	Does the contractor who is buying and installing MHU's in NC need to have a resellers license?	DCR does not require a resale license; the vendor must comply with all relevant local, state, and federal tax laws and regulations.
19	5.6 Project Assignment Methodology, Page 31	Would the program consider awarding projects within a centralized region(s)? Concentrating efforts in a	DCR will consider geographic clustering for builder assignments if it aligns with the

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

		specific area could potentially lead to a higher success rate for both the program and its vendors by streamlining logistics, reducing travel time, and enhancing overall efficiency.	implementation vendor's construction management strategy.
20	2.1 Request for Proposal Document and Scopes of Work, Page 6	"DCR, or an Implementation Vendor on behalf of DCR, will issue Scopes of Work for specific project assignments to Vendors that are qualified and awarded pursuant to this RFP." What will be the methodology used by DCR or the implementation vendor to assign work to general contractors? Will this methodology or scorecard be shared with the general contractors? Will DCR or the implementation vendor award contractors with more assignments for completing homes under the contractual deadlines?	The implementation vendor will assign projects in accordance with their construction management strategy. The strategy will be communicated to the builders and updated regularly based on performance and capacity.
21	3.1 Method of Award, Page 11	"The State intends to select up to 25 of the most qualified Vendors. Once a pool of the most qualified Vendors is identified, the State will then engage in a Best and Final Offer (BAFO) negotiation phase. Vendors who intend to perform reconstruction projects will be asked for reconstruction plan sets as part of the BAFO process. Plans sets may include traditional Stick-Built construction or modular construction. Costs for all project types will be negotiated during that process as well." Are construction plan sets required to be submitted with the response to this RFP? Or will they be required only if the contractor is selected to participate in the BAFO negotiation phase.	See answer to Question #1.
22	5.2.2 Repair Scope of Work, Page 23	"The Scope of Work for each repaired structure will vary, but may include, although not be limited to, the following: Providing architectural and house plan renderings"	Renderings are only necessary if required by the jurisdiction.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

		Are architectural and house plan renderings to be required on every repair project or only if required by the jurisdiction.	
23	5.2.3 Size and New Unit Configuration, Page 24	"Which standard floorplan the applicant receives is based on DCR policy" How many "Standard floorplans" does the program plan on including in the program? Is it the programs intent to keep the number of standard floorplans to a minimum? Will the program consider two or more story homes?	DCR will limit the number of floor plans selected. Plans for two or more story homes will only be considered in site limiting circumstances with no other alternatives.
24	5.4 Additional Requirements, Page 30	"Meet with the program and individual property owners to review the Scope of Work to be performed, including establishing a work schedule acceptable to property owners and reviewing work upon final inspection." What will the program's policy be towards homeowner access to the property during construction? Will homeowners be attending the program inspections? Will homeowners determine quality standards, or will quality standards only be upheld by DCR and the implementation vendor?	Builders should establish safe practices for homeowner access to their property. Homeowners are not required to attend or approve program inspections or quality standards.
25	2.4 RFP Schedule, Page 7 2.6 Proposal Questions, Page 8	To allow proper consideration, review, and question submittal, please extend all dates by one week, starting with extending submittals of RFIs until May 5.	The RFP Schedule remains as indicated in the Solicitation.
26	2.8 Proposal Contents, Page 10 7.4 Key Staffing Profile Page 33	Are resumes exempt from the page count?	See answer to Question #3.
27	2.8 Proposal Contents, Page 10 7.9 Safety Information, Page 35	Are the Safety & Quality Manuals required with submission?	Per 7.9 Safety Information, "*A copy of Vendor's safety manual **may** also be required. The safety manual will become part of the Contract if your Solicitation Response is selected.*" Vendors

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

	7.10 Quality Control Program, Page 35		are not required to submit with their offer their Safety Manual; however, vendors are welcome to provide it with their offer submission. If the safety manual is not provided with offer submission; if awarded a contract, the safety manual must be provided. Per 7.10 Quality Control Program, *"A copy of Vendor's quality control manual **may** be required. The quality control manual will become part of the Contract if Vendor's Solicitation Response is selected."* Vendors are not required to submit with their offer their Quality Control Manual; however, vendors are welcome to provide it with their offer submission. If the quality control manual is not provided with offer submission; if awarded a contract, the quality control manual must be provided.
28	2.8 Proposal Contents, Page 10 7.8 Annual Report, Page 35	Are financial statements exempt from the page count?	See answer to Question #6.
29	2.8 Proposal Contents, Page 10	The description of required vendor information does not include Section 7.8 Annual Report. Annual Report documents (such as audited financials) can easily be dozens of pages. What is the recommendation for including Annual Reports while adhering to the limitation of 20 pages?	See answer to Question #6.
30	3.1 Method of Award, Page 11	If a vendor is awarded reconstruction projects, can they elect to replace all eligible homes with modular homes,	If vendors submit modular plan sets for DCR consideration and if

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

		rather than offering stick-built reconstruction as an option?	DCR selects a modular plan set for program use, then yes, the vendor may use the DCR approved modular plan set for reconstruction projects.
31	5.2.4 MANUFACTURED HOUSING UNITS Manufactured Housing Unit (MHU) Replacement Scope of Work Page 29	"Coordinating applicant move out, and providing temporary housing." Section 5.2.4 references the contractor coordinating applicant move-out and providing temporary housing, if eligible. Could the State please clarify the contractor's responsibilities in this process? Specifically, is the contractor responsible for locating, securing, and paying for alternative living arrangements? If so, what eligibility criteria and requirements must be followed so that contractors can accurately account for these costs in their bids? Regarding the provision of temporary housing during the move-out period, who holds liability for the applicant's welfare, property, and behavior while in temporary accommodations?	Temporary housing will not be offered to all applicants. The implementation vendor will determine which, if any applicants, qualify for temporary housing. The implementation vendor will include temporary housing in the vendor's scope of work. The vendor will be required to issue a voucher to the qualified applicant for temporary housing. The applicant will use the voucher to acquire temporary housing.
32	5.4 Additional Requirements, Page 30	"The initial meeting between the general contractor, applicant and Program will be done through a preconstruction meeting at one of the Program offices located within the Western North Carolina Hurricane Helene impacted counties area." Is an in-person preconstruction meeting required between the applicant and Vendor Representative before each site evaluation? Are there any other face-to-face meetings requirements? "Assist homeowners in vacating their damaged home." Will the state provide	In person meetings are encouraged for each site evaluation, but DCR will consider alternative approaches that accelerate recovery or improve applicant service. The implementation vendor will scope pods or temporary storage facilities for each applicant.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

		pods or the funds to purchase the pods for assistance?	
33	4.1 Minimum Qualifications, Pages 15-16 7.0 Required Vendor Information, Pages 32-36	Do you want the Evaluation Criteria to refer to the relevant responses within 4.1 Minimum Qualifications and 7.0 Required Vendor Information, or are standalone responses for each of the Evaluation Criteria requested? For example, 3.4, a, ii Financial Stability and Solvency could refer to 4.1 Financial Solvency and Stability and 7.8 Annual Report, or we could provide a narrative response to 3.4. In the interest of not submitting a voluminous proposal, we want to avoid duplicative responses in multiple sections unless explicitly requested.	Standalone responses for each of the Evaluation Criteria are not required or expected. The Evaluation Criteria are intended to communicate to Vendors how DCR will evaluate Vendors' responses and are based on the specifications elsewhere in the RFP.
34	7.4 Key Staffing Profile, Page 33	"Vendor must provide a key staffing profile and résumés for staff that will be responsible for the day-to-day performance of the services required under this Solicitation. Vendor shall designate a dedicated construction lead who will be located in the Western North Carolina Hurricane Helene recovery area." Are we providing their personal résumés or are we providing just their name, contact information and their job description?	Vendor **must provide** a key staffing profile and **résumés** for staff that will be responsible for the day-to-day performance of the services required under this Solicitation. Vendor **must identify** which **employees**, including if applicable the Project Manager, will be **physically located in the responding area** as regular face-to-face meetings with the program and applicants will be required (i.e., mandatory preconstruction meetings with applicants for each application). **Key staff must include the following** (DCR prefers for the three referenced positions to be held by three separate individuals qualified to perform each role): -Project Manager -Superintendent (s) -Warranty Coordinator

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

35	7.5 References, Page 34	"Vendor shall provide a minimum of three references for projects of similar type and size performed within the last five years, preferably for state and/or local government entities. DCR reserves the right to check references prior to making any award hereunder. Any negative responses received may be grounds for disqualification of the proposal. DCR reserves the right to contact programs other than those listed by the Vendor in which DCR knows the Vendor participated." Can we provide more than three references even if they are in the same state/local government entity, where we have been assigned/contracted to complete projects from demo, abatement, rehabilitation, MHU replacement, reconstruction and elevation projects?	Vendor shall provide a **minimum** of **three references** for projects of similar type and size performed within the last five years, preferably for state and/or local government entities.
36	7.13 Reconstruction Plan Sets (for Vendors seeking to perform reconstruction projects), Page 36	"Provide examples of single-family construction projects where you have provided the plan sets and specifications; DCR is specifically interested in examples of any CDBG-DR work where you have provided the plan sets and specifications. During the BAFO process, Vendors who intend to perform reconstruction projects may submit reconstruction plan sets of single-family homes, including options for Stick-Built or Modular homes, for consideration by the program for use in the reconstruction phase of the program. The Contractor must obtain permission from the designers for free reuse by the program by any contractor selected by the Program." Do you want the entire plan set, or just an overview? Is that outside of our 20 page limit when submitting our RFP?	See answer to Question #1. Plan sets are not to be submitted at this time; just identify projects where you have provided those.
37	5.2.3 Reconstruction, Reconstruction Scope of Work, Page 26	It states Fiber Cement Siding or stucco has to be used. Would it be acceptable to use vinyl siding instead? What we have found working with the	Vinyl siding is an acceptable cladding.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

		homeowners in the eastern part of NC is that using the fiber cement siding is putting extra work on the homeowners with the upkeep and maintenance every 7-10 years. It is additional work in long run and an added expense for homeowners that are already tight financially.	
38	7.0 REQUIRED VENDOR INFORMATION 7.8 Annual Report, Page 35	Can privately-held companies submit financials under a separate cover for confidentiality?	Per 2.7 PROPOSAL SUBMITTAL, *"If confidential and proprietary information is included in the proposal, also submit one (1) signed, **REDACTED** copy of the proposal."* In eProcurement Sourcing there are two fields for Vendors to upload files – UNREDACTED offer and REDACTED offer. Please also see Attachment B, No. 27, page 44 for instructions on marking pages and content confidential. The REDACTED version should be a document that can be made public once an award is made.
39	5.2 TASKS/ DELIVERABLES 5.2.3 Reconstruction Scope of Work, Page 26	Please verify that the DCR Implementation vendor will perform LBP testing, and the CM will be responsible for the Asbestos testing as necessary?	The implementation vendor will perform lead based paint testing and the vendor will be responsible for all other testing required by the jurisdiction.
40	5.2 TASKS/ DELIVERABLES 5.2.3 Reconstruction Scope of Work, Page 21	Will a damage assessment and feasibility analysis be performed prior to assignment?	Yes.
41	5.2 TASKS/ DELIVERABLES 5.2.2 Repair Scope of Work, Pages 20-24	In our experience when both the implementation vendor and CM do not perform the scope assessments together, the scope assessment tends to be performed at the substantial and final milestones inspections. Please verify that both the DCR Implementation vendor and CM	The implementation vendor is the construction manager. The implementation vendor will perform the scope assessment and assign the scope to the building vendor.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

		perform an assessment together to obtain the SOW?	
42	5.2 TASKS/ DELIVERABLES 5.2.2 Repair Scope of Work	Will Exactimate Pricing be reviewed biannually or annually in order to adjust to the current market?	Xactimate pricing will be reviewed quarterly and adjusted if necessary.
43	5.2 TASKS/ DELIVERABLES 5.2.2 Repair Scope of Work	What is the expectation with pricing adjustments to address tariffs and escalation associated with the tariffs?	Xactimate pricing will be reviewed quarterly and adjusted if necessary.
44	5.2 TASKS/ DELIVERABLES 5.2.3 Reconstruction Scope of Work	Please verify the DCR implementation vendor will provide assistance and coordination with the applicant for temporary relocation.	The implementation vendor will qualify the applicant for temporary assistance. The implementation vendor will include scope for temporary assistance in the builder assignment. The builder will schedule move out and relocation. The builder will pay a voucher to the applicant per their scope.
45	4.0 REQUIREMENTS 4.4 Invoices, Page 17	If in fact performed by the CM please verify that a separate billing process will be allowed to receive continual reimbursement of the task?	Builder payments will be made in accordance with the payment schedule established by the implementation vendor and its construction management strategy.
46	5.2 TASKS/ DELIVERABLES 5.2.2 Repair Scope of Work, Page 23	Please verify that operational expenses and fees will be allowed on Temporary Relocation Assistance.	The implementation vendor will include scope in the builder assignment for temporary housing for qualified applicants.
47	5.0 SCOPE OF WORK 5.7 Liquidated Damages, Page 31	In our experience additional time must be added to the Temporary Relocation Assistance outside of the approved construction timeframes. This is due to the process of homeowner moveout needing to be performed prior to the notice to proceed and the delays after final inspection due to may different factors. Please verify that additional time of reimbursement for temp relo will be allowed upon program review of the process.	DCR will consider exceptions to the timeline in accordance with the implementation vendor's construction management strategy. In general, additional temporary housing assistance outside the prescribed construction timelines will not be considered.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

48	5.2 TASKS/ DELIVERABLES 5.2.3 Reconstruction Scope of Work, Page 25	Reasonable Accommodations – Bathroom: Please confirm that all RA's will be performed and finalized prior to design.	In most instances, Reasonable Accommodations will be scoped prior to project assignment to the builder.
49	5.0 SCOPE OF WORK 5.1 Scope of Services, Page 19	What is the repair cap?	The implementation vendor will perform feasibility analysis on each site and establish the repair scope. The scope will not exceed the reconstruction cap, unless exceptional circumstances are approved by DCR.
50	5.0 SCOPE OF WORK 5.1 Scope of Services, Page 19	In the Pre-Bid meeting, it was discussed that it was expected that a large percentage of the task orders would be reconstruction. With such a large repair task order value what are the criteria to flip from repair to reconstruction?	The implementation vendor will establish a repair or reconstruction feasibility policy that will establish criteria for scoping each project.
51	5.2 TASKS/ DELIVERABLES 5.2.2 Repair Scope of Work, Page 23	Will the historic repair process and pricing be the same or will there be separate pricing to accommodate the different processes, fees and materials outside of the standard?	Scoping for historic projects will reflect with costs for materials and activities required by the jurisdiction.
52	5.0 SCOPE OF WORK 5.1 Scope of Services, Page 19	Will additional time be allowed for Historic Properties that require specialty repairs?	DCR will consider additional time for historic properties, depending on the scope and complexity.
53	5.2 TASKS/ DELIVERABLES 5.2.3 Reconstruction Scope of Work, Page 26	Please confirm that scoping is allowed for infrastructure and roads outside of the applicant's property to allow access to the property. Especially regarding MHU delivery and Heavy Equipment access.	Private road and bridge repair scope will be limited to the applicant's property. The State has other programs for repairing roads and bridges.
54	5.2 TASKS/ DELIVERABLES 5.2.2 Repair Scope of Work, Page 23	Please verify that the DCR implementation vendor will obtain or verify the Flood insurance policies?	Yes.
55	5.0 SCOPE OF WORK 5.4 Additional Requirements, Page 30	Will there be opportunities to add additional milestones if necessary, such as preconstruction to assist in the cash flow of the homes?	The implementation vendor will establish a payment schedule in accordance with its construction management strategy.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

56	5.0 SCOPE OF WORK 5.7 Liquidated Damages, Page 31	Will there be a cap to LD's?	There is no cap on liquidated damage.
57	4.0 REQUIREMENTS 4.4 Invoices, Page 17	What will be the contracted payment terms?	Per ATTACHMENT C: NORTH CAROLINA GENERAL TERMS & CONDITIONS, #9 PAYMENT TERMS, "Payment terms are **net** not later than **30 days after receipt of** a **correct invoice** or acceptance of goods, whichever is later." Additional information regarding payment may be included in the project Scope of Work.
58	5.2 TASKS/ DELIVERABLES 5.2.2 Repair Scope of Work, Page 23	Please address the process of applicant appeals during the construction process. In our experience appeals have been allowed up to and after the completion of construction requiring remobilization of the contractor. Will the applicants be allowed to submit multiple appeals of the scope during and after the construction process? Will the program establish a last day of submission for each task order?	The applicant will not be allowed to appeal the design, materials, or services defined in the construction scope. The vendor is expected to perform according to the scope, provide quality and timely work, and honor the warranties.
59	5.2 TASKS/ DELIVERABLES 5.2.3 Reconstruction Scope of Work, Page 26	Please confirm that scaffolding and additional safety measures outside of the standard model home will be scoped through the site-specific pricing outside of the Hard Cost of the model.	The implementation vendor will scope necessary equipment.
60	3.0 METHOD OF AWARD AND PROPOSAL EVALUATION PROCESS 3.1 Method of Award, Page 11	Please verify what scope is to be included within the Hard cost of the standard models or if this information will be provided during the BAFO process.	The BAFO will clarify pricing.
61	3.1 Method of Award, Negotiation and Best Final Offer, Page 13	"During the BAFO process, Vendors who intend to perform reconstruction projects may submit reconstruction plan sets for single-family homes, including options for Stick-Built and/or modular homes, for	It is estimated Vendors will be provided 7 days to respond to the BAFO.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

		consideration by the program for use in the reconstruction phase of the program." Do you know an approximately timeline that will be placed for builders to return pricing and house plans if selected to reach the BAFO phase?	

Execute Addendum:

VENDOR: EXCEL Contractors, LLC

AUTHORIZED SIGNATURE: [redacted]

NAME and TITLE (Print or Typed): Jerry Johnson, Vice President

DATE: 05/08/25

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal Contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal Contract, grant, loan, or cooperative agreement.

If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal Contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subContracts, subgrants, and Contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Vendor, EXCEL Contractors, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Vendor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

[redacted]

Signature of Vendor's Authorized Official

Jerry Johnson, Vice President

Name and Title of Vendor's Authorized Official

05/08/25

Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ **Go to *www.irs.gov/FormW9* for instructions and the latest information.**

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

Excel Contractors LLC

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☑ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ **S**

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

8641 United Plaza Blvd

Requester's name and address (optional)

6 City, state, and ZIP code

Baton Rouge LA 70809

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

7	2	–	0	9	6	9	5	8	7

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here | **Signature of U.S. person ▶** [redacted] **Date ▶** 01/25/2024

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

REQUEST FOR PROPOSAL #: DOC1539254856

Residential Demolition, Reconstruction, Rehabilitation, and Manufactured Housing Unit Replacement for Hurricane Helene Impacted Counties

STATE OF NORTH CAROLINA DEPARTMENT OF COMMERCE

DIVISION OF COMMUNITY REVITALIZATION

EXCEL CONTRACTORS, LLC | 8641 United Plaza Blvd., Baton Rouge, LA 70809

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TABLE OF CONTENTS

REQUIRED ATTACHMENTS 2
7.1 VENDOR INFORMATION 3
7.2 COMPANY NARRATIVE 3
7.3 COMPANY PROFILE 3
7.4 KEY STAFFING PROFILE 7
7.5 REFERENCES 11
7.6 LITIGATION HISTORY 14
7.7 CONFLICTS 17
7.8 ANNUAL REPORT 17
7.9 SAFETY INFORMATION 18
7.10 QUALITY CONTROL PROGRAM 18
7.11 COST CONTROL PROGRAM 19
7.12 WARRANTY PROGRAM 19
7.13 RECONSTRUCTION PLAN SETS 20
ATTACHMENTS 21

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

/// REQUIRED ATTACHMENTS

- Attachment A – KEY STAFF RESUMES
- Attachment B – RECOMMENDATION LETTER -FL
- Attachment C – RECOMMENDATION LETTER -NC
- Attachment D – RECOMMENDATION LETTER -PR
- Attachment E – SAFETY MANUAL
- Attachment F – EMR FOR LAST FIVE YEARS
- Attachment G – QUALITY CONTROL MANUAL
- Attachment H – LETTER OF BONDABILITY
- Attachment I – ANNUAL REPORT

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

REQUIRED VENDOR INFORMATION

7.1 VENDOR INFORMATION

EXCEL has been performing residential construction for almost a decade and has over 100 plus years of combined experience in reconstruction projects under CDBG-DR funded by HUD. Our team has extensive knowledge in managing and completing projects of a similar size and nature with respect to disaster recovery. Excel has the procedures and processes to execute and monitor each project service within the time frame described in this RFP.

7.2 COMPANY NARRATIVE

EXCEL has over 10 years of experience as a prime contractor with CDBG-DR residential housing projects. EXCEL and its team members have been in the residential construction business for over 100 collective years as companies and principal/owner individuals, far exceeding the requirement of this solicitation

Excels proven success with HUD CDBG-DR Rebuild programs performed residential construction for over 1500 damaged properties associated with Hurricane Irma, Michael, Ian and Florence within several states and Puerto Rico, which included rehabilitation projects, reconstruction projects, and MHU replacement projects. This construction consists of performing mobilization, initial scope alignments, permitting, construction, closeout, warranty, change order management, homeowner temporary relocation, project controls (scheduling and cost management), project management and data system implementation and management.

7.3 COMPANY PROFILE

a.) Excel Contractors, LLC (Prime Contractor) is a U.S. limited liability company incorporated in the state of Louisiana. Since its' establishment, numerous other EXCEL entities have been formed. Excel Contractors, LLC, does not have any joint venture partners in this solicitation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

b.) Excel Contractors, LLC was established on April 4, 1983, and EXCEL holds more than 70 contractor licenses in numerous states and U.S. territories. EXCEL is a premier provider of construction, maintenance, fabrication, building services, disaster recovery, and project management services. Our focus on building long-term relationships with our customers has helped us become one of the most trusted providers of project services.

c.) EXCEL corporate headquarters is located at 8641 United Plaza Blvd., Baton Rouge, LA 70809. EXCEL has an established office located at 2803 Slater Road, Suite 205, Morrisville, NC 27560. EXCEL will secure a regional office located within reasonable proximity to the Western counties of North Carolina, where this project will be based out of.

d.) EXCEL currently employs over 4,000 employees in the company, both locally and nationally.

e.) EXCEL's team of subcontract partners and vendors provides a substantial local presence, consisting of staffed offices distributed throughout the twenty County response area in the state of North Carolina, with existing personnel who will work on this project, if awarded. Utilizing these offices, our teams can mobilize quickly and leverage our thorough understanding of challenges, logistics management, and resources necessary to facilitate operating efficiency. For this program, we will prioritize local hiring and training augmented with support staff (from other locations) who possess relevant experience that will add value to the team. EXCEL will also have self-performing crews providing construction services and will also be subsidizing staffing with subcontractors. Listed below are some of our HUD Certified, minority-owned vendor's POC that EXCEL plans to utilize depending on the amount of our award:

TSG Management Services
1275 Blowing Rock Rd.
Boone, NC 28607
404-849-1708
Mike Sullivan, CEO

Tracco, LLC
2008 South Main St., Suite 308
Wake Forest, NC 27587

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

336-309-4249
James Trent Rawley, Supervisor, Inspector, Lead Renovator

Weeks Trucking, LLC
110 S Deerfield Cir.
Salisbury, NC 28147
704-791-0206
Jzanese Weekes, President

Triple S Land Services, LLC
2040 Watercourse Cir., Apt 201
Graham, NC 27253
843-901-9335
Melvin, Gillispie, CEO

Estevez Multi-services, LLC
2804-K Randleman Rd.
Greensboro, NC 27406
336-383-6397
Anyely L. Ferreras Estevez, Owner

CADET Construction Company
PO Box 78504
Charlotte, NC 28271
919-625-7638
Charette Miller, CEO

Construction & Landscape Services, Inc.
PO Box 1180
Marshall, NC 28753
828-206-3078
Chad Bradley, President

A Okoh, Inc.
8708 Ridgeline Lane
Charlotte, NC 28269
704-617-8120
Antoinette Bailey, President

Young & Young Construction, LLC

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

419 West Brooks
Memphis, TN 38109
901-623-5292
Mary Young, Owner

Sefirot, LLC (DBA Blue Crew Paint)
6115 Sid Crane Dr.
Charlotte, NC 28216
704-388-2662
Shanty Morris, Project Management

Growth Management Services, Inc.
4209 Lassiter Mill Road, Unit 150
Raleigh, NC 27609
919-803-5979
Twyla Garrett, President/CEO

Legacy Homes & Construction
1220 Randolph Ave.
Greensboro, NC 27406
336-346-7756
Gloria Elliott, Owner

Making Moves Electrical
6004 West Marshville Blvd.
Marshville, NC 28103
704-526-7056
Carmen Jarvis, President

Boreal Homes, Inc.
4105 Planters Glen Ct.
Fuquay Varina, NC 27526
919-291-0031
Jesse Conniff, President

KC Electrical Construction, LLC
1974 Oak Hallow Rd.
Gastonia, NC 28054
980-522-1505
Kodoza Campbell, Owner

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Double D Construction Services, Inc.
5000 Reynolda Rd.
Winston Salem, NC 27106
336-922-4126
Tracy Doub, President

Ascendance Electric, Inc.
5900 Harris Technology Blvd., Suite G
Charlotte, NC 28269
980-999-5369
Stephanie Griffin, President

f.) EXCEL has been engaged prior with the state of North Carolina under a contract with North Carolina Office of Recovery and Resiliency from 2019 – 2022. During this project, EXCEL performed mobilization, initial scope alignments, permitting, construction, closeout, warranty, change order management, homeowner temporary relocation, project controls (scheduling and cost management), project management and data system implementation and management for over 200 residential properties throughout the state of North Carolina, as part of the State's Hurricane Matthew HUD CDBG-DR allocation. EXCEL ensured compliance with federal regulations, Section 3 utilization requirements and minority and woman-owned business utilization requirements. Construction types included rehabilitation projects and MHU replacement projects. Excel also received a letter of commendation from NCORR for timely and effective completion of work.

g.) EXCEL has been engaged in CDBG funded residential construction contracts. These contracts include Puerto Rico STEP, USVI STEP, North Carolina, Florida, etc. EXCEL has never been involuntarily terminated from participation in the program or voluntarily ceased participation in the program.

7.4 KEY STAFFING PROFILE

Our key staff members have worked on other disaster recovery housing programs following Hurricanes Irma, Michael, Florence, Maria, Sandy, Gustav, Ike, and Katrina, as well as the 2016 Louisiana Floods. They have managed

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

repairs for tens of thousands of homes. This team offers a set of well-rounded, diverse, and complementary skills, and they demonstrate the experience and knowledge required for success of this program. The following introductions provide a summary of EXCEL's core team members.

Resumes of select key staff members are attached (ATTACHMENT A) for this solicitation. Additional resumes are available upon request.

Vice President of Government Services – (Jerry Johnson)

Jerry Johnson serves as Vice President of Excel Disaster Recovery and brings over 18 years of experience in disaster recovery and construction management. Throughout his tenure at Excel, he has held several key roles, including project manager for Excel Construction. Jerry holds a degree in Computer Science and multiple FEMA Certifications for Disaster Recovery Readiness.

Jerry has extensive expertise in government contracting, program management, quality management, risk management, project management and cost control. Jerry's played pivotal roles in several successful CDGB programs by developing and managing a realistic project schedule, ensuring the projects meet the required quality standards and specifications, identifying and mitigating potential risks, delays, cost overruns and safety hazards.

RELEVANT DISASTER RECOVERY EXPERIENCE

- Florida 'Rebuild Florida' HUD CDBG-DR Construction Program / 2022 – 2025
- North Carolina 'Rebuild NC' HUD CDBG-DR Construction Program / 2022 – 2023
- Louisiana Maintenance for Temporary Sheltering Solution for Non-Congregate Sheltering / 2021 – 2022
- Puerto Rico Sheltering & Temporary Essential Power (STEP) Program / 2017-2020
- Emergency Home Repairs Virgin Islands Sheltering & Temporary Essential Power (STEP) Program (EHRVI) / 2017-2020

PROJECT MANAGER – (Andrew Brock)

Andrew Brock has 27 years of public affairs, organization management, legislative, judicial and regulatory leadership experience. He served 14 years in the NC State Senate. As a Committee Chairman, Andrew managed multiple Senate Committees including - Finance, Natural and Economic Resources

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Appropriations, Agriculture/Environment/Natural Resources, General Government, Health & Human Services, Energy, and Joint Information Technology Oversight committees. Andrew was Vice Chairman of the Joint Governmental Operations Committee, Appropriations/Base Budget, and Judiciary I.

Andrew was a primary author of housing industry related legislation in North Carolina and has led coalition-building with the NC Association of Homebuilders and related construction and development stakeholders. He served as a former Commissioner on the NC Department of Commerce's Board of Review, Division of Employment Security.

Andrew helped lead state disaster response policies at the state and local levels. He has managed law enforcement and first responder communications infrastructure projects and has advised members of congress and state legislators on disaster and flooding solutions.

PROJECT MANAGER – (April Johnson)

April Johnson is a dedicated and experienced Project Manager with extensive experience in planning, executing, and overseeing complex projects to ensure they are delivered on time and in compliance with all specifications. As a key member of Excel's Disaster Recovery team, she manages resources, coordinates schedule and engages stakeholders to align project goals with organizational objectives. She leverages various methodologies to optimize workflows and reduce risks throughout project lifecycle.

April brings strong leadership, problem-solving, and organizational skills to her role, having supported disaster recovery efforts for multiple storms, including Katrina, Rita, Gustav, Maria, Laura, Michael and Irma. She is educated in housing, community, economic development, and Disaster Recovery programs and holds multiple FEMA certifications.

In her role, she also monitors progress, identifies potential roadblocks, and implements effective solutions to keep projects on target. April fosters collaboration among team members by establishing clear communication and accountability, helping ensure each project reaches successful completion.

RELEVANT DISASTER RECOVERY EXPERIENCE

- Florida 'Rebuild Florida' HUD CDBG-DR Construction Program / 2022 – 2025

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- North Carolina 'Rebuild NC' HUD CDBG-DR Construction Program / 2022 – 2023
- Louisiana Maintenance for Temporary Sheltering Solution for Non-Congregate Sheltering / 2021 – 2022
- Puerto Rico Sheltering & Temporary Essential Power (STEP) Program / 2017-2020
- Emergency Home Repairs Virgin Islands Sheltering & Temporary Essential Power (STEP) Program (EHRVI) / 2017-2020

PROJECT SUPERINTENDENT – (Kevin Dampeer)

Kevin Dampeer r is an experienced Project Superintendent with over 20 years of experience in electrical and residential construction. He has served clients in various supervising roles, including electrical superintendent, general foreman, field supervisor, superintendent, and safety manager.

Kevin's functional experience includes possessing an NCCER Certification in Electrical. He also provides general site supervision, overseeing crews and subcontractor personnel, reporting project progress to the management team that works with the client, changing orders and coordinating with designers, engineers and local and state governmental agencies. His technical experience includes planning, scheduling, safety, procuring construction materials, coordinating delivery and logistics of material and equipment shipments, requisitioning subcontractors, and managing inventory.

RELEVANT DISASTER RECOVERY EXPERIENCE

- Florida 'Rebuild Florida' HUD CDBG-DR Construction Program / 2022 – 2025
- North Carolina 'Rebuild NC' HUD CDBG-DR Construction Program / 2022 – 2023
- Louisiana Maintenance for Temporary Sheltering Solution for Non-Congregate Sheltering / 2021 – 2022

WARRANTY COORDINATOR – (Jay Warshaw)

Jay S. Warshaw is a seasoned public affairs professional with extensive experience in strategic communications, community engagement, and project implementation across both the private and public sectors. As President of Warshaw & Associates Public Affairs, he has built a career marked by leadership in managing high-profile initiatives. Notably, during his 14-year tenure with

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Walmart's Public Affairs Division in North Carolina, he played a pivotal role in the development of 94 new stores and the coordination of philanthropic contributions to numerous nonprofits across the state. His work consistently involved navigating complex stakeholder environments, fostering community partnerships, and driving public outreach.

In addition to corporate public affairs, Warshaw has worked across a variety of sectors including real estate, disaster recovery, education, and historic preservation. His roles have included VP of RP Holding Realty, where he led outreach and site development, and a disaster consultant for Ceres Environmental, where he managed recovery operations for flood-impacted agricultural sites after Hurricane Florence. He also served in strategic public affairs roles with JFL Enterprises and the Save Cape Lookout Foundation, demonstrating a commitment to both education and environmental preservation. Earlier in his career, he served as Communications Director for Elizabeth Dole's successful U.S. Senate campaign.

7.5 REFERENCES

Rebuild Florida - HUD CDBG-DR Residential Housing Permanent Construction- IOA11

Client: Florida Department of Economic Opportunity/FloridaCommerce

Project Duration: 2019-2025

Project Description:

EXCEL performed residential construction for over 150 damaged properties associated with Hurricane Irma, Michael & Ian throughout the state of Florida which included:

- Rehabilitation projects
- Reconstruction projects
- MHU replacement projects

Total Contract Amount: $26 Million

Key Staff Assigned:

- Jerry Johnson, Project Manager
- April Johnson, Project Superintendent
- Kevin Dampeer, Project Superintendent
- Kristi Rockwood, Project Controls
- Charlotte Ricaud, Chief Financial Officer
- Sam Carney, Director of Management Information Systems

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Client Project Manager Information:

Florida Department of Economic Opportunity

Kelvin Rosier

Ph #: 850-717-8449

Kelvin.rosier@commerce.fl.gov

**Letter of Recommendation is attached (ATTACHMENT B) for this solicitation.

Rebuild NC - HUD CDBG-DR Residential Housing Permanent Construction

Client: North Carolina Office of Recovery and Resiliency

Project Duration: 2019-2022

Project Description:

EXCEL performed mobilization, initial scope alignments, permitting, construction, closeout, warranty, change order management, homeowner temporary relocation, project controls (scheduling and cost management), project management and data system implementation and management for more than 200 residential properties throughout the state of North Carolina, as part of the State's Hurricane Matthew HUD CDBG-DR allocation. EXCEL ensured compliance with federal regulations, Section 3 utilization requirements and minority and woman-owned business utilization requirements. Construction types included:

- Rehabilitation projects
- MHU replacement projects

Total Contract Amount: $26 Million

Key Staff Assigned:

- Jerry Johnson, Project Manager
- April Johnson, Project Superintendent
- Kevin Dampeer, Project Superintendent
- Kristi Rockwood, Project Controls
- Charlotte Ricaud, Chief Financial Officer
- Sam Carney, Director of Management Information Systems

Client Project Manager Information:

North Carolina Office of Recovery and Resiliency

Kevin Walsh

Ph #: 919-576-6449

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Kevin.walsh@NCDPS.gov

**Letter of Recommendation is attached (ATTACHMENT C) for this solicitation.

Puerto Rico Sheltering & Temporary Essential Power (STEP) Program

Client: Puerto Rico Department of Housing

Project Duration: 2017-2020

Project Description:

EXCEL was responsible for construction services across the entire southwest region of Puerto Rico on the program. This is the largest FEMA-funded STEP program in history, and EXCEL repaired approximately 12,000 residences. The Puerto Rico Sheltering & Temporary Repair Program ("Tu Hogar Renace") was intended to help eligible residents impacted by the Major Disaster Declaration (FEMA-4339-DR, PR Disaster Declaration Hurricane María) to return to their homes with safe and code-compliant utilities, hot water, and bedroom and bathroom facilities. The goal was to provide a quality habitable level to allow for temporary shelter in homes. The program also provided expedient and temporary repairs to protect the home from further weather-related damage. EXCEL was ranked as **"Very Good" or "Excellent" in all cat**egories of the program's performance assessment.

Total Contract Amount: $125 Million

Key Staff Assigned:

- Jerry Johnson, Project Manager
- April Johnson, Project Superintendent
- Kevin Dampeer, Project Superintendent
- Kristi Rockwood, Project Controls
- Charlotte Ricaud, Chief Financial Officer

Client Project Manager Information:

Puerto Rico Department of Housing

Bruce Conant

Ph #: 228-234-3548

Bruce.conant@tidalbasingroup.com

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

**Letter of Recommendation is attached (ATTACHMENT D) for this solicitation.

Emergency Home Repairs Virgin Islands Sheltering & Temporary Essential Power (STEP) Program (EHRVI)

Client: Virgin Islands Housing Finance Authority

Project Duration: 2017-2020

Project Description:

EXCEL was assigned nearly 2,500 work orders for the Emergency Housing Repairs Virgin Islands (EHRVI) Program which was intended to help eligible residents impacted by the hurricane to return to their homes with safe and code compliant utilities, hot water, bedroom and bathroom facilities. For this rehabilitation project, EXCEL provided the following services: construction management, construction, subcontractor management, safety oversight, quality control / quality assessments, production management, document management, data management, homeowner coordination and complaints management, and warranties.

Total Contract Amount: $75 Million

Key Staff Assigned:

- Jerry Johnson, Project Manager
- April Johnson, Project Superintendent
- Kevin Dampeer, Project Superintendent
- Charlotte Ricaud, Chief Financial Officer

Client Project Manager Information:

Virgin Islands Housing Finance Authority

Kyle Holley

Ph #: 340-202-1221

The email address for this individual is no longer available.

7.6 LITIGATION HISTORY

Three Year Litigation Summary

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

From time to time in the normal course of business, EXCEL is named as a defendant in personnel matters, customer or other disputes, none of which will impede our ability to perform under the contemplated contract.

PENDING LITIGATION:

Arnold Jerome Smith versus State of North Carolina, N.C. Office of Recovery and Resiliency and Excel Contractors, LLC

Case 4:25-CV-59-BO-RJ United States District Court for the Eastern District of North Carolina

This action alleges violations of the federal Fair Housing Act, Americans with Disabilities Act seeking declaratory relief and damages for discrimination on the basis of disability related to Mr. Arnolds participation in the North Carolina Community Development Block Grant – Disaster Relief Homeowner Recovery Program, known as the ReBuild NC. Excel vehemently denies these claims and is currently defending this matter.

CLOSED LITIGATION:

Delta Terminal Services, LLC versus Excel Contractors, LLC

Case 4:23-cv-02833 in the United States District Court for the Southern District of Texas Houston Division

This matter involved claims and counterclaims filed by the parties against each other arising out of a project dispute related to scope, completion, and nonpayment. The matter was successfully mediated in May of 2025 and is pending dismissal.

Excel Contractors, LLC versus BASF Corporation

Case 8:23-cv-05223 TMC in the United States District Court for the District of South Carolina Anderson Division

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Excel and BASF Corp. were parties to a Master Onsite Services Agreement dated April 30, 2021, for a project at a facility in Seneca, South Carolina. Excel filed a suit against BASF for failure to pay outstanding invoices. The parties asserted claims and counterclaims arising from the MSA, Pos, and the work and ultimately agreed to dismiss the lawsuit and engage in Arbitration. The matter was successfully resolved in September of 2024.

Nestor Luis Sosa versus Progressive Casualty Insurance Company, et.al

Case 077014 "D" in the 18th Judicial District Court for the Parish of Iberville, State of Louisiana

Excel was added as a defendant in this matter involving its client, Shintech Louisiana, LLC, related to an automobile and locomotive incident. Excel provided labor that assisted in loading Shintech's containers being hauled at the time of the incident. Plaintiff's alleged that the "overweight" of the load was the cause of the incident. Excel filed a Motion for Summary Judgement (MSJ) in response to the unfounded allegations and the MSJ was granted in October of 2022 dismissing Excel and its client, Shintech.

Sevana Sustaita o/b/o Estate of Teodoro Silva versus CF Industries, Sulzer Chemtech, CBI Company, EXCEL Contractors and Lauren Engineers

Case 2016-04763 in the 334th Judicial District for the County of Harris, State of Texas

EXCEL was contracted by CF Industries to perform work on a large, multi-contractor, project for CF Industries at its facility in Donaldsonville, Louisiana. Teodoro Silva was employed as a mechanic for Sulzer Chemtech, a subcontractor of EXCEL on the project and died as a result of asphyxiation while working on the project. EXCEL had no responsibility for the work being undertaken but nonetheless was named in the suit. EXCEL and several other companies have been named defendants in a wrongful death suit for alleged acts of negligence filed by surviving spouse, Sevana Sustaita in Cause 2016-04763 in the 334th Judicial District for the County of Harris, State of Texas which was filed on October 31, 2016. EXCEL has no responsibility for this accident and denies liability. This matter was settled in October of 2023.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Tran Hai Duong versus Shell Oil Company, Harry's Hardware, Inc., Motiva Enterprises, LLC, Chevron Oronite Company, LLC, Turner Industries Group, LLC, EXCEL, W. M. Barr & Company, Inc. and PCS Nitrogen Fertilizer Operations, Inc.

Case 2019-09320 Division B New Orleans Civil District Court, Parish of Orleans, State of Louisiana

Tran Hai Duong worked as an Engineer for several Engineering firms at facilities named Defendants from 1998 to 2018. Duong alleges that while working at these facilities on turnaround projects and new construction he was exposed to benzene and benzene containing products which caused his benzene-related injuries, including Non-Hodgkins Lymphoma. Duong was diagnosed with Non-Hodgkins Lymphoma on January 4, 2019, allegedly due to his exposure to benzene and benzene containing products. All of EXCEL's insurance providers for the years 1998 through 2018 have been notified of the claim. The claim was turned over to Arch Insurance Company and the defense of this claim was assigned to Jonathan Walsh of the law firm, Deutsch Kerrigan in New Orleans. Defense Counsel filed an Answer, Exceptions and Defenses to the plaintiff's Petition for Damages which was filed in the Civil District Court for the Parish of Orleans on September 5, 2019, under Docket Number 2019-09320, Division B, Section 05 on November 4, 2019. EXCEL denies each and every allegation of Plaintiff. Discovery is ongoing. This matter was settled in July of 2022 for the cost of defense.

7.7 CONFLICTS

EXCEL does not currently have, nor foresee any future potential conflicts of interest in providing the services described in this solicitation.

7.8 ANNUAL REPORT

A copy of EXCEL's Annual Report/Financial Statement is attached (ATTACHMENT I) for this solicitation. A non-redacted version is available under the 5.2 Redacted Offer section in Ariba for this solicitation. EXCEL's Annual Report/Financial Statements shall be considered **CONFIDENTIAL** and shall be treated as such.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

7.9 SAFETY INFORMATION

The EXCEL safety program consists of formal training at all levels, including executives, managers, supervisors, foremen, and crafts persons. In addition to new hire safety orientation and a mentorship program, mandatory weekly safety meetings are held on the job site to provide training and safety instruction to all EXCEL site employees. We employ many other training, planning, assessment, and auditing programs and procedures to eliminate safety risks. The executive management of EXCEL recognizes that employee involvement in safety is imperative to the success of our program. For that reason, every employee, no matter their position or location, has been empowered to be responsible for their safety and the safety of others.

Key Staff Assigned for the Quality Control Program:

- Richard Beemer, Safety Manager

A copy of EXCEL's Safety Manual is attached (ATTACHMENT E) for this solicitation.

EXCEL's EMR from our insurance carrier for the last five years is attached (ATTACHMENT F) for this solicitation.

7.10 QUALITY CONTROL PROGRAM

The EXCEL Corporate Quality Assurance and Quality Control Program (QA/QC) sets the standards that employees follow. Additionally, a Project-specific Quality Plan will be developed, in coordination with the QC Lead and the state's program representatives, to incorporate procedures, testing, and reporting processes that will guide, measure and oversee the quality of demolition, abatement and construction activities. The QA/QC Team will be responsible for owning and resolving quality-related issues.

Key Staff Assigned for the Quality Control Program:

- Stuart Duncan, Quality Control Manager

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

A copy of EXCEL's Quality Control Manual is attached (ATTACHMENT G) for this solicitation.

7.11 COST CONTROL PROGRAM

Suggested possible cost reduction items to be taken into consideration could include implementing geographic clustering for builder assignments which will significantly aid in construction cost by optimizing site selection, improving resource management, and enhancing communication. This will lead to reduced costs associated with redesigns, material waste, and delays, as well as efficient logistics planning and lower transportation costs.

7.12 WARRANTY PROGRAM

Based on our team design, we hope it is evident that EXCEL understands its requirement to be solely responsible for the performance of all contractual obligations that may result from an award of this solicitation. We further understand that we shall not be relieved of our obligations for any nonperformance by our subcontractors. Further, we vet our subcontractors and implement rigorous Quality Control standards to substantially reduce rework and poor craftsmanship. EXCEL and its subcontractors are known for quality work, as evidenced throughout our response.

Our goal in assembling a team of licensed trade subcontractors is to fully cover all scope areas identified in this solicitation and to provide capacity for high volumes of assignments from the program. The timeframe within which warranty complaints will be resolved are dependent upon the severity of the claim. Major (emergency) repairs will be resolved within 48 hours from the time of the report. All other (non-emergency) repairs will be resolved within 5-10 business days from the time of the report.

EXCEL and its subcontractors will provide a 2-year craftsmanship warranty and a 2-year warranty for all mechanical, electrical and plumbing systems.

Key Staff Assigned for the Warranty Program:

- Jay Warshaw, Warranty Manager

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Stuart Duncan, Quality Control Manager
- Kevin Dampeer, Project Superintendent
- Ally Desravins, Lead Carpenter

7.13 RECONSTRUCTION PLAN SETS

A copy of EXCEL's plan sets and specifications will be submitted with final contract negotiation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT A

KEY STAFF RESUMES

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

JERRY JOHNSON

Baton Rouge, LA

Email: jjohnson@excelusa.com | Phone: 225-413-3765

Professional Summary

Certified Project Management Professional with over 30 years' experience in project management, strategic planning, logistics, medical management, and tracking.

Professional Experience

- EXCEL, Vice President, 2022 - Present

  - Developed and executed companywide construction strategies aligned with business goals. Oversees planning, execution and delivery of all construction projects, ensuring projects are completed on time, within budget and to quality standards. Leads, mentors, recruits and retains top construction and management talent. Prepares and manages budgets and control cost. Oversees planning, execution and delivery of all construction projects, ensuring projects are completed on time, within budget and to quality standards. Leads, mentors, recruits and retains top construction and management talent. Prepares and manages budgets and control costs.

- EXCEL, Project Manager, 2014 - 2022
  - Provided leadership on all aspects of projects. Develop and implement structure within departments. Directed entire team and staff in their duties. Organized, analyzed, and interpreted results to provide cost effect solutions. Built and managed processes and procedures for leading departments. Grew long term relationships with client that capitalizes on equity and partnership opportunities. Effectively communicated relevant information with executives, clients and staff of all levels.

    - FL COMM Rebuild – Florida Commerce Rebuild Program
    - COVID19 – New Orleans COVID Center
    - Duck Key, FL – Hurricane Maria $2 million
    - STEP – Ponce, Puerto Rico – Hurricane Maria $100 million
    - Orascom – Beaumont, TX, $60 million
    - IHI – Savannah, GA, $40 million
    - CF Expansion – Donaldsonville, LA $75 million

- Ceres Environmental, Project Manager, 2018 - 2019

  - Planned, directed, and coordinated reports of designated disaster recovery projects to CEO, ensuring that the project goals and objectives were accomplished, meeting the deadline on a set budget. Established and maintained quality relations with stakeholders of all levels. Track and maintained schedule, cost associated with project, heavy equipment rentals and company owner equipment, achieving a successful demobilization within

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

budget.

- North Carolina – North Carolina Department of Agriculture
- Georgia – Hurricane Michael – State of Georgia
- Florida – Hurricane Michael – State of Florida

Key Skills

- Project Management
- Construction Management
- Staff and Subcontract Management
- Medical Management
- Disaster Response & Crisis Management
- Budget and Appropriations Oversight
- Process and Procedure Development

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ANDREW C. BROCK

Mocksville, NC

Email: andrew.c.brock@gmail.com | Phone: 336-414-3665

Professional Summary

Results-driven leader with 27 years of experience in public affairs, organizational management, legislative, judicial, and regulatory leadership. Proven track record in state governance, policy development, organizational oversight, and disaster response.

Professional Experience

- North Carolina State Senate

  Senator | 14 Years
  Chaired and managed multiple committees including:
  - Finance
  - Natural and Economic Resources Appropriations
  - Agriculture/Environment/Natural Resources
  - General Government
  - Health & Human Services
  - Energy
  - Joint Information Technology Oversight

  Vice Chairman:
  - Joint Governmental Operations Committee
  - Appropriations/Base Budget
  - Judiciary I

  Authored housing industry legislation in partnership with the NC Association of Homebuilders and other stakeholders.

- NC Commerce Board of Review

  - Commissioner Served on the State Department of Commerce's Board of Review, Division of Employment Security.
  - Organization Management
  - Led regulatory compliance initiatives and project execution.

- Disaster Response Leadership

  - Directed state disaster response policy and execution.
  - Managed law enforcement and first responder communication infrastructure projects.
  - Advised members of Congress and state legislators on disaster and flooding response solutions.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Key Skills

- Legislative Strategy & Policy Development
- Regulatory Compliance
- Organizational Leadership
- Intergovernmental Affairs
- Disaster Response & Crisis Management
- Budget and Appropriations Oversight

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

KEVIN DAMPEER

Baton Rouge, LA

Email: Kdampeer@excelusa.com | Phone: 985-415-0544

Professional Summary

Dedicated and detail-oriented Construction Superintendent with over 20 years of experience managing commercial, residential, and infrastructure projects. Proven ability to lead crews, manage subcontractors, enforce safety protocols, and ensure projects are completed on time, within budget, and to quality standards.

Professional Experience

- Excel Project Superintendent

  - Supervise day-to-day operations on active construction sites, including labor, subcontractors, and inspections.
  - Coordinate schedules, deliveries, and on-site personnel to avoid delays and resolve conflicts.
  - Monitor compliance with safety and building codes, resulting in zero lost-time incidents.
  - Collaborate with project managers and engineers to align field operations with project goals.
  - Maintain accurate daily logs and progress reports for stakeholders and project tracking.
  - Conduct pre-construction meetings and regular safety briefings to ensure team awareness.
  - Assisted with supervising field crews and subcontractors on multi-million-dollar projects.
  - Maintained site organization, coordinated material deliveries, and ensured compliance with project plans.
  - Helped implement lean construction practices, reducing material waste.
  - Supported inspections and handled punch-list resolutions before final walkthroughs.

Certifications

- OSHA 30-Hour Certification
- First Aid/CPR Certified
- NCCER Certification

Key Skills

- Site Supervision & Coordination

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- OSHA & Safety Compliance
- Project Scheduling
- Budget & Cost Control
- Quality Assurance
- Subcontractor Management
- Blueprints & Specifications
- Client & Inspector Relations
- Materials & Equipment Logistics

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

APRIL W JOHNSON

Baton Rouge, LA

Email: April.johnson@excelusa.com | Phone: 225-229-2870

Professional Summary

Highly professional team player. Fluent in the operation of modern office equipment and in the use of standard computer applications. Takes pride in tasks assigned performing all work with passion and integrity. Ability to prepare clear and concise policies and procedures, reports, correspondence, and other written materials. Make decisions recognizing established precedents and practices and use sound judgment in applying policies to meet new conditions and situations.

Professional Experience

- Excel Project Manager/Lead

  - Liaising with project stakeholders concerning project details, deliverables, planning and implementation of projects.
  - Assigned to high-profile, at-risk projects to re-gain control of scope, schedule, resources, and cost through executive level coordination with leadership and client.
  - Analyze data, plans, and contracts in depth for optimal project timelines.
  - Track and report project progress.
  - Implement knowledge sharing sessions among project managers to improve consistency in applying framework and standards across projects.
  - Provide project management insight to develop, implement, and execute the managing of budgets and timelines, improving efficiency and producing quality deliverables.
  - Communicate designee: Foster meaningful relationships with Client and State.
  - Perform quality control on projects in construction to ensure accuracy, consistency, and compliance with code regulations.
  - Used risk management practices to anticipate problems, mitigate risks and resolve issues.
  - Prepare, submit, track, and deliver approved permits for duration of projects.

Additional Management Skills

- Educated on housing, community and economic development, and disaster recovery programs implemented at the state and/or local levels.
- Understand programs (e.g., HOME, CDBG, HUD) and cross-cutting requirements (e.g., fair housing).
- Experience with navigating local jurisdictions to ensure clear communication of goals and compliance with applicable codes, procedures, and project success.
- Experience in developing and implementing project/team processes.
- Project and personnel management skills and experience.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Excellent verbal, interpersonal and written communication skills.
- Team player with the ability to operate effectively and readily adaptable in a fast-paced environment.
- Ability to work with all levels of internal staff, as well as outside clients and consultants.
- Strong analytical, problem-solving, solution driven decision-making capabilities.
- Strong critical thinking skills, emotional intelligence with integrity and ethics.
- Proficiency in MS Office Applications (Word, PowerPoint, Outlook, Excel, Teams).
- Experienced in QuickBase, Salesforce, HRIQ, Smartsheet's, Xactimate, and Time manager.
- Experienced in grants, bids, and contracts.
- Ability to communicate effectively with both technical and non-technical audiences.
- Comfort with a remote team environment.

Key Skills

- Project Management
- Policy and Procedures
- Disaster Response & Crisis Management
- Team Building
- Risk Management

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

JAY S. WARSHAW

Charlotte, NC

Email: jamwarshaw@aol.com | Phone: 919-390-4357

Professional Summary

Experienced public affairs executive with a strong background in statewide community relations, corporate public affairs, real estate development, disaster consulting, and nonprofit program implementation. Proven leadership in multi-sector engagement and strategic communication.

Professional Experience

- President

  Warshaw & Associates Public Affairs
  - Lead a public affairs firm specializing in corporate, governmental, and nonprofit strategy and communications.

- Public Affairs Consultant

  Walmart Stores, Inc. – Public Affairs Division
  - Served as Statewide North Carolina Public Affairs Consultant for 14 years.
  - Coordinated community relations and outreach across NC supporting the development of 94 new Walmart stores.
  - Managed corporate foundation giving to hundreds of nonprofits.

- Vice President

  RP Holding Realty
  - Oversaw site selection, community/media relations, and government outreach for residential and commercial real estate development projects in eastern North Carolina.

- Disaster Consultant

  Ceres Environmental Inc.
  - Delivered advisory and execution for federally funded disaster rescue efforts post-Hurricane Florence.
  - Supported mitigation of flooding at 75+ poultry farms across a dozen NC counties.

- Senior Public Affairs Director

  JFL Enterprises
  - Provided strategic advisement and local public affairs for an education company focused on at-risk, special education, and multi-lingual student programs.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Senior Consultant

  Save Cape Lookout Foundation
  - Led project implementation for a nonprofit preserving the Cape Lookout Lighthouse.
  - Coordinated across local, state, and federal entities to address severe erosion threats.

- Communications Director

  Elizabeth Dole for U.S. Senate
  - Acted as primary spokesperson.
  - Directed internal and external communications for a statewide campaign, managing a 100-county local communications strategy.

Key Skills

- Public Affairs Strategy
- Government and Community Relations
- Nonprofit Engagement
- Disaster Recovery Consulting
- Real Estate Development Outreach
- Strategic Communications
- Education Policy Advocacy

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT B

RECOMMENDATION LETTER (FLORIDA)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Jerry and Team Excel,

I am writing to recognize Excel for their contributions to the Rebuild Florida program. You and your team's dedication to improving the program amidst the challenges of constant policy changes has been commendable. Over the past several months, Excel has made significant improvements in multiple areas. From communication, to compliance, to close out, you had your eyes on the prize, always striving to get it right. Your communication has greatly enhanced collaboration among all parties involved. Excel's ability to navigate through the complexities of complying with federal requirements showcases their professionalism to remain focused and flexible in an ever-changing environment.

Furthermore, Excel has shown excellent improvement in the timeliness in completing projects, without compromising on the quality of work. Excel has consistently delivered a final product that has exceeded the standard of 'decent', going above and beyond for applicants whenever possible.

I would like to express my sincere appreciation to Excel for the blood, sweat and tears I am sure were shed to make an impressive finish to their projects in the Rebuild Florida program! Their dedication, professionalism, and commitment to excellence have significantly contributed to the success of our program.

Once again, I extend my heartfelt gratitude to Excel for their perseverance and pursuit of excellence. Their efforts have made a lasting impact on me personally, and I truly hope that we cross paths in the future so we can excel together in the future!

Please feel free to reach out to me any time!

Shannon Shiver (she/her)
Construction Manager
IEM
Building a Safe, Secure and Resilient World
850.294.7071 (Mobile)
www.iem.com
I Think ∴ IEM

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT C

RECOMMENDATION LETTER (NORTH CAROLINA)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

To whom it may concern:

It is with much enthusiasm that I am writing to recommend the services of Excel Contractors, LLC. Excel was a key member of our Florence STEP program for the state of North Carolina where they completed the repair to 200+ houses in a timely and professional manner, focusing on the immediate restoration of services to affected residents.

Having an office in North Carolina was very helpful and staff were always available to have in person or team meetings. The management staff were easy to work with and always assisted the program in whatever was needed. Everyone on their team always conducted themselves in a very professional manner.

While effectively balancing goals of safety, quality, and homeowner satisfaction alongside program requirements to meet production and to successfully deliver assigned repairs, Excel restored confidence in the community's ability to continue to deliver services.

I have experienced firsthand that successful community recovery takes the kind of expert understanding of federal disaster recovery programs that Excel brings.

I'm happy to recommend their services. If you have any questions, please feel free to contact me.

Sincerely,

[redacted]

Kevin T. Walsh

Superintendent Supervisor

NC Office of Recovery & Resiliency

(919) 576-6449

Kevin.Walsh@NCDPS.gov

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Steve Troxler
Commissioner

North Carolina Department of Agriculture
and Consumer Services
Emergency Programs Division

Joseph W. Reardon
Assistant Commissioner
for Consumer Protection

John Howard
Director of Emergency Programs

To Whom it may concern:

Hurricane Florence struck the North Carolina coast on September 14, 2018 causing unprecedented flooding and damage to the state. The agriculture industry in NC was especially hard hit with over 1 billion dollars in lost revenue and total economic impact. As the impacts of the storm became clear, it was evident that the poultry industry was especially hard hit with over 4 million drowned chickens and turkeys in the hardest hit counties. This created a monumental public health and the environmental crisis as well impacting the local, regional and national food supply. The NC Department of Agriculture and Consumer Services contracted with several vendors for the response and recovery efforts following the storm.

One such company, Ceres Environmental, was instrumental in providing carbon materials for the cleanup efforts. Jerry Johnson was one of the project leads for Ceres and was an important reason that the project was ultimately successful. Jerry helped organize the trucking component of the response in less than one week's time and ramped up our ability to provide relief to a struggling industry. He had a great attitude, under very chaotic and stressful circumstances which helped keep strong relationships with Department staff and other vendors during the response efforts.

It was a pleasure working with Jerry during the hurricane response and I would recommend him in future projects that require strong organizational skills and a positive demeanor.

Sincerely,

[redacted]

John Howard
Director
Emergency Programs Division
North Carolina Department of Agriculture & Consumer Services
919-807-4338 (O)
919-605-1902 (C)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT D

RECOMMENDATION LETTER (PUERTO RICO)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

To Whom It May Concern at EXCEL Contractors:

It is with great confidence and appreciation that I write this letter of recommendation for Mr. Jerry Johnson and the entire EXCEL Contractors Disaster Recovery team in recognition of their outstanding work on the Puerto Rico Sheltering and Temporary Essential Power (STEP) Program, also known as *Tu Hogar Renace*. As the then client-side Project Manager for this program on behalf of the Puerto Rico Department of Housing, I had the opportunity to work closely with EXCEL from 2017 to 2020.

The STEP Program, funded by FEMA, was the largest of its kind in U.S. history and presented enormous logistical, technical, and humanitarian challenges. EXCEL was responsible for the delivery of construction services across the entire southwest region of Puerto Rico. Over the course of the program, they successfully repaired approximately 12,000 storm-damaged homes, enabling families to return to safe, habitable environments after the devastation of Hurricane María.

Throughout the project, Mr. Johnson and his team consistently demonstrated outstanding leadership, technical excellence, and a deep commitment to quality. Their ability to coordinate complex operations, often under time-sensitive and resource-constrained conditions, was remarkable. They maintained clear and effective communication with our department, collaborated seamlessly with all involved and adhered to the program's rigorous compliance and performance standards. EXCEL Contractors earned consistent performance ratings of “Very Good” to “Excellent” across all categories of assessment. Their professionalism, integrity, and results-driven approach were key to the program’s overall success and impact.

I wholeheartedly recommend Jerry Johnson and the EXCEL team for future projects of similar scale, complexity, and importance. Their performance on the STEP Program stands as a model of what skilled, mission-driven contractors can achieve under challenging circumstances.

Please feel free to contact me should you require any additional information.

Sincerely,

[redacted]

Bruce Conant
Construction Manager
Puerto Rico Department of Housing
228-234-3548
bruce.conant@tidalbasingroup.com

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT E

SAFETY MANUAL

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

ENVIRONMENTAL, HEALTH, AND SAFETY MANUAL

REVISED 2025

8641 UNITED PLAZA BOULEVARD
BATON ROUGE, LA 70809

225.408.1300

EXCELWITHUS.COM

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Table of Contents

Section 1: Policy Statement
- 1.1 Corporate Safety & Health Policy
- 1.2 Safety Program Introduction

Section 2: Administrative / Reporting & Recordkeeping
- 2.1 Accident Investigation
- 2.2 Serious or Fatal Accidents
- 2.3 Injuries/ Illnesses- General
- 2.4 Vehicle Accidents
- 2.5 Accident Summaries
- 2.6 Recordkeeping/ Forms
- 2.7 Non-Occupational Injury/Illness Procedure
- 2.8 General Procedures for Treatment of Injured Personnel
- 2.9 Company Disciplinary Action Procedure
- 2.10 Jobsite Notices and Posting Requirements
- 2.11 Safety Meetings
- 2.12 Training
- 2.13 Pre-Placement Physical Examinations
- 2.14 Motor Vehicle Operations
- 2.15 Motor Vehicle Use Policy
- 2.16 OSHA Inspections
- 2.17 Competent Person Form
- 2.18 Substance Abuse, Weapons and Contraband Policy
- 2.19 Weekly Safety Meeting Report
- 2.20 Employee Orientation Report
- 2.21 Variance Request Policy
- 2.22 Behavior-Based Safety
- 2.23 Fit for Duty
- 2.24 Reasonable Suspicion

Section 3: Responsibility
- 3.1 Safety Department
- 3.2 Site Manager
- 3.3 Supervisor
- 3.4 Site Safety
- 3.5 Employee

Section 4: General Policies and Procedures
- 4.1 Compliance Assurance
- 4.2 Subcontractor Selection
- 4.3 Emergency Evacuation (General)
- 4.4 Inclement Weather
- 4.5 Basic Safety Rules and Regulations
- 4.6 JSA Form
- 4.7 New Employee Monitoring Program
- 4.8 Short Service Employees

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.9 Safety Guidelines for Warehouse Storage
4.10 Safety Guidelines for Shop Area
4.11 Office Safety Rules
4.12 Warehouse Safety
4.13 Carpenters Shop
4.14 Pipe Shop
4.15 Structural Shop
4.16 Mechanics Shop
4.17 Paint Yard
4.18 Abrasive Blasting
4.19 Safe Work Practices
4.20 Fatigue Management
4.21 Jobsite Security
4.22 Heat Illness Prevention

Section 5: General Work Practices
5.1 Housekeeping and Material Handling
5.2 Small Tools and Equipment
5.3 Pneumatic Tools
5.4 Powder Actuated Tools
5.5 Pedestal, Bench, and Portable Grinders
5.6 Material Handling and Transporting
5.7 Material Handling and Storage
5.8 Concrete Work
5.9 Checklist for Spotters
5.10 Hydro Test Procedures
5.11 Pneumatic Test Procedures

Section 6: Specific Policies and Procedure
6.1 Work Permits
6.2 Hazard Warnings
6.3 Hazard Communication
6.4 Respiratory Protection Program
6.5 Bloodborne Pathogens
6.6 Confined Space Entry
6.7 Radiographic Work (X-Ray)
6.8 Excavation and Shoring
6.9 Isolated Work Crews
6.10 Process Safety Management
6.11 Lead Policy
6.12 Cadmium Exposure
6.13 Pressurized Water Cleaning and Cutting
6.14 HAZWOPER Policy
6.15 Benzene Policy
6.16 Asbestos Safety
6.17 Hydrogen Sulfide
6.18 Dropped Object Prevention
6.19 Knives

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

6.20 Jewelry Policy
6.21 Portable Metabo Grinders
6.22 Hexavalent Chromium Policy
6.23 Ionizing Radiation Policy
6.24 Silica Policy
6.25 Tricycle Use and Maintenance
6.26 Bicycle Hand Signals
6.27 COVID-19 Worksite Prevention
6.28 Working Over or Near Water
6.29 Breathing Air Compressor System Inspection and Isolation

Section 7: Personal Protective Equipment
7.1 Eye Protection
7.2 Head Protection
7.3 Hearing Conservation Program
7.4 Hand Protection
7.5 Foot Protection
7.6 Hair Policy
7.7 Clothing Policy
7.8 Jobsite PPE Hazard Assessment Policy

Section 8: Crane / Rigging / Lifting
8.1 Rigging and Lifting / Pick and Carry Requirements
8.2 Crane Operation and Control
8.3 Steel Erection and Dismantling
8.4 Rigging
8.5 Chain Falls and Come-A-Longs
8.6 Rigging and Lift Plan/ Procedure Requirements
8.7 Bull Rigging Guidelines

Section 9: Site Commissioning Procedure
9.1 Scope

Section 10: Mobile Equipment
10.1 Mobile Equipment Spotter and Escort
10.2 Vehicle or Equipment Spotting Pre-Task Hazard Analysis
10.3 Aerial Lifts
10.4 Forklift Safety
10.5 Equipment Operator Qualifications

Section 11: Dock Loading and Unloading Procedures
11.1 Dock Operations
11.2 Material Handling Driver Responsibilities
11.3 Dock Loading and Unloading

Section 12: Blinding/Isolation & Line Breaking/Equipment Opening
12.1 Blinding /Isolation Systems of Equipment & First Line Break
12.2 One Cut Hot Work Pipe Demo

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

12.3 Lock-Out/Tag-Out
12.4 Flange Breaking
12.5 Line Breaking, Equipment Opening, Demolition Safety Checklist

Section 13: Fall Protection/Elevated Work
13.1 Personnel Baskets /Crane Suspended Platforms
13.2 Elevated Work Platform and Grating Removal Procedure
13.3 Continuous Fall Protection
13.4 Ladders
13.5 Scaffolding
13.6 Floor Openings, Wall Openings, and Stairwells

Section 14 Oxy/Acetylene & Fire Protection Policy
14.1 Compressed Gas Cylinder Storage
14.2 Flammable and Combustible Liquids Storage
14.3 Fuel Storage Area
14.4 Oxy-Fuel Cutting / Heating
14.5 Blasting and the Use of Explosives
14.6 Fire Prevention
14.7 Fire Extinguisher Requirements
14.8 General Fire Protection

Section 15 Electrical
15.1 Electrical / Instrumentation Demolition
15.2 Assured Grounding
15.3 Electrical Safe Work Practices
15.4 Electrical Tools
15.5 Electrical Equipment and Safety

Section 16 Environmental
16.1 Environmental Management Plans
16.2 Environmental Sampling, Testing and Analysis
16.3 Waste Management Plan Guidance
16.4 Site Environmental Management Plan

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CORPORATE SAFETY & HEALTH POLICY

EXCEL's safety and health policy originates from our executive management team's steadfast commitment to the safety of our employees. Safety is our utmost concern, and no other aspect of business is more important to our company. The prevention of accidents or injuries is ultimately the responsibility of executive management. Still, every manager and supervisor must be personally committed and must instill that commitment in every employee with whom he or she works.

The EXCEL safety program consists of formal training at all levels, including executives, managers, supervisors, foremen, and crafts persons. In addition to new hire safety orientation and a mentorship program, mandatory weekly safety meetings are held on the job site to provide training and safety instruction to all EXCEL site employees. We employ many other training, planning, assessment, and auditing programs and procedures to eliminate safety risks.

The executive management of EXCEL recognizes that employee involvement in safety is imperative to the success of our program. For that reason, every employee, no matter their position or location, has been empowered to be responsible for their safety and the safety of others. All employees are required to carry an Empowerment for Safety card, which states the policy and serves as a reminder of their role in our safety program. The policy says that everyone within the EXCEL organization has the full authority to immediately stop any work activity without reprimand or reprisal that represents a potential danger to himself, his co-workers, or the public. Employees are also empowered through the program to get involved, question, rectify, and report unsafe conditions or acts that do not comply with our safety and health policies. When individuals and work groups are so engaged that their safety performance is outstanding, they are rewarded for their efforts.

EXCEL's daily activities must always be planned and performed with the cognizance and intention of eliminating all safety risks. It is not enough to state that our objective is "zero accidents and injuries" because we refer not to a statistic but to our fellow employees, whose well-being we are always concerned about. Accordingly, the management team of EXCEL is committed to implementing an effective Safety Management Program to reach that end. The team will perpetuate our strong safety culture, which is "All accidents and injuries are preventable," by providing the environment, encouragement, and support necessary to protect our employees and achieve excellence in safety performance.

This is our philosophy, our policy, and our commitment to the safety of our employees at EXCEL.

[redacted]
Dave Roberts
Chief Executive Officer

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SAFETY PROGRAM INTRODUCTION

EXCEL recognizes that there are many hazards in the construction industry. Through sound safety practices, job-related injuries may be eliminated.

Many elements must be brought together in order to achieve an effective safety program. First, there must be a commitment by management to provide the environment, encouragement, and support needed to attain excellence in safety performance. Management must provide the tools necessary to implement the program. Such tools include definitions of responsibilities, an inspection of job sites, job site meetings, safety rules, safety training, and job safety planning and accident investigation.

Employees' commitment to our safety goals is essential if the program is to succeed. Employees with outstanding safety records are recognized and rewarded.

Formal safety seminars for all supervisory personnel to the foreman level are conducted quarterly. Safety training for employees is accomplished through weekly job site safety meetings.

Should a conflict of safety practices or procedures arise between the client's rules and EXCEL's rules, the more stringent policy shall apply.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ACCIDENT INVESTIGATION

GENERAL

- Effective investigation of accidents (non-injury and injury) is the critical factor in determining the corrective actions needed to prevent recurrence. Vague and inadequate investigation reports hamper cause determination.
- In the event of a fatal accident or a severe accident, an immediate telephone report shall be made by the Project Manager or Site Safety Representative to the Company Operations Manager and the Corporate Safety Department. Such information reporting shall include:
    - Name and address of injured
    - The extent of injuries, if known
    - When injured was sent to the hospital, and the name of the hospital
    - Outline of details of incident and actions taken
    - Other investigations made
- Investigations are conducted entirely for the purpose of obtaining information, and accident reports are designed to isolate and identify accident causes in order to permit direct, positive action to prevent recurrence.
- Accident investigations shall be conducted in sufficient detail to detect the real cause of the accident and any additional cause factors.

INVESTIGATION

- Although all accidents require formal reports, all accidents should be investigated and analyzed. The best method to use is a task analysis as follows:
    - Review the assigned tasks and procedures
        - Adequacy
        - Safeguards
        - Permits
    - Review the task communications and understand
        - The worker(s)
        - Adjacent worker(s)
    - Review worker competence
        - Training
        - Task knowledge
    - Review the work area
        - Adequacy
        - Quality
- Upon the occurrence of a severe accident:
    - Secure the area to prevent tampering
    - Obtain statements from witnesses
    - Photograph the scene, if possible
    - Take necessary measurements
    - Notify the required parties, management, client, etc.
- After all facts are obtained, they should be reviewed and analyzed to determine the direct cause and additional cause factors of the accident.
- An incident investigation should strive to answer the following:
    - **WHY:** PREVENTION is the primary reason. PREVENTION is the goal of accident investigation. Your investigation should be an attempt to reveal the causes so that they may be eliminated. Eliminating causes will PREVENT a recurrence.
    - **WHAT HAPPENED:** Before the causes can be determined, you, the supervisor, must get the accurate facts of what happened. These should give a clear description of what actually

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

took place. The injured or involved person or persons are usually best able to describe what happened. Witnesses are also important. You should interview everyone involved before writing down the description.

- **WHY DID THIS HAPPEN**: Once you know what happened, you must analyze the facts and determine the causes.
  - First, you must determine the immediate cause or causes, such as someone's improper actions, faulty equipment, or other conditions that directly caused the accident or incident. More than one cause often exists, and you must give careful consideration to all possible causes. List them on your report.
  - The second part of the analysis involves some "backtracking." Think through the immediate causes you listed and try to give the reasons they existed. For example, the box that fell from a pallet of stock might be the direct cause of injury to an employee. By "backtracking," the underlying, more fundamental causes can be determined. The pallet wasn't appropriately stacked. It was stacked improperly because the boxes were wet and soggy. They were wet because a section of the roof leaked and needed repairs, or because they were unloaded on an open loading dock in the rain, etc. List as many as possible. "Backtrack" as far as possible.
- **WHAT CORRECTIVE ACTION**: After you have analyzed the causes, eliminate them. As the first-line supervisor, you can likely do a great deal on your own to eliminate causes. Give additional training in safe, proper working procedures to your workers. Correct any housekeeping problems in your area of responsibility. Check machinery more often. Indicate on the report what you can do and what you have done to prevent a recurrence. For those causes beyond your direct control (such as the leaky roof in the example above), indicate what things should be done by management to eliminate the causes. This is your chance to advise them on what should be done to improve work efficiency and eliminate possible accident-producing situations.

- Remember -- PREVENTION of recurrences is the purpose of your investigation and report. Be concise in your report. Avoid finding fault with individuals. Avoid vague, general descriptions or causes such as "carelessness." As the first-line supervisor, you are in the best position to understand the real causes of an accident or incident. Eliminating them will benefit you by providing safe working conditions for you and your workers while improving the efficiency of your crew.

REPORTS

- The required reports shall be completed in a timely manner.
- In the event a clear conclusion as to the cause is not yet determined, the reports shall be filed noting the preventative measures that shall follow.
- Written RCI corrective action.

COMMUNICATION

- A review of the accident, causal factors, and actions to be taken to prevent recurrence shall be communicated to the other workers, in addition to the required safety personnel (i.e., Client, Company, and Corporate Safety Office).

TRAINING

- Supervisors should be trained in the proper accident investigation techniques.
- The key factor in the prevention of recurrence lies not only in the implementation of better procedures but also in the training of workers in the cause of the accident and the reason for such procedures.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- An Accident Investigation Report Form should be issued and reviewed with all supervisors in order to instruct them better on accident investigation.
- Supervision should be educated in the complete recording and reporting requirements of accidents.

SECURITY INVESTIGATIONS

- To establish procedures that must be followed in the event a security violation or drug/alcohol violation takes place. Cooperation between EXCEL personnel, client personnel, and local law enforcement agencies is necessary. Such agencies include, but are not limited to, the following:
    - Local Client Security Personnel
    - Local Police or Sheriff's Department
    - Louisiana State Police Department
    - Federal Drug/Alcohol/Firearms Officers
    - Immigration and Naturalization Officers
- The Site Superintendent shall notify the Client Contractor Representative of violations of Client security and drug/alcohol-related incidents. These incidents shall include, but are not limited to, the following:
    - Sale or distribution of illegal substances
    - Consumption of alcohol or illegal drugs
    - Possession of firearms or other weapons
    - Immigration violations
- Supervision shall cooperate, to the fullest extent, with all investigative agencies involved.
- Supervision shall immediately notify EXCEL's Human Resource Department of any violations.
- EXCEL's Human Resource Department shall conduct a complete incident investigation. The Human Resource Department will interact and cooperate with all client and investigatory personnel involved and provide any information necessary to conclude the investigation.
- The Human Resource Department will complete investigation reports and include all pertinent facts related to the situation. Copies of the incident report will be forwarded to the appropriate offices, as indicated by Corporate and Client policies and contracts.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SERIOUS OR FATAL ACCIDENTS

REPORTING

- In the event of a fatal accident or a severe accident, an immediate telephone report shall be made by the Project Manager or Site Safety Representative to the Company Operations Manager and the Corporate Safety Department. Such information reporting shall include:
  - Name and address of injured
  - The extent of injuries, if known
  - When injured was sent to the hospital, and the name of the hospital
  - Outline of details of incident and actions taken
  - Other investigations made
- The Corporate Safety Manager shall immediately advise all necessary management personnel.
- Notification to the Local, State, and Federal safety and health agencies will be made by the Corporate Safety Manager, if necessary.
- Medical reports shall be coordinated through the Safety Department.

ACCIDENT INVESTIGATION

- Investigation of such incidents shall have immediate initiation by the Safety Representative or designee. Investigations shall include:
  - Securing the accident scene. No movement of material or equipment shall be made until a review of the accident is completed. (Securing of equipment or material which could result in further injury may be done.)
  - Obtaining statements from witnesses of their complete factual observations. Names and addresses of witnesses shall additionally be secured for further reference.
  - Photographs of the scene taken with a camera of 35mm quality shall be made. Ensure that adequate photos from several angles are taken. “Polaroid” type cameras should not be used unless in conjunction with a 35mm camera.
  - Release of all photos shall be coordinated through the Corporate Safety Office with proper approval.
  - An investigation committee will be formed to review the incident and question witnesses. Formation of such a committee and attendees shall be coordinated with the Safety Department.
- All photos, measurements, statements, handwritten notes, etc. shall be secured and maintained in a single file.

NEXT OF KIN NOTIFICATION

- Notification of next of kin shall be coordinated through the Safety Office, if possible.
- Notification shall be made in person by a member of management, if possible. If, in the event, the employee’s next of kin resides out of town or state, such notification should be coordinated through a local office or a law enforcement organization.

REPORTS

- A report should be completed as soon as possible.
  - Employer’s First Report of Injury
  - Employer’s Supplemental Report of Injury
- An investigation report shall be presented at the work site on the next workday.

CLIENT ASSURANCE

- The Client shall be assured that the Safety Department is professionally investigating the incident and will make the necessary program adjustments or recommendations to prevent recurrence.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

INJURIES / ILLNESSES - GENERAL

REPORTING AND RECORDING

- Reporting and recording of all injuries are a key factor in detecting trends and establishing actions to prevent recurrence. For this reason, all injuries and illnesses must be reported, recorded, and investigated.
- Responsibilities include:
  - Reporting to Site Safety Representative - Employee responsibility
  - Reporting to Management - Supervisor or Site Safety Representative responsibility
  - Recording - Supervisor or Site Safety Representative's responsibility
  - Investigating - Employees, supervisors, investigation committees, management and/or Safety Representative's responsibility
  - Analysis - Safety Representatives and Management's responsibility
  - Proper equipment for prompt transportation of the injured person to a physician or hospital or a communication system for contacting the necessary ambulance service shall be provided. -Site Manager
  - The contents of the first aid kits shall be checked before being sent out to each job and at least weekly to ensure that the expended items are replaced.
  - First aid kits shall be provided and maintained and made readily available to employees- Site Manager.
  - First aid kits shall be stored in a weatherproof container with individually sealed packages of each type of item- Site Manager or Site Safety Representative.
  - Periodic checks of the contents of the first aid kits shall be made, and the Site Manager or Site Safety Representative shall replace expended items.
  - Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities shall be provided within the work area.

FIRST AID REGISTER

- The First Aid Register is the primary project injury log. All injuries/illnesses (job-related or personal) treated or reported (actual or alleged) shall be entered into the log, no matter how minor. There are no exceptions to this recording requirement.

MEDICAL DISPOSITION FORM

- A Medical Disposition Form (Request for Medical Treatment) shall be initiated by the supervisor requesting medical treatment or Site Safety Representative and sent with the employee upon the initial visit to the doctor for treatment of the injury/illness. The physician shall complete the written portion of the disposition form.
- Distribution shall be the same as the Employer's First Report of Injury.
- Proper equipment for prompt transportation of the injured person to a physician or hospital or a communication system for contacting the necessary ambulance service shall be provided.

Employer's First Report of Injury

- An Employer's First Report of Injury Form shall be completed for all injuries that require referral to a physician for either evaluation or treatment.
- This report and required accompanying reports must be sent to the appropriate Safety Office within 24 hours following the injury/illness.
- The Project Superintendent must initial every first report of injury, signifying that he is fully aware of the accident.
- Distribution of the Employer's First Report of Injury shall be to the Corporate Safety Department unless otherwise directed.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- The Corporate Safety Department is to review the Employer's First Report of Injury and route it to the Insurance Company for review and action, as necessary.

Employer's Supplemental Report of Injury

- The Supplemental Report must be completed and sent to the Corporate Safety Department as soon as possible after any change in status of the injured employee from that reported on the Employer's First Report of Injury, or sixty (60) days after the First Report of Injury is submitted if the employee has not returned to work. Two examples of change in status are:
    - An employee starts losing time that was not expected at the time the First Report of Injury was prepared.
    - An employee has returned to work after a disabling injury.

Supervisor's Investigation Report

- Shall be utilized in the investigation, recording, and analysis of employee injuries/illnesses requiring medical attention.
- Shall be completed by the first-line supervisor as soon as possible following the incident.
- Distribution shall be the same as the Employer's First Report of Injury with the same timing.

OSHA Recordkeeping Procedures

- **Introduction:** Regulations established by the Occupational Safety and Health Act of 1970 (OSHA) require employers to prepare and maintain records of occupational injuries and illnesses. In addition, the Act requires the reporting of fatal or serious injuries to the U.S. Department of Labor. Minor injuries requiring only first aid treatment are not reported. All reports must be kept on the forms approved by the Department of Labor or applicable State forms. They must be kept current and retained for five years following the end of the calendar year to which they relate.
- **Who Reports:** When a company performs work at several locations, records must be maintained at the place where employees report to work. This means each construction project must keep the required records at its location. However, the corporate office keeps original records to provide to any requesting party or agency, including annual postings.
- **Responsibility:** THE COMPANY's superintendent and Safety Department are responsible for ensuring that the OSHA recordkeeping procedures are established and maintained.
- **Forms:** Records of occupational injury or illnesses are kept on two separate report forms. These forms are the OSHA 300 Log and Summary of Occupational Injuries and Illnesses and the Employer's Report of Occupational Injuries and Disease Form #WC-1007. When there are applicable state forms, these must be used in lieu of the Federal forms.
- **OSHA Form 300A:** All injuries and illnesses that require treatment other than first aid are reported on OSHA Form 300A. The recordability of an occupational injury or illness is defined in the instructions on the back of the form. Read these instructions carefully because not all injuries and illnesses treated by a physician are recordable. Finally, OSHA's recordkeeping and reporting requirements differ from those under the various State Worker's Compensation laws. Because they differ, employers must not substitute Worker's Compensation criteria for determining whether or not a case should be recorded for OSHA. A case or file number must identify all entries on OSHA Form 300A.
- Entry numbers must not be duplicated to facilitate comparison with supplementary records. For uniformity, number all entries consecutively, preceded by the last two digits of the year to which they relate. For example, recordable injury 26 in 1990 should be entered as 90-26. Entries must be kept current and recorded within six days of injury or illness. The Human Resource Department shall maintain the OSHA 300 log.
- **State First Report of Accident or Injury:** For each injury on OSHA Form 300A, a "State First Report of Accident or Injury" must be completed. Like Form 300A, this report must be recorded within six days of the injury or illness. This form is designed to provide additional information

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

concerning the injury or illness not previously recorded on the OSHA log. When an injury or illness is referred to a doctor or hospital for treatment, the Worker's Compensation insurance carrier's Employer's Report of Occupational Injury or Disease is accepted by the U.S. Department of Labor. Send a copy of each First Report to THE COMPANY Human Resource Manager immediately. If the injury results in being classified as non-recordable, line out the entry on the OSHA Form 300A and make an appropriate notation, e.g., "x-ray only, no broken bones, first aid only."

- **Annual Summary:** At the beginning of each year, employers are required to post a summary of all injuries and illnesses recorded on OSHA Form 300A for the preceding year. This summary must be posted by February 1 and remain there until March 1. Instructions on the back of Form 300A describe how the summary is compiled. A summary should be posted adjacent to the OSHA informational poster. A copy of the summary is sent to THE COMPANY Human Resource Department.
- **Access:** OSHA's recordkeeping requirements permit OSHA and employee access to OSHA Form 300A. This rule allows any employee, former employee, or their representative to examine and copy the OSHA Log and Summary in a reasonable manner and at appropriate times.
- **Retention:** Completed OSHA 300 Logs and State First Reports must be retained for five years following the calendar year to which they relate. Upon 100 percent completion of the project, all OSHA records are to be forwarded to THE COMPANY's Human Resource Department.
- **OSHA Information Poster:** Each job site must display OSHA's Job Safety and Health Protection Poster. The poster explains the protection and obligations of the employee under the Occupational Safety and Health Act. Projects in states with an approved state informational poster may be required to use it in lieu of the Federal poster. The OSHA informative poster must be displayed where notices are customarily posted.

Enforcement Policies and Procedures

- **Coverage:** The rule requires employers to keep records of occupational deaths, injuries, and illnesses and to make certain reports to OSHA and the Bureau of Labor Statistics. Smaller employers (with ten or fewer workers) and employers who have establishments in certain retail, service, finance, real estate, or insurance industries are not required to keep these records. However, they must report any occupational fatalities or catastrophes that occur in their establishments to OSHA, and they must participate in government surveys if they are asked to do so.
- **Forms:** Employers who operate establishments that are required by the rule to keep injury and illness records are required to complete three forms: the OSHA 300 Log of Work-Related Injuries and Illnesses, the annual OSHA 300A Summary of Work-Related Injuries and Illnesses, and the OSHA 301 Injury and Illness Incident Report. Employers are required to keep separate 300 Logs for each establishment that they operate that is expected to be in operation for one year or longer. The log must include injuries and illnesses of employees on the employer's payroll as well as injuries and illnesses of other employees the employer supervises on a day-to-day basis, such as temporary workers or contractor employees who are subject to daily supervision by the employer. Within seven calendar days of the time the fatality, injury, or illness occurred, the employer must enter any case that is work-related, is a new case, and meets one or more of the recording criteria in the rule on the Log and Form 301.
- **Work-Relationship:** Section 1904.5(a) states that "[the employer] must consider an injury or illness to be work-related if an event or exposure in the work environment either caused or contributed to the resulting condition. Work-relatedness is presumed for injuries and illnesses resulting from events or exposures occurring in the work environment…" Under this language, a case is presumed work-related if, and only if, an event or exposure in the work environment is a discernable cause of the injury or illness or a significant aggravation to a pre-existing condition. The work event or exposure need only be one of the discernable causes; it need not be the sole or predominant cause.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Section 1904.5(b)(2)(ii) states that a case is not recordable if it "involves signs or symptoms that surface at work but result solely from a non-work-related event or exposure that occurs outside of the work environment." This language is intended as a restatement of the principle expressed in section 1904.5(a), described above. Regardless of where signs or symptoms surface, a case is recordable only if a work event or exposure is a discernable cause of the injury or illness or a significant aggravation to a pre-existing condition.
- Section 1904.5(b)(3) states that if it is not obvious whether the precipitating event or exposure occurred in the work environment or elsewhere, the employer "must evaluate the employee's work duties and environment to decide whether or not one or more events or exposures in the work environment caused or contributed to the resulting condition or significantly aggravated a pre-existing condition." This means that the employer must determine whether it is more likely than not that work events or exposures were a cause of the injury or illness or a significant aggravation to a pre-existing condition. If the employer decides the case is not work-related, and OSHA subsequently issues a citation for failure to record, the government has the burden of proving that the injury or illness was work-related.
- **New Case:** Only new cases are recordable. Work-related injuries and illnesses are considered to be new cases when the employee has never reported similar signs or symptoms before or when the employee has entirely recovered from a previous injury or illness and workplace events or exposures have caused the signs or symptoms to reappear.
- **General Recording Criteria:** Employers must record new work-related injuries or illnesses that meet one or more of the general recording criteria or meet the recording criteria for specific types of conditions. Recordable work-related injuries and illnesses are those that result in one or more of the following:
    - Death,
    - Days away from work,
    - Restricted work,
    - Transfer to another job,
    - Medical treatment beyond first aid,
    - Loss of consciousness, or
    - Diagnosis of a significant injury or illness
- Employers must classify each case on the 300 Log in accordance with the most serious outcome associated with the case. The outcomes listed on the form are death, days away, restricted work/transfer, and "other recordable." For cases resulting in days away or a work restriction or transfer of the employee, the employer must count the number of calendar days involved and enter the total on the form. The employer may stop counting when the total number of days away, restricted, or transferred reaches 180.
- **Restricted Work:** An employee's work is considered restricted when, as a result of a work-related injury or illness, (A) the employer keeps the employee from performing one or more of the routine functions of their job (job functions that the employee regularly performs at least once per week), or from working the entire workday that they would otherwise have been scheduled to work, or (B) a physician or other licensed healthcare professional recommends that the employee not perform one or more of the routine functions of their job, or not work the entire workday that they would otherwise have been scheduled to work. The new rule continues the policy established under the old rule that a case is not recordable under section 1904.7(b)(4) as a restricted work case if the employee experiences minor musculoskeletal discomfort, a health care professional determines that the employee is fully able to perform all of their routine job functions. The employer assigns a work restriction to that employee for the purpose of preventing a more serious condition from developing.
- **Medical Treatment:** Medical treatment means any treatment not contained in the list of first aid treatments. Medical treatment does not include visits to a healthcare professional for observation and counseling or diagnostic procedures. First aid means only those treatments specifically listed

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

in 1904.7. Examples of first aid include the use of non-prescription medications at non-prescription strength, the application of hot or cold therapy, eye patches or finger guards, and others.

- **Diagnosis of a Significant Injury or Illness:** A work-related cancer, chronic irreversible disease such as silicosis or byssinosis, punctured eardrum, or fractured or cracked bone is a significant injury or illness that must be recorded when diagnosed by a physician or a licensed health care professional.
- **Recording Injuries and Illnesses to Soft Tissues:** Work-related injuries and illnesses involving muscles, nerves, tendons, ligaments, joints, cartilage, and spinal discs are recordable under the same requirements applicable to any other type of injury or illness. There are no special rules for recording these cases: if the case is work-related and involves medical treatment, days away, job transfer, or restricted work, it is recordable.
- **Employee Privacy:** The employer must protect the privacy of injured or ill employees when recording cases. In certain types of cases, such as those involving mental illness or sexual assault, the employer may not enter the injured or ill employee's name on the log. Instead, the employer enters a "privacy case" and keeps a separate, confidential list containing the identifying information. If the employer provides the OSHA records to anyone who is not entitled to access to the records under the rule, the names of all injured and ill employees generally must be removed before the records are turned over.
- **Certification, Summarization, and Posting:** After the end of the year, employers must review the log to verify its accuracy, summarize the 300 Log information on the 300A summary form, and certify the summary (a company executive must sign the certification). This information must then be posted for three months, from February 1 to April 30. The employer must keep the records from five years following the calendar year covered by them, and if the employer sells the business, they must transfer the records to the new owner.
- **Employee Involvement:** Each employer must set up a way for employees to report work-related injuries and illnesses, and each employee must be informed about how they are to report an injury or illness. Employees, former employees, and employee representatives also have a right to access the records, and an employer must provide copies of certain records upon request.
- **Reporting:** The employer must orally report within 8 hours work-related fatalities and incidents involving the hospitalization of three or more employees to the nearest OSHA office or the OSHA Hotline at 1-800-321-OSHA. There is an exception for certain motor vehicle or public transportation accidents. An employer also must participate in an OSHA or BLS injury and illness survey if they receive a survey form from OSHA or the BLS.

INSPECTION AND CITATION PROCEDURES

- **Review Records and Collect Data:** All CSHOs on all inspections must review and record the establishment's injury and illness record for the three prior calendar years in accordance with the Deputy Assistant Secretary's Memorandum to Regional Administrators dated June 21, 1996, regarding FIRM Change: Mandatory Collection of OSHA 200 and Lost Workday Injury and Illness (LWDII) Data During Inspections. Following a records review, the CSHO may expand the inspection as described in Chapter II, paragraph A.1.b. of the FIRM (CPL 2.103).
- At the end of this chapter are some tools to assist the compliance officer: Figure 2-1 has a Compliance Officer Checklist; Figure 2-2 has a blank Optional Violation Documentation Worksheet; Figure 2-3 has a completed sample Optional Violation Documentation Worksheet; and Figure 2-4 has the Health Care Practitioner's Abbreviations.
- For all inspections, except for construction, as part of the CSHO's case preparation, the CSHO must obtain any OSHA Data Initiative (ODI) survey information available on the establishment from www.ergweb3.com:8087 (site shall require username and password). During the inspection, the CSHO shall compare this data with the OSHA 200 or OSHA 300 logs for the three prior calendar years at the establishment. Note: The first ODI for construction establishments shall collect the 2001 injury and illness data in 2002; the data shall be available in 2003.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Citations and Penalties for Violation of Part 1904 Requirements: The following incorporates paragraph G.2. of OSHA Instruction CPL 2.111 and supersedes and replaces Paragraph C.2.n.(2)(b), and Paragraphs C.2.n.(3), (4), and (5)(a) in Chapter IV of the FIRM (CPL 2.103).

1. **OSHA 300 and OSHA 301 Forms:** The employer must record cases on the OSHA 300 Log of Work-Related Injuries and Illnesses and the OSHA 301 Incident Report (or equivalent form), as prescribed in Subpart C of §1904. Where no records are kept, and there have been injuries or illnesses that meet the requirements for recordability, as determined by other records or by employee interviews, a citation for failure to keep records shall typically be issued.
   - When the required records are kept but no entry is made for a specific injury or illness that meets the requirements for recordability, a citation for failure to record the case shall typically be issued.
   - Where no records are kept, and there have been no injuries or illnesses, as determined by employee interviews, a citation shall not be issued. See II B.2. regarding OSHA 300A, Annual Summary.
   - When the required records are kept but have not been completed with the detail required by the regulation, or the records contain minor inaccuracies, the records shall be reviewed to determine if there are deficiencies that materially impair the understandability of the nature of hazards, injuries, and illnesses in the workplace.
   - If the defects in the records materially impair the understandability of the nature of the hazards, injuries, and/or illnesses at the workplace, an other-than-serious citation shall typically be issued.
   - **Incompletely Recorded Cases on the OSHA 300 or 301**: If the deficiencies do not materially impair the understandability of the information, usually, no citation shall be issued. For example, an employer should not be cited solely for misclassifying an injury as an illness or vice versa. The employer shall be provided information on keeping the records for the employer's analysis of workplace injury trends and on the means to keep the records accurately. The employer's promised actions to correct the deficiencies shall be recorded, and no citation shall be issued.
   - **On Citation Item Per Form:** Except for violation-by-violation citations pursuant to OSHA Instruction CPL 2.80, recordkeeping citations for improper recording of a case shall be limited to a maximum of one citation item per form per year. This applies to both the OSHA 300 and the OSHA 301. Where the conditions for citation are met, an employer's failure to accurately complete the OSHA 300 Log for a given year would generally result in one citation item. Similarly, an employer's failure to accurately complete the OSHA 301, or equivalent, would typically result in one citation item. Multiple cases that are unrecorded or inaccurately recorded on the OSHA 300 or 301s during a particular year shall usually be reflected as instances of violation under that citation item.
   - For example, A single citation item for an OSHA 300 violation would result from a case where the employer did not correctly count the days away, checked the wrong column, and did not adequately describe the injury or illness, or where the employer in several cases checked the wrong columns and/or did not adequately describe the injury or illness, and these errors materially impair the understandability of the nature of the hazards, injuries and/or illnesses at the workplace. Note: As stated above, an employer should not be cited solely for misclassifying injuries as illnesses or vice versa.
   - For example, A single citation item for an OSHA 301 violation would result where OSHA 301s had not been completed or where so little information had been put on the 301s for multiple cases as to make the 301s materially deficient.
   - **Penalties**: When a penalty is appropriate, there shall be an unadjusted penalty of $1,000 for each year the OSHA 300 was not correctly kept; an unadjusted penalty of $1,000 for each OSHA 301 that was not filled out at all (up to a maximum of $7,000); and an unadjusted penalty of $1,000 for each OSHA 301 that was not accurately completed (up to a maximum of $3,000).
   - Where citations are issued, penalties shall be proposed only in the following cases:
     - Where OSHA can document that the employer was previously informed of the requirements to keep records or,

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Where the employer's deliberate decision to deviate from the recordkeeping requirements or the employer's plain indifference to the requirements can be documented

2. **Posting Annual Summary Requirements:** An other-than-serious citation shall typically be issued if an employer fails to post the OSHA 300A Summary by February as required by §1904.32(a)(1) and/or fails to certify the summary as required by §1904.32(b)(3); and/or fails to keep it posted for three months, until May 1, as required by §1904.32(b)(6). The unadjusted penalty for this violation shall be $1,000.
   - A citation shall not be issued if the summary that is not posted or certified reflects no injuries or illnesses and no injuries or illnesses actually occurred. The CSHO shall verify that there were no recordable injuries or illnesses by interviews or by review of workers' compensation or other records, including medical records.

3. **Reporting:** In accordance with §1904.39, an employer is required to report to OSHA within 8 hours of the time the employer learns of the death of any employee or the inpatient hospitalization of three or more employees from a work-related incident. This includes fatalities at work caused by work-related heart attacks. There is an exception for certain work-related motor vehicle accidents or public transportation accidents.
   - The employer must orally report the fatality or multiple hospitalizations by telephone or in-person to the OSHA Area Office (or State Plan office) that is nearest to the site of the incident. OSHA's toll-free telephone number may be used: 1-800-321-OSHA (1-800-321-6472).
   - An other-than-serious citation shall generally be issued for failure to report such an occurrence. The unadjusted penalty shall be $5,000.
   - If the Area Director determines that it is appropriate to achieve the necessary deterrent effect, the unadjusted penalty may be $7,000.
   - If the Area Director becomes aware of an incident required to be reported under §1904.39 through some means other than an employer report prior to the elapse of the 8-hour reporting period and an inspection of the incident is made, a citation for failure to report will typically not be issued.

4. **Access to Records for Employees:** If the employer fails upon request to provide copies of records required in §1904.29(a) to any employee, former employee, personal representative, or authorized employee representative by the end of the next business day, a citation for violation of §1904.35(b)(2) shall be issued. The unadjusted penalty shall be $1,000 for each form not made available.
   - For example, If the OSHA 300 or the OSHA 300A for the current year and the three preceding years are not made available, the unadjusted penalty shall be $4,000.
   - If the employer does not make the OSHA 301s available, the unadjusted penalty shall be $1,000 for each OSHA 301 not provided, up to a maximum of $7,000.
   - If the employer is to be cited for failure to keep records (OSHA 300, OSHA 300A, or OSHA 301) under §1904.4, no citation for failure to give access under §1904.35(b)(2) shall be issued.
   - **Willful, Significant, and Egregious Cases:** When a CSHO determines that there may be significant recordkeeping deficiencies, it may be appropriate to make a referral for a recordkeeping inspection or to contact the Region's Recordkeeping Coordinator for guidance and assistance.
   - **Willful and Significant Cases:** All willful recordkeeping cases and all significant cases with major recordkeeping violations shall be initially reviewed by the Region's Recordkeeping Coordinator.
   - **Egregious Cases**: When willful violations are apparent, violation-by-violation citations and penalties may be proposed in accordance with OSHA's egregious policy as stated in OSHA Instruction CPL 2.80
   - **Enforcement Procedures for Occupational Exposure to Bloodborne Pathogens:** Compliance guidance given in paragraph X of OSHA Instruction CPL 2-2.44D is superseded by 29 CFR 1904.8 (Recording Criteria for Needlestick and Sharps Injuries) of the new Recordkeeping rule.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- In addition, the term "contaminated" under 29 CFR 1904.8, Recording Criteria for Needlestick and Sharps Injuries, incorporates the definition of "contaminated" from the Bloodborne Pathogens Standard at 29 CFR 1910.1030 (b) ("Definitions"). Thus, "contaminated" means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.
- Employers may use the OSHA 300 and 301 forms to meet the sharps injury log requirement of §1910.1030(h)(5) if the employer enters the type and brand of the device causing the sharps injury on the log and maintains the records in a way that segregates sharps injuries from other types of work-related injuries and illnesses or allows sharps injuries to be easily separated.
- **Enforcement Procedures for Occupational Exposure to Tuberculosis:** Compliance guidance given in paragraph L.5. of OSHA Instruction CPL 2.106 is superseded by 29 CFR 1904.11 (Recording Criteria for Work-Related Tuberculosis Cases) of the new Recordkeeping rule.
- **Clarification of Recordkeeping Citation Policy in the Construction Industry:** Compliance guidance given in paragraph E.6. of OSHA Instruction STD 3-1.1 is superseded by CFR 1904.30 (Multiple Business Establishments) and 1904.31 (Covered Employees) of the new Recordkeeping rule.
- **Recording Criteria for Cases Involving Medical Removal:** Section 1904.9 requires the employer to record the case on the OSHA 300 Log if an employee is medically removed under the medical surveillance requirements of an OSHA standard. Currently, the medical surveillance requirements of the following standards have medical removal requirements:
    - Benzene: General industry standard (§1910.1028(i)); Shipyard standard (§1915.1028); and Construction standard (§1926.1128)
    - Cadmium: General industry standard (§1910.1027(l)); Shipyard standard (§1915.1027); and Construction standard (§1926.1127)
    - Formaldehyde: General industry standard (§1910.1048(l)); Shipyard standard (§1915.1048); and Construction standard (§1926.1148)
    - Lead: General industry standard (§1910.1025); Shipyard standard (§1915.1025); and Construction standard (§1926.62)
    - Metheylenedianiline: General industry standard (§1910.1050(m)); Shipyard standard (§1915.1050); and Construction standard (§1926.60(n))
    - Methylene Chloride: General industry standard (§1910.1052(j)); Shipyard standard (§1915.1052); and Construction standard (§1926.1152)
    - Vinyl Chloride: General industry standard (§1910.1017(k)); Shipyard standard (§1915.1517); and Construction standard (§1926.1117)
- Privacy Concern Cases: The new rule at §1904.29(b)(6) through (10) requires the employer to protect the privacy of the injured or ill employee. The employer must not enter an employee's name on the OSHA 300 Log when recording a privacy case. The employer must keep a separate, confidential list of the case numbers and employee names and provide it to the government upon request. If the work-related injury involves any of the following, it is to be treated as a privacy case:
    - An injury or illness to an intimate body part or the reproductive system;
    - An injury or illness resulting from a sexual assault;
    - A mental illness;
    - HIV infection, Hepatitis, or Tuberculosis;
    - Needlestick and sharps injuries that are contaminated with another person's blood or other potentially infectious material as defined by §1910.1030 or
    - Other illnesses, if the employee independently and voluntarily requests that their name not be entered on the OSHA 300 Log. (This does not apply to injuries. See the definition of "Injury and Illness" in §1904.46.) Note: This is a complete list.

PHYSICIAN OR OTHER LICENSED HEALTH CARE PROVIDER'S OPINION

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- In cases where two or more physicians or other licensed health care providers make conflicting or differing recommendations, the employer must decide which recommendation is the most authoritative (best documented, best reasoned, or most persuasive) and record based on that recommendation.

EMPLOYERS EXEMPT AND PARTIALLY EXEMPT

- **Federal Agencies**: Except for the United States Postal Service, federal agencies do not have to maintain OSHA injury and illness records under Part 1904. Federal Agencies have separate recordkeeping requirements under 29 CFR Part 1960.
- **OSHA and BLS Surveys**: All employers who receive the OSHA annual survey form, or the BLS Survey of Occupational Injuries and Illnesses From, are required to complete and return the survey forms in accordance with §§1904.41 and 1904.42. This requirement also applies to those establishments under the small establishment exemption and the low hazard industry exemption.
- **Small Employer Exemption**: Since 1977, the regulations have exempted employers with ten or fewer employees at all times during the last calendar year from the regular recordkeeping requirements. The new rule at §1904.1 continues this smaller employer exemption.
- **Low-Hazard Industry Exemption**: Since 1982, OSHA has exempted some low-hazard industries from maintaining injury and illness records on a regular basis. The new rule updates the old rule's listing of partially exempted low-hazard industries, which are those Standard Industrial Classification (SIC) code industries within SICs 52-89 that have an average Days Away, Restricted, or Transferred (DART) rate at or below 75% of the national average DART rate. The new rule at §1904.2 continues this low-hazard industry exemption.
- See Figure 2-5 at the end of the chapter for the list of Partially Exempt Industries. Note: In the new rule, the description of some industry groups is abridged in the chart in Appendix A. Industries that are not listed, such as Music Stores in SIC 573, are nevertheless intended to be included in the list. Consult the Standard Industrial Classification Manual 1987 for a complete description of each industry included in each industry group. See also Figures 2-6 for a list of newly covered industries and Figures 2-7 for a list of newly partially exempted industries.

REFERENCES TO OLD FORMS AND THE LWDI/LWDII

- Beginning January 1, 2002, references in any OSHA directive, memorandum, or other publication to the recordkeeping forms shall be considered as references to the OSHA 300, 301, and 300A unless it is clear that the reference is to the forms used before January 1, 2002. Also, all references to the Lost Workday Injury (LWDI) rate or the Lost Workday Injury and Illness (LWDII) rate shall be considered to be a reference to the Days Away, Restricted, or Transferred (DART) rate unless it is clear that the reference is to the rate in use prior to January 1, 2002.

PROHIBITION AGAINST DISCRIMINATION

- Section 1904.36 is informational only and is not a citable provision of the regulation. Any discrimination cases related to this rule are to be handled using the standard process under Section 11© of the OSH Act.

DEFINITIONS

- **Days Away, Restricted, or Transferred (DART) Rate:** This includes cases involving days away from work, restricted work activity, and transfers to another job and is calculated based on (N/EH) x (200,000) where N is the number of cases involving days away and/or job transfer or restriction, EH is the total number of hours worked by all employees during the calendar year, and 200,000 is the base for 100 full-time equivalent employees. For example:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Employees of an establishment (XYZ Company), including temporary and leased workers, worked 645,089 hours at XYZ Company. There were 22 injury and illness cases involving days away and/or restricted work activity and/or job transfer from the OSHA 300 Log (total of column H plus column I). The DART rate would be (22/645,089) x (200,000) = 6.8.
- Note: The DART rate shall replace the Lost Workday Injury and Illness (LWDII) rate. See Figure 2-8 at the end of this chapter for an optional Incidence Rate Worksheet.

- **Establishment:** An establishment is a single physical location where business is conducted or where services or industrial operations are performed. For activities where employees do not work at a single physical location, such as construction; transportation; communications, electric, gas, and sanitary services; and similar operations, the establishment is represented by main or branch offices, terminals, stations, etc. that either supervise such activities or are the base from which personnel carry out these activities.

1. Typically, one business location has only one establishment. Under limited conditions, the employer may consider two or more separate businesses that share a single location to be separate establishments. An employer may divide one location into two or more establishments when:
   - Each of the establishments represents a distinctly separate business;
   - Each business is engaged in a different economic activity;
   - No one industry description in the Standard Industrial Classification Manual (1987) applies to the joint activities of the establishments, and
   - Separate reports are routinely prepared for each establishment on the number of employees, their wages and salaries, sales or receipts, and other business information.
   - For example, If an employer operates a construction company at the same location as a lumber yard, the employer may consider each business to be a separate establishment.
2. An establishment can include more than one physical location, but only under certain conditions. An employer may combine two or more physical locations into a single establishment only when:
   - The employer operates the locations as a single business operation under common management;
   - The locations are all located in close proximity to each other, and
   - The employer keeps one set of business records for the locations, such as records on the number of employees, their wages and salaries, sales or receipts, and other kinds of business information.
   - For example, One manufacturing establishment might include the main plant, a warehouse a few blocks away, and an administrative services building across the street.
   - For employees who telecommute from home, the employee's home is not a business establishment, and a separate 300 Log is not required. Employees who telecommute shall be linked to one of the employer's establishments under §1904.30(b)(3).
3. Construction work sites that are scheduled to continue for a year or more:
   - A separate OSHA 300 Log must be maintained for each establishment.
   - The log may be maintained either.
     - At the construction site, or
     - At an established central location, the employer can:
       - Transmit information about the injuries and illnesses from the establishment to the central location within seven (7) calendar days of receiving information that a recordable injury or illness has occurred and
       - Produce and send records from the central location to the establishment within four business hours when the employer is required to provide them to a government representative by the end of the next business day when

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

providing records to an employee, former employee, or employee representative.

4. Construction work sites that are scheduled to continue for less than a year:
   - A separate OSHA 300 Log need not be maintained for each establishment.
   - One OSHA 300 Log may be maintained to cover the following:
     - All such short-term establishments or
     - All such short-term establishments within company divisions or geographic regions.
   - The log may be maintained at the establishment or a central location under the given in 3.a.(2) above.

- **First Aid:** As stated in §1904.7(b)(5)(ii), first aid means only the following treatments (any treatment not included in this list is not considered first aid for recordkeeping purposes): (a) Using a non-prescription medication at non-prescription strength; (b) Administering tetanus immunizations; (c) Cleaning, flushing or soaking wounds on the surface of the skin; (d) Using wound coverings such as bandages, Band-Aids?, gauze pads, etc.; or using butterfly bandages or Steri-Strips?; (e) Using hot or cold therapy; (f) Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back bets, etc.; (g) Using temporary immobilization devices while transporting an accident victim; (h) Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister; (i) Using eye patches; (j) Removing foreign bodies from the eye using only irrigation or a cotton swab; (k) Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means; (l) Using finger guards; (m) Using massages; or (n) Drinking fluids for relief of heat stress.
- **Injuries and Illnesses:** An injury or illness is an abnormal condition or disorder. Injuries include cases such as, but not limited to, a cut, fracture, sprain, or amputation. Illnesses include both acute and chronic illnesses, such as, but not limited to, a skin disease, respiratory disorder, or poisoning. (Note: Injuries and illnesses are recordable only if they are new, work-related cases that meet one or more of the Part 1904 recording criteria.)
  - Note: The distinction between injury and illness is no longer a factor for determining which cases are recordable.
- **Medical Treatment:** Medical treatment means the management and care of a patient to combat disease or disorder. For recordkeeping purposes, it does not include (a) visits to a physician or other licensed healthcare professional solely for observation or counseling; (b) diagnostic procedures such as x-rays and blood tests, including the administration of prescription medications used solely for diagnostic purposes (e.g., eyedrops to dilate pupils); or (c) any treatment contained on the list of first-aid treatments.
- **Other Potentially Infectious Material (OPIM):** For purposes of 29 CFR Part 1904, this term has the same meaning as in OSHA's bloodborne pathogens standard at 29 CFR §1910.1030, which defines OPIM as (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV - or HBV – containing culture medium or other solutions; and blood, organ, or other tissues from experimental animals infected with HIV or HBV.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

VEHICLE ACCIDENTS

REPORTING

- An Automobile Accident Report Form shall be kept in all company vehicles utilized for offsite services.
- The form shall be completed by the driver of the vehicle in conjunction with his supervisor and the project superintendent and forwarded to the safety department within 24 hours after the accident.
- In the event of a fatal accident or serious accident, an immediate telephone report shall be made by the Project Manager or Site Safety Representative to the Company Operations Manager and the Corporate Safety Department.
- Such information reporting shall include:
    - Name and address of injured
    - The extent of injuries, if known
    - When injured was sent to the hospital, and the name of the hospital
    - Outline of details of incident and actions taken
    - Other investigations made

REQUIREMENTS

- The report shall be filed when a company vehicle is involved in an accident.
- The form shall also be used in filing reports of accidents involving equipment vehicles (onsite or offsite) such as cherry pickers, backhoes, trucks, cars, etc.

DISTRIBUTION

Distribution of the Automobile Accident Report shall be to the Corporate Safety Department unless otherwise directed.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ACCIDENT SUMMARIES

PURPOSE

- A Cumulative Summary of Injuries and Lost Time shall be prepared by the designated safety representative and reviewed by the Corporate Safety Department. The report is a statistical analysis of the total company.
- Distribution
  - Company files
  - Corporate Management
- Statistics
  - Manhours: This shall be a total of both the direct and indirect project personnel.
  - Calculation basis: The rates calculated for incidence and severity rates are based on 200,000 employee hours worked (100 employees X 40 hours per week X 50 weeks).

  - Incident Rate = $\frac{\text{Number of OSHA Recordable Cases X 200,000}}{\text{Manhours for Period}}$

  - Severity Rate (Lost Work Days) = $\frac{\text{Total days lost X 200,000}}{\text{Manhours for Period}}$

  - Frequency Rate (Lost Work Day Cases) = $\frac{\text{Total OSHA lost workday cases X 1,000,000}}{\text{Manhours for Period}}$

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RECORDKEEPING / FORMS

GENERAL

- It shall be the responsibility of the Site Safety Representative and/or Site Superintendent to comply with requirements for reporting to OSHA, Federal, State, Client, and EXCEL. Various clients will request the use of additional reporting forms and utilize additional statistical calculations.

REPORT FORMS

- The following report forms are provided on subsequent pages:
  - First Aid Register
  - Medical Disposition Report
  - Supervisor's Investigation Report
  - OSHA Form 301
  - OSHA 300 Log
  - Auto Accident Report
  - Cumulative Summary of Injuries & Lost Time
  - Crane Inspection Report
  - Come-a-long and Chainfalls Inspection Report
  - Drum Hoist (Air Tuggers, Winch Trucks, etc.)
  - Respiratory Fitting & Training Record
  - Ground Fault Circuit Interrupter
  - Aerial Lifts (JLG, Candor, Scissors, etc.)
  - Fire Protection Equipment
  - Forklift - Daily Safety Checklist
  - Weekly Safety Meeting Information & Attendees
  - Hazard Communication Training
  - SDS Listing
  - Hearing Conservation Training
  - Employee Orientation
  - Near Miss
  - Safety Suggestion Form
  - Hazard Identification Form
  - Record of Training
  - Emergency Phone Numbers
  - Confined Space Entry Log
  - Medical Refusal
  - Elevated Work Platform Inspection Checklist
  - Floor Grating Removal Permit
  - JSA Form
  - New OSHA 300 Form
  - Statement of Witness
  - Statement of Employee
  - Addendum to JSA
  - Employee Warning Notice
  - Safety Audit Form
  - Weekly Safety Report

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FIRST AID REGISTER

- All job-related injuries/illnesses reported to the Site Safety Representative shall be logged.

INSTRUCTIONS

- Top Section
  - *Job Number:* Assigned project number
  - *Date*: Reporting period
  - *Location*: Client Name

- Body
  - *Date/Time*: Date and time of occurrence
  - *Name*: Name of injured employee
  - *SSN:* Social Security Number of injured employee
  - *Foreman/Supervisor:* First-line supervisor of employee
  - *Injury/Illness:* Reported injury/illness (if reported late, note that on the form)
  - *Description of Accident:* Location (work area) on a project where the incident occurred with specific details, if any
  - *Treatment Rendered*: Type of treatment given

- Legend
  - FAV – First aid visit only
  - RTW – Employee returned to work after treatment (either first aid or doctor visit)
  - DV – Doctor visit required
  - LTA – Injury resulted in lost time

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FIRST AID REGISTER

Job #: _____ Date: _____

Location: _____

Date/Time	Name	SSN	Foreman/ Supervisor	Injury/Illness	Description of Accident	Treatment	Legend*			
							FAV	RTW	DV	LTA

* FAV – First Aid Visit RTW – Return to Work DV – Doctor Visit LTA – Lost Time Accident

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

MEDICAL DISPOSITION FORM

Contractor: _____

AUTHORIZATION FOR MEDICAL TREATMENT

Date: _____

To: Dr. _____ Address: _____

This form, signed by our representative and containing all required data to be supplied by him, as outlined below, is your authority to render treatment to:

_____ _____
Employee Address

In accordance with the provisions and under the conditions prescribed by the Workmen's Compensation Act. Unless the case is an emergency, kindly obtain authorization from the insurance carrier for surgery, radical procedures, or hospitalization. Send your bill and report in triplicate to us at the address listed below. THE COMPANY requires all employees with doctor-treatable, work-related injuries or illnesses to submit to a post-accident drug/alcohol screen.

EXCEL
Post Office Box 87410
Baton Rouge, LA 70879-8410

By: _____
Authorized Representative

DATA TO BE SUPPLIED BY OUR AUTHORIZED REPRESENTATIVE

Date of Injury _____ Job Number _____ Location _____

Time employee left job site _____ am/pm Time employee returned _____ am/pm

---

FOR DOCTOR'S USE ONLY

Note: Please furnish the following information on two copies of this form. Return one copy to the Authorized Representative and mail one copy immediately after treatment of the above-named employee to:

_____

_____

Patient arrived at your office _____ am/pm Released _____ am/pm

Nature of injury _____

Disposition of patient: (check applicable box or boxes)

- ☐ Able to resume his regular duties.
- ☐ Unable to return to work.
- ☐ Disabled for approximately _____ days.
- ☐ To return for reevaluation on _____.

By _____ MD
Date _____
Arrival Time _____
Departure _____

- ☐ Occupational
- ☐ Non-Occupational

If the patient was sent home or admitted to the hospital, please estimate the length of disability.

_____ _____
Doctor's Signature

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SUPERVISOR'S INVESTIGATION REPORT

- A Supervisor's Investigation Report is required for:
  - Every injury requires treatment
  - Non-injury incidents

DISPOSITION:

- Medical treatment injuries:
  - Employee medical file (site) - 1 copy
  - Manager of Safety - 1 copy
  - Corporate Insurance & Safety - 1 copy (attached to Employer's First Report of Injury)

- Non-injury incidents of serious potential:
  - Site incident file - 1 copy
  - Manager of Safety - 1 copy

INSTRUCTIONS:

- *Client:* Client company
- *Project Number*: Assigned project number
- *Name*: Name of injured party/not required if a non-injury incident report
- *Supervisor*: Supervisor directing employee or task
- *Date*: Date of occurrence
- *Age*: Age of injured
- *Location*: The location of the project where the incident occurred
- *Time*: Time of occurrence
- *Skill*: Primary skill within which the incident occurred.
- *Property Damage*: Was it involved?
- *What Happened*: Facts revealed as to how the incident occurred
- *Nature of Injury*: What was the injury, if any
- *Injury Potential*: Was the potential there for serious or major injury?
- *Why did this happen*: Facts revealed through investigation as to the injury cause.
- *Possibility of recurrence*: Is the potential there?
- *What corrective action has been/will be taken*: Retraining, equipment change, procedure change?

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SUPERVISOR'S INVESTIGATION REPORT

Name: _____ Craft: _____ Project #: _____

Age: _____ Location: _____ Date: _____

Supervisor: _____ Time: _____

Property Damage? _____ YES _____ NO

What Happened? _____

_____

_____

_____

Nature of Injury: _____

_____

_____

Injury Potential: _____ Major _____ Serious _____ Minor

Why did this happen? _____

_____

_____

_____

Possibility of Recurrence? _____ Often _____ Seldom _____ Rarely

What corrective action has been/will be taken? _____

_____

_____

Staff Supervisor: _____

Superintendent: _____

Report written by: _____

Date of Report: _____ Time of Report: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CLASSIFICATION OF CAUSES

PRIMARY OR ULTIMATE CAUSE (check only one)

	Client	Contractor	Other
Procedure Established - Not Followed	_____	_____	_____
Procedure Established - Not Adequate	_____	_____	_____
Procedure Not Established	_____	_____	_____

	Instrument	Rotating Equipment	Piping & Valves	Other
Equipment Failure	_____	_____	_____	_____
Improper Design	_____	_____	_____	_____
Other	_____	_____	_____	_____

UNDERLYING OR CONTRIBUTING CAUSES (Check maximum of 3 and rank)

__ Deficiency of design or layout
__ Improper or deficient construction
__ Lack of proper instrumentation
__ Poor mechanical maintenance
__ Poor electrical maintenance
__ Poor instrument maintenance
__ Deferred maintenance
__ Inadequate inspection
__ Poor housekeeping
__ Corrosion
__ Erosion
__ Pipe or welding defect
__ Utility failure (specify)
__ Cause beyond control of the operating company
__ Other (describe)

__ Lack of adequate firing banks or spill walls
__ Delayed discovery
__ Poor storage practice
__ Poor operational practice
__ Human error
__ Lack of manpower
__ Weather
__ Widespread flames upon ignition
__ Inadequate spacing
__ Inadequate drainage
__ Malfunction of equipment
__ Inadequate organization, training
__ Lack of adequate fire fighting equipment
__ Electrical short circuit

Prepared by: _____ Date: _____

The safety director is requested to check the statement below, which most nearly represents his judgment regarding the incident:

__ A. An isolated incident, not arising from a general deficiency. Corrective action is limited to the operation or persons involved.
__ B. Further investigation or corrective action should be limited to this department.
__ C. The direct or underlying cause of this incident arises from a general deficiency for which broader-based corrective action is needed.

Approved by: _____ Date: _____

Recommended for Review by OSC ___ Yes ___ No

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

OSHA's Form 301
Injuries and Illnesses Incident Report

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

This *Injury and Illness Incident Report* is one of the first forms you must fill out when a recordable work-related injury or illness has occurred. Together with the *Log of Work-Related Injuries and Illnesses* and the accompanying *Summary*, these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-596 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 5 years following the year to which it pertains

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by _____

Title _____

Phone _____ Date _____

Information about the employee

1) Full Name _____

2) Street _____

City _____ State _____ Zip _____

3) Date of birth _____

4) Date hired _____

5) ☐ Male
☐ Female

Information about the physician or other health care professional

6) Name of physician or other health care professional

_____

_____

7) If treatment was given away from the worksite, where was it given?

Facility _____

Street _____

City _____ State _____ Zip _____

8) Was employee treated in an emergency room?
☐ Yes
☐ No

9) Was employee hospitalized overnight as an in-patient?
☐ Yes
☐ No

Information about the case

10) Case number from the Log _____ *(Transfer the case number from the Log after you record the case.)*

11) Date of injury or illness _____

12) Time employee began work _____ AM/PM

13) Time of event _____ AM/PM ☐ Check if time cannot be determined

***Please do not include any personally identifiable information (PII) pertaining to worker(s) involved in the incident (e.g., no names, phone numbers, or SSNs) in the following fields.**

*14) **What was the employee doing just before the incident occurred?** Describe the activity, as well as the tools, equipment or material the employee was using. Be specific. Examples: "climbing a ladder while carrying roofing materials"; "spraying chlorine from hand sprayer"; "daily computer key-entry."

*15) **What happened?** Tell us how the injury occurred. Examples: "When ladder slipped on wet floor, worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time."

*16) **What was the injury or illness?** Tell us the part of the body that was affected and how it was affected. Examples: "strained back"; "chemical burn, hand"; "carpal tunnel syndrome."

*17) **What object or substance directly harmed the employee?** Examples: "concrete floor"; "chlorine"; "radial arm saw." If this question does not apply to the incident, leave it blank.

18) **If the employee died, when did death occur?** Date of death

Public reporting burden for this collection of information is estimated to average 22 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Persons are not required to respond to the collection of information unless it displays a current valid OMB control number. If you have any comments about this estimate or any other aspects of this data collection, including suggestions for reducing this burden, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

AUTO ACCIDENT REPORT

Date of Accident: _____ Job Number_____ Time of Accident: _____
Location of Accident: _____
City and State_____

DRIVE OF COMPANY VEHICLE
Name: _____ Date of Birth: _____
Address: _____
Home Phone #: _____ Driver's License No.: _____
Vehicle Number & License Number: _____
Serial Number of Vehicle: _____
Name of Other Passengers in Vehicle: _____

DRIVER OF OTHER VEHICLE
Name of Driver: _____
Home Address of Driver: _____
Phone Number Home: _____ Work: _____
Driver's License Number (including state): _____
Employer: _____
Owner of Vehicle: _____
Serial Number of Vehicle: _____
Make and Model of Vehicle: _____
Relation of Driver to Owner of Vehicle: _____
Insurance Company of Owner: _____
Insurance Company of Driver & Policy #: _____

DESCRIPTION OF ACCIDENT: _____

DESCRIPTION OF DAMAGE TO VEHICLES

Company Vehicle: _____

Other Vehicle: _____

Place Where Damaged Vehicles Can Be Seen: _____

INJURIES (Explain): _____

Name of Law Enforcement Body Investigation Accident: _____
Name, Address & Phone # of Witnesses: _____

Signature: _____
Job #: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CUMULATIVE SUMMARY OF INJURIES AND LOST TIME

(Name of Company)

Incidence Formula - $\frac{200{,}000 \, x \, number \, of \, injuries}{hours \, worked}$

Severity Formula - $\frac{200{,}000 \, x \, number \, of \, lost \, work \, days}{hours \, worked}$

Job No.	Supervisor	Total Hours Worked		Total Injuries		Recordable Injuries		Lost Time Injuries		Lost Time Days		Incidence Rate Month of _____	Incidence Rate Year to Date	Severity Rate
		Month of	Year to Date	Month of	Year to Date	Month of	Year to Date	Month of	Year to Date	Month of	Year to Date			

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CRANE INSPECTION REPORT

Equipment No. _____ Received From: _____ Date: _____

Make/Model: _____ Hour Meter: _____

"G"-New or in Good Condition "F"-Fair on in Serviceable Condition "R"-Requires Repairs "N"-Items Not Applicable

1. General

_____ Body
_____ Paint
_____ Cab
_____ Fire Extinguisher
_____ Safety Glass
_____ Angle Indicator
_____ Load Indicator
_____ Load Charts
_____ Proximity Signal
_____ Signal Charts
_____ Turntable Mounting
_____ Counterweight
_____ Back-up Alarm
_____ Horns
_____ Control Panel Gauges
_____ Windshield Wipers
_____ Upholstery
_____ Lubrication

2. Engine and Transmission

_____ Oil Level & Conditioning
_____ An-Oil-Izer Meter Reading:
_____ Oil Leaks
_____ Operating Condition
_____ Cooling System/Hoses
_____ Water level/Anti-freeze
_____ Battery Condition
_____ Battery Load Test Date
_____ Battery Identification No.
_____ Battery Brand Name
_____ Belts, Fan & Alternator
_____ Transmission level/Condition
_____ U-Joints on Hydraulic Pump
_____ Fan Hub/Guard Condition
_____ Exhaust System
_____ Air System
_____ Air Pressure
_____ All Guards in Position

3. Upper Works

_____ Boom Hoist Cylinders
_____ Boom Hoist Cylinder Mounting
_____ Swing Motor
_____ Swing Gear Assembly
_____ Swing Brake
_____ Main Hoist Flanges
_____ Aux. Hoist Flanges
_____ Main Hoist Brakes
_____ Aux. Hoist Brakes
_____ Control Operation

4. Hydraulic System

_____ Hoses
_____ Lines
_____ Pumps
_____ Motors
_____ Fittings
_____ Hydraulic Fluid Level
_____ Leakage

5. Carrier

_____ Tire Lug/Track Condition
_____ Tire Pressure
_____ Brakes
_____ Steering
_____ Outriggers
_____ Power Steering bushings
_____ License
_____ Lighting Systems

6. Boom Assembly

_____ Structure
_____ Hydraulic Tag-Reel
_____ Telescope Cylinders
_____ Telescope Sections
_____ Point Sheaves Lubed
_____ Point Sheave Condition
_____ Load Block Condition
_____ Load Block Capacity
_____ Hook Condition
_____ Hook Safety Latch
_____ Jib Condition
_____ Jib Sheave Axle Lubed
_____ Sheave Guards
_____ Reeving
_____ Rope Sockets
_____ Cable Clamps

7. Wire Rope

_____ Jib Pendants
_____ Load Line
_____ Whip Line

Remarks: _____

Initial Inspection By: _____ Date: _____

Final Inspection By: _____ Date: _____

*Meter readings are to be taken with the engine at operating temperatures.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

COME-A-LONG & CHAINFALL MONTHLY INSPECTION

Month: _____ Location: _____
Date: _____ Hoist No.: _____

GENERAL

Manufacturer _____
Capacity _____
Appearance _____
Paint _____
Chain _____
Safety Latch _____
Hook _____
Handle _____
Body _____
Stop Link _____

Comments:

Inspector: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DRUM HOIST MONTHLY INSPECTION

Month: _____ Hoist No.: _____

Date of Inspection: _____ Location: _____

GENERAL

Hoist Type _____

Cable/Wire Rope Size _____

Capacity _____

If mounted, where? _____

Appearance _____

Paint _____

Lead Chain _____

Hook damage _____

Safety Latch _____

Brake _____

Mounting Structure _____

Comments:

Potential Hazards

Inspector: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RESPIRATOR FITTING AND TRAINING RECORD

Name: _____ Male / Female

Prescription Glasses Worn _____

I HAVE BEEN TRAINED IN THE USE OF THE RESPIRATORY EQUIPMENT AS LISTED BELOW:

Type & Manufacturer of Respirator/Respiratory Equipment	Passed Mask Fitting Test Yes	No	Date Tested	Fitting By	Comments Fitting & Training

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

GROUND FAULT CIRCUIT INTERRUPTER

Date Shipped	Serial Number	Tool Description	Date Checked	Date Checked	Date Checked	Date Checked

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

AERIAL LIFT INSPECTION

Month: _____ Location: _____

Date: _____ ID Number: _____

GENERAL

Manufacturer _____

Type _____

Capacity _____

Appearance _____

Hazard Warning Signal _____

Load Charts _____

Brakes _____

Chains _____

Tire Condition _____

Electrical _____

Basket _____

Steering _____

Safety Override _____

Engine _____

Comments:

Inspector _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FIRE PROTECTION EQUIPMENT

Month: _____ Inspector: _____

Date: _____

Location/Number/Type	Appearance	Hose	Gauges	Inspection Plate	Pin Retainer

Comments:

Inspector: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FORKLIFT
DAILY SAFETY CHECKLIST

Truck No.: _____

Make: _____ Capacity: _____

Serial No.: _____ Week of _____ to _____

ITEM	MON.	TUES.	WED.	THURS.	FRI.
1. Check radiator					
2. Check battery					
3. Check engine oil					
4. Check hydraulic oil, inspect hydraulic cylinders					
5. Hose crimps leaks					
6. Check lights and horn					
7. Check brakes					
8. Is the back-up signal operational?					
9. Test operations Up/down Tilt Brake					

This is to certify that I have inspected this piece of equipment, and it is in good condition, except as noted.

Comments: _____

_____

_____

Operator's Signature: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

WEEKLY SAFETY MEETING REPORT

Jobsite:_____ Job No.:_____

Topic of Safety Meeting:

_____
_____
_____

Date:_____

Accidents or Unsafe Incidents of Prior Week:

_____
_____
_____
_____

Unsafe Conditions Recognized by Employee:

_____
_____
_____
_____

Corrective Action Suggested by Employees:

_____
_____
_____
_____

Names of Employees or Guests Attending Meeting:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZARD COMMUNICATION TRAINING

Date: _____ Project No.: _____

Material: _____ Instructor: _____

This is to acknowledge that I have received Hazard Communication Training on this date. In addition, I understand the requirements and procedures involved and will comply with the same. I also understand where the SDS(s) are maintained on the project.

Name	Employee No.	Skill

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SDS(S) ARE LOCATED IN THE FOLLOWING AREAS

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SDS LISTING

Project: _____ Competent Person: _____

Location: _____

The following is a listing of the SDS sheets on file and available for review by employees.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HEARING CONSERVATION TRAINING

Project: _____ Location: _____

Date: _____ Job No.: _____

Competent Person: _____

This is to acknowledge that I have received hearing conservation training, which included:

High Noise Areas/Potentials
Hazards of High Noise Exposure
Personal Protective Equipment Type/Use
Exposure Monitoring

I also acknowledge that I understand the Hearing Conservation program and procedures are for my protection.

Name	Social Security No.	Skill

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EMPLOYEE ORIENTATION REPORT

Employee Name: _____

Date: _____ Project Name: _____

Supervisor Giving Orientation: _____

Handouts Received: _____

		DISCUSSED	
1.	Company History	☐ Yes	☐ No
2.	Safety Policy	☐ Yes	☐ No
3.	General Safety Rules	☐ Yes	☐ No
4.	Quality Process	☐ Yes	☐ No
5.	Specific Job Rules	☐ Yes	☐ No
6.	Use of Personal Protective Equipment	☐ Yes	☐ No
7.	Participation in Safety Meetings	☐ Yes	☐ No
8.	Reporting Unsafe Situations	☐ Yes	☐ No
9.	Making Safety Suggestions	☐ Yes	☐ No
10.	Assisting in Accident Investigations	☐ Yes	☐ No
11.	Unusual Job Conditions	☐ Yes	☐ No
12.	Reporting of Injuries On and Off the Job	☐ Yes	☐ No
13.	Haz Com Right to Know	☐ Yes	☐ No
14.	Other _____	☐ Yes	☐ No

By signing this document, I acknowledge that I understand and will comply with all EXCEL safety and site safety policies as described herein. I also acknowledge that I have been given an opportunity to ask questions I might have concerning the EXCEL safety and site safety policies to my satisfaction.

Signed: _____ Signed: _____

Employee Supervisor and Title

Date: _____ Date: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

NEAR MISS REPORT

Client: _____ Project No.: _____

Project Title: _____

Date: _____ Time: _____ Unit/Area: _____

Narrative: _____

_____

_____

_____

_____

Observations: _____

_____

_____

_____

Primary Cause of This Incident: _____

_____

_____

Was the violation of safety standard or procedure the primary or contributing cause of this incident?

_____ Yes _____ No

Did this incident cause a job shutdown or a significant reduction in productivity?

_____ Yes _____ No

Steps Taken to Prevent Recurrence (Primary cause should be addressed):

On this unit? _____

_____

_____

On other plant units? _____

_____

_____

Recommendations ***: _____

_____

_____

_____

*** After each recommendation, list the job title of the person responsible for implementation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SAFETY SUGGESTION FORM

Employee Name: _____ Date: _____

Department: _____

Supervisor: _____ Department Head: _____

Suggestion (describe fully, include department involved):

_____

_____

_____

_____

_____

_____

_____

Supervisors Comments:

_____

_____

_____

_____

_____

_____

_____

Department Heads' Comments: _____

_____

_____

_____

_____

_____

_____

Supervisor's Signature: _____ Date: _____

Department Head's Signature: _____ Date: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZARD IDENTIFICATION FORM

Employee Name: _____ Date: _____

Department: _____

Supervisor: _____ Department Head: _____

DESCRIBE HAZARD

Location: _____ Time Spotted: _____

Describe Hazard thoroughly: _____

_____

_____

_____

_____

_____

Immediate Action Taken: _____

_____

_____

_____

_____

_____

_____

Supervisor's Comments: _____

_____

_____

_____

_____

_____

_____

Supervisor's Signature: _____ Date: _____

Department Head's Signature: _____ Date: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Reporting Quarter

- ☐ 1st Quarter
- ☐ 2nd Quarter
- ☐ 3rd Quarter
- ☐ 4th Quarter

Assured Grounding Conductor Program

Type of Equipment and/or Serial Number	Number Tested	Type of Test		Interval		Date Tested	Remarks
		Cont.	Visual	Mo.	Qtrly.		

Job Number:_____

Signature:_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Rigging Equipment Inspection Document

Manufacturer:	
Inspection Date:	
Quarter:	
Color Code:	

Item Inspected

Identification Number	Nylon Sling Stitching, Burns, Cuts, ID Tag		Wire Rope Sling Wires, Kinks, ID Tag, Rust		Shackles		Inspected By	
	PASS	FAIL	PASS	FAIL	PASS	FAIL	PASS	FAIL

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Safety Harness and Lanyard Inspection Document

Manufacturer:	
Inspection Date:	
Quarter:	
Color Code:	

Item Inspected

Identification Number	Stitching and Webbing		D-Ring, Buckles, and Eyelets		Lanyard		Inspected By	
	PASS	FAIL	PASS	FAIL	PASS	FAIL	PASS	FAIL

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RECORD OF SAFETY TRAINING

Project: _____ Project No.: _____

Date: _____ Location: _____

Instructor/Competent Person: _____

This is to acknowledge that I have received training in and understand the basic safety rules and regulations of this project and my requirements to ensure my safety and the safety of my co-workers. I also acknowledge that I have received information concerning the _____ program, and if I have questions or do not understand practices or procedures, I shall make it known to supervision or the instructor before I commence any work activity.

NAME	S.S. NO.	SKILL

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EMERGENCY PHONE NUMBERS

PHYSICIAN	_____	OR	_____
HOSPITAL	_____	OR	_____
AMBULANCE	**911**	OR	_____
FIRE DEPARTMENT	**911**	OR	_____
POLICE	**911**	OR	_____

POST CONSPICUOUSLY

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CONFINED SPACE ENTRY LOG

Date: _____ Hole Watch Name: _____

Job #: _____ Designated Competent Person: _____

Location: _____

Craft	Entrant Name	Entry Date Time	Exit Date Time	Reason For Exit

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

REFUSAL OF MEDICAL TREATMENT

I, _____, am voluntarily refusing medical treatment for my industrial work-related injury under the EXCEL medical treatment program. I understand that Excel maintains Worker's Compensation Insurance coverage and that EXCEL has offered to provide me with medical treatment. I further understand that I am not waiving my right to further medical treatment if the injury condition worsens. I have read and understand EXCEL's Reporting of Work-Related Injuries Policy, and I shall contact EXCEL project management if I would like further medical attention at a later date.

_____	_____
Employee Signature	Date
_____	_____
Phone Number	Alternate Number
_____	_____
Excel Supervisor	Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Elevated Work Platform Inspection Checklist

Inspector: _____ Date: _____ Time: _____
Site Location: _____ Structure: _____
Elevation: _____

Access to elevated work platform

Steps secured and evenly spaced?
□ Yes □ No

Complete handrails at adequate heights and tightly secured?
□ Yes □ No

Top rail 42” high, midrail 21” high and toe plate/board 4” high
□ Yes □ No

Fixed ladders secured and provide safe access?
□ Yes □ No

Double arm gates in place at every fixed ladder landing?
□ Yes □ No

Ladder cage extensions in place from base of cage to top rail of platform
□ Yes □ No

Grating on elevated work platform

Are clips in place to secure the grating?
□ Yes □ No

Hard barricade installed where the grating has been removed?
□ Yes □ No

Warning signs in place where hard barricades are being used?
□ Yes □ No

Monitors present where barricade tape is being used around
Openings in grating?
□ Yes □ No

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Temporary *(*wall or floor penetrations) **covers.**

Adequate materials being used for temporary (wall or floor penetrations) covers? 3/4" plywood or greater

□ Yes □ No

Temporary (wall or floor penetrations) covers secured to prevent displacement? # 9 wired down

□ Yes □ No

Temporary (wall or floor penetrations) covers labeled properly?

□ Yes □ No

Permanent guardrail system around the elevated work platform.

Permanent guardrails adequate height top rail 42" high, midrail 21" high and toe Plate/board 4" high, capable of supporting 200lbs. per square inch

□ Yes □ No

Permanent guardrails secured?

□ Yes □ No

Adequate protection systems installed where permanent guardrail Is incomplete? Hard barricade or barricade tape & monitor

□ Yes □ No

Warning signs in place where permanent guardrail is incomplete?

□ Yes □ No

Permit

Has a Floor Grating Removal Permit been completed and Approved where required?

□ Yes □ No

Comment/Action Required:

_____

_____

_____

_____

_____

_____

_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

Floor Grating Removal Permit

Date:		Starting Time:	_____a.m._____ p.m.
Company:		Date :	From _____ To _____
Location:			

Name of Observer / Inspector	
Nature of Work	

Process Review	
☐ JSA Completed	☐ Barricades In Place
☐ Hazard Signs Posted	☐ Safety harness with shock absorber lanyards
☐ Area Inspected	☐ Covers (Standing Scaffolding Planks)
☐ Observer Assigned	☐ Cover Anchored Down

The penetration must be covered or barricaded with fixed handrails at all times.
The penetration cover must be anchored/secured and have a sign in place at all times.
"DANGER PENETRATION COVER DO NOT REMOVE."

	Name	**Signature**	**Date**
Initiator –Site Supervisor			
Site Manager			
Site Safety Manager			

Handing Back of Safe Work Area (Reinstating Safe Work Area Status)		
Floor grating in place, clips attached	☐ Yes	☐ No
If NO, what steps are being taken to verify that the area is maintained in a safe condition?		
Area Inspected	☐ Yes	☐ No

Supervisor Name:	
Signature:	
Date:	
Time:	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

STATEMENT OF WITNESS

Please print all information clearly.

Witness Name:	Location/Project Number:
Witness Badge Number:	Witness Craft Classification:
Witness Phone Number:	Incident Date & Time: Date Reported:
Description of Incident / Witness Statement:	

Witness Printed Name:	Witness Signature:	Date:
Statement Witness Printed Name:	Statement Witness Signature:	Date:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

STATEMENT OF EMPLOYEE

Please print all information clearly.

Employee Name:	Location/Project Number:
Employee Badge Number:	Employee Craft Classification:
Employee Phone Number:	Incident Date & Time: Date Reported:
Description of Incident / Employee Statement:	

Employee Printed Name:	Employee Signature:	Date:
Statement Witness Printed Name:	Statement Witness Signature:	Date:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DATE: _____

ADDENDUM TO THE EXCEL JOB SAFETY ANALYSIS (JSA)

By signing this JSA, I verify that I have reviewed and understand its impact on my safety.

WORKERS SIGN IN

PRINT NAME	SIGNATURE

I verify that I was not involved in an accident today, nor exposure, nor was I injured to the best of my knowledge.

WORKERS SIGN OUT

PRINT NAME	SIGNATURE

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

SAFETY AUDIT FORM

JOB #: _____ **AUDITOR:** _____

DATE: _____ **JOBSITE:** _____

SUPT: _____

SCORING GUIDE	
COMMENDABLE	6
ACCEPT/YES	5
NEEDS IMPROV.	4
UNACCEPT/NO	3

SAFETY EXPECTATIONS			
I. GENERAL	**SCORE**	**WEIGHT**	**TOTAL**
1. FIRST AID EQUIPMENT		1	
2. JSA/PERMITS		2	
3. UNSAFE EQUIPMENT		2	
4. TOOLBOX TALKS & WORKER ORIENTATION		1	
5. GROUND FAULT BOXES		1	
6. HOUSEKEEPING		2	
7. LIGHTING		1	
8. PERSONAL PROTECTIVE EQUIPMENT		1	
9. SANITATION FACILITIES		1	
10. NOISE HAZARDS		1	
11. VENTILATION, GASES, VAPOR, FUMES		1	
12. RESPIRATOR DEVICES		2	
13. SAFETY HARNESS		2	
14. FIRE EXTINGUISHER		1	
15. STORAGE OF FLAMMABLE/COMBUSTIBLE LIQUIDS		2	
16. POWER TOOLS		2	
17. LADDERS		2	
18. TRENCHING		2	
19. SCAFFOLDING		2	
20. UNSAFE CONDITIONS/ UNSAFE ACTS		3	
21. MOBILE EQUIPMENT		3	
22. EMPLOYEE TRAINING		2	

Scoring Guide: Add the total and put in the Total Points Scored Box. Add the weights you audited and multiply by 6, this is your Total Points Available. Take your Total Points and divide it by Total Points Available to get your Percent.

TOTAL PTS SCORED	
TOTAL PTS AVAILABLE	
SCORE IN PERCENT	

BASE LINE SCORING:

Less than 74%	**UNACCEPTABLE**
75% TO 84%	**NEEDS IMPROVEMENT**
85% TO 94%	**ACCEPTABLE**
95% TO 100%	**COMMENDABLE**

II. COMMENTS
COMMENDABLE AUDIT FINDINGS:
AREAS FOR IMPROVEMENT:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

	COMPANY			SUBS			TOAL PROJECT		
WEEK OF _____	**WEEK**	**YEAR TO DATE**	**JOB INCEPTION**	**WEEK**	**YEAR TO DATE**	**JOB INCEPTION**	**WEEK**	**YEAR TO DATE**	**JOB INCEPTION**
1. TOTAL NUMBER OF EMPLOYEES									
2. MAN-HOURS WORKED									
3. LOST WORK DAY CASES									
FREQUENCY RATE									
4. LOST WORK DAYS									
SEVERITY RATE									
5. RESTRICTED WORK DAY CASES									
DAYS RESTRICTED WORK									
6. RECORDABLE CASES									
INCIDENCE RATE									
7. MEDICAL CASES (non-recordable)									
8. FIRST AID CASES									
9. FATALITIES									
10. NUMBER OF FIRES									
11. CRANE INCIDENTS									
12. MOTORIZED EQUIPMENT ACCIDENTS									
13. ENVIRONMENTAL INCIDENTS									
14. ACCIDENT INVESTIGATIONS/NEAR MISSES									
15. GOVERNMENT INSPECTIONS									
16. NUMBER PRE-EMPLOYMENT DRUG TESTS									
NUMBER POSITIVE									
17. NUMBER OF RANDOM DRUG TESTS									
NUMBER POSITIVE									
18. NUMBER POST ACCIDENT DRUG TESTS									
NUMBER POSITIVE									
19. TRIR (total recordable and lost-time cases)									
20. TRIR INCIDENCE RATE									

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Meeting Topic: _____ **Date:** _____

Location: _____ **Time:** _____

Supervisor/Instructor: _____

Notes: _____

_____

_____

Employee Signatures

Print Name	Signature

Print Name	Signature

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

NON-OCCUPATIONAL INJURIES / ILLNESSES

GENERAL

- Any employee reporting a non-occupational injury or illness on the job site shall be reported and recorded as per the regular company injury and illness procedure. In the event of an illness or condition that warrants immediate medical attention, i.e., a person experiencing chest pain or other symptoms of a serious nature, emergency medical personnel/911 shall be called immediately.
- The emergency contact person, as designated by the employee, shall be contacted if the employee is transported to a hospital or if an employee is in need of further medical treatment. A full release for duty shall be obtained from the employee before the employee may return to work, with the release being forwarded to the EXCEL Human Resources and Safety Departments.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

GENERAL PROCEDURES FOR TREATMENT OF INJURED PERSONNEL

OBJECTIVE

- The objective of this procedure is to provide a general outline for the treatment of injured personnel. In all cases, this procedure must be adapted to individual, site, project, and geographic locations. It is the responsibility of the Human Resource Department, the Site Superintendent, and the Site Safety Representative to ensure that this procedure fits all requirements of the project. It shall be necessary to incorporate the use of Client/Owner facilities, Contractor facilities, and Outside (3rd Party) facilities in the treatment of injuries/illnesses.

DETERMINING TREATMENT OPTIONS/FACILITIES

- The severity of the injury/illness shall dictate which facility shall be used (i.e., dust in an employee's eye does not necessitate a visit to the hospital). The on-site medical emergency phone numbers and names of providers shall be posted in conspicuous places and shall also be carried by the "First Responder" at all times.
- Minor injuries and illnesses shall be handled by the Contractor and/or client-competent providers. Client/Owner, injury/illness facilities shall only be used where permissible by contract. When minor injuries and illnesses are not treatable on site, the injured person shall be transported by the designated Contractor Representative (Superintendent, Safety Representative) to an established medical facility (i.e., hospital, clinic, etc.).
- Information regarding established medical facilities (hospitals, clinics, etc.) shall be posted in conspicuous places and shall be carried by the "First Responder" at all times. Such information shall include, but not be limited to, the name of the facility, address, telephone number, and health care provider (i.e., nurse, physician).

TRANSPORTING INJURED EMPLOYEES

- Transportation of injured persons shall be provided as follows:
  - Minor: Contractor vehicle/Contractor Representative
    Client vehicle/Client Representative, where permissible
  - Serious/Major: 3rd party rescue responder agency servicing specific site location

NOTES

- It is of utmost importance that once EXCEL has mobilized on site, the transportation method must be established, and third-party rescue service is informed of the Contractor's Preferred Providers. Persons involved in the treatment of injured employees shall comply with all provisions contained in EXCEL's Bloodborne Pathogen Policy found in Section 6.5 of the EXCEL Safety Manual.

MEDICAL REQUIREMENTS

- Employees assigned to render first aid must be able to function prudently at their level of certification. A person(s) who has a valid certificate in first aid training, The American Red Cross, or equivalent shall be available at work sites to render emergency first aid. Provisions shall be made prior to the commencement of a project for prompt medical attention in case of serious injury.
- Medical certification shall be carried on his/her person at all times.
- The employee must familiarize himself with local legislation governing the extent of care the provider may deliver.
  Medical personnel who have obtained certification enabling them to perform invasive procedures or advanced life support shall refrain from performing any such procedure, purchasing such equipment, or bringing personal equipment of the same nature to any job site without the direct approval and supervision of the Safety Director.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Prior to the start of a job, the medical provider shall:
    - Establish the location, telephone number, and route to the closest available hospital and or clinic.
    - Investigate what type of services are readily available for the transportation of an ill/injured co-worker and seek ways to integrate their resources with the available services.
    - Conspicuously post-emergency notification signs at every EXCEL facility/job site
    - Establish modes of communication (radio, telephone) with supervisors to ensure accessibility at all times.
    - Familiarize themselves with specific hazards on the job site. All efforts should be made to prepare specific treatments for these isolated hazards (i.e., obtain copies of SDS forms and file them for quick reference).
    - Obtain and secure appropriate supplies, preferably under a double-locking system.
    - Confidentially inquire about and keep on file a list of employees who have specific medical disorders, take prescription drugs daily, or have severe allergies.
- Inquiries should be made pertaining to scheduled job activities for that day. Keeping abreast of particular jobs shall enhance your state of readiness.
- Work hand in hand with safety personnel in an effort to eliminate potential hazards and assist them in educating employees about personal safety.

FIRST AID STATION REQUIREMENTS

- If possible, the first aid station should be located next to the superintendent's office and must be clearly identified by a sign made discernible to all employees.
- The first aid station inventory should include an OSHA-approved, wall-mounted first aid kit and medications individually wrapped for single-dose dispensation. First aid supplies shall be easily accessible when required.
- In addition to the wall-mounted first aid kit, it is recommended that the medical provider obtain a "jump kit," enabling them to handle situations outside of the first aid station.

DRINKING WATER

- A sufficient supply of potable water must be provided to employees at all job locations.
- Containers used for dispensing water must be capable of being tightly closed and equipped with a tap. Water must not be dipped from containers.
- Any container used to distribute drinking water must be clearly marked as to its contents and not be used for any other purposes ("DRINKING WATER ONLY").
- Shared drinking cups are strictly prohibited.
- When single-use cups are supplied, a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be furnished.
- Utilize proper handling of ice placed into the containers to prevent contamination.

CLOTHING

- It is suggested that a clean change of clothing is worn at the start of each new working day, not only for consideration of other employees but for the prevention of possible skin rash and poisoning. Those persons who work in close proximity to concrete dust should especially be aware of this.
- It is the responsibility of each employee to purchase the necessary work clothing required for his particular job.
- Proper work shoes must be worn on the job site. Employees shall purchase shoes. Canvas shoes are not allowed. Steel-toe shoes are recommended but not required. The only exception may be if a client specifies their use.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

COMPANY DISCIPLINARY ACTION PROCEDURE

GENERAL

- This procedure shall be administered to all employees for failure to comply with company policies, including, but not limited to, safety and health, substance abuse, weapons and contraband, and insubordination.
- This procedure shall be administered fairly and equitably to all employees whose actions fall into one of the following classes of violations. Attached is a copy of the Record of Disciplinary Action form, which is required for proper documentation of all classes of violations. Upon completion, this form must be sent to the Human Resources Department for review. Should certain situations arise that fall outside the guidelines set forth in this procedure, it shall be necessary for the supervisor to contact the Human Resources Department before taking any action against the employee.

STEP 1: VERBAL REPRIMAND

- As a Supervisor, your first step of disciplinary action is to counsel the employee regarding the specific problems or behaviors that must be corrected. This counseling session must be documented at the time the meeting is held. This step is an informative meeting at which there should be an outline of improvements that need to be made. Assurance that the employee has a complete understanding of the nature and severity of the issue in question must be gained. This counseling session is to be considered a verbal warning.

STEP 2: WRITTEN REPRIMAND

- The second step is to inform the employee that due to their performance and/or behavior, they are being placed on probation. This step shall be documented using the necessary improvements and the time frame in which their performance and/or behavior must be corrected. Also, the employee is to be informed that if this problem should continue, additional disciplinary action shall be taken, which could result in termination of employment. This reprimand is to be signed by both the employee and his/her immediate supervisor. A copy of the "written reprimand" must be sent to the local Human Resource Department in the care of the Human Resource Manager. The original copy of the reprimand is to stay at the job site in the employee's personnel file.

STEP 3: SUSPENSION/TERMINATION

- The third step shall be to either make a final attempt to correct a disciplinary problem or to terminate the employment of an employee. If suspension is chosen, then 1-3 working days is suggested. Also, The Company "Warning Notice" must be completed outlining the details of the suspension. It must also state that failure to respond positively on behalf of the employee in regard to poor performance or behavior issues shall result in immediate termination with cause. This reprimand is to be signed by both the employee and his/her immediate supervisor. A copy of the written reprimand is to be sent to the local Human Resource Department in the care of the Human Resource Manager. The original copy of the reprimand must be kept in the employee's personnel file at the job site.
- If termination is chosen for Step 3, the employee must be terminated with cause. A detailed written description of events that lead up to termination must be prepared and attached to the employee's termination slip.
- Failure to follow this procedure may result in immediate reinstatement and back pay of the employee.

CLASSIFICATION OF VIOLATIONS

- **Class I Violations**
  - Cause: Violation of EXCEL's policy, including drug screening procedures.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Effect: Immediate termination and removal of employee from workplace.

- Cause: Violation of client policies (i.e., rules and regulations set forth by client or owner performing work on their site.)
  Effect: Immediate termination.

- **Class II Violations**
  - Cause: Potential or serious violation of EXCEL, OSHA, and/or Client/Owner safety policy.
    Effect: Immediate suspension/termination.
  - Cause: Willful and negligent destruction of company/client property.
    Effect: Immediate suspension/termination.
  - Cause: Sexual harassment/intimidation.
    Effect: Immediate suspension/termination (depending on severity).

- **Class III Violations**
  - Cause:
    - Misconduct
    - Refusal of suitable work
    - Refusal of work assignment
    - Absentee problem (ex., three days in one month without a doctor's excuse)
    - Unsatisfactory performance
    - Failure to follow instructions
    - Insubordination
    - Off-the-job medical problems
    - Reasonable suspicion of intoxication
    - Reduction of force based on performance, which affects five or fewer employees
    - Other

    Effect: Depending on the severity of the offense, these violations may also become Class I or Class II violations as long as they are handled consistently.

- **NOTE:** In all classes of violations, proper written documentation of events, causes, and effects must be appropriately administered prior to the disciplinary action taking place. In some cases, when the employee is required to sign documentation, it may be necessary to have a witness present.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

JOBSITE NOTICES AND POSTING REQUIREMENTS

GENERAL

- A copy of each notice described below must be posted at each work establishment. The notices should be prominently displayed, preferably on a bulletin board or at a location that would provide the most significant exposure to employees.
    - "Safety and Health Protection on the Job" Poster
        - It should be posted and remain posted for the duration of the project.
    - Emergency Phone Number List
        - Post the list in conspicuous locations such as near the telephone and the first aid kit, and show current emergency numbers for medical assistance, fire/police, ambulance, and hospital.
    - Summary of Occupational Injuries (OSHA 300)
        - The last portion of the summary shall be completed, signed, and posted on an annual basis no later than February 1st, and it should remain posted for 90 days. The document shall be kept on file for five (5) years.

JOBSITE SAFETY OUTLINE

- Complete the following items and set job site safety files on each:

Phase	Item
Pre-Job	Post Jobsite Posters Post OSHA Posters Complete OSHA 300 Log Cover the Company Harassment Policy Read Management Policy Statement Set Up the HAZCOM/GHS Program and Forms Substance Abuse Policy Post-Assured Grounding Program Complete Grounding Inspection Log Complete Grounding Inspection Log Complete Quarterly Color Code Listing and SDS Sheets for Chemicals Complete the HAZCOM/GHS Form on Employees Complete Company Owned Equipment Inspection Forms on All Equipment (I.E., Forklifts, Etc.) Complete Competent Person Forms Complete Operator Qualification Records Complete Respiratory Training Complete Fit Testing and Documentation Complete Process Safety Training
Annually	Update SDS Sheets Equipment Inspection Reports
Quarterly	Color Coding for Assured Grounding
Monthly	Safety Inspection Checklist Subcontractor Performance Evaluation
Weekly	Safety Meeting Reports and Documentation
Daily	Equipment Inspection Reports Communicate with Foremen, Work Areas, Etc. Jobsite Inspection (Compliance) And Document

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SAFETY MEETINGS

GENERAL

- The safety meeting is an effective method of conveying and sharing information. The meeting shall be conducted with a set objective, and the presenters should be prepared to answer questions. The meeting should have a set schedule and begin and end on time.
- All meetings where safety information is discussed shall be documented. Documentation shall include the signatures of the attendees, material covered, incidents, accidents, corrective actions, and items brought up by attendees.
- The following is a list of both recommended and required meetings.

MONTHLY MANAGEMENT SAFETY REVIEW

- A monthly management safety review shall be conducted to update the company management on the safety performance of each project.
- Attendees should include members of each classification:
    - Vice President and Managers
    - Select Project Manager
    - Safety Representative
- Information covered should include
    - Numerical statistics in comparison to goals
        - Injury statistics
        - Causes and types
    - Proposed preventive actions
    - Achievements
    - Upcoming concerns

PROJECT MANAGEMENT MEETING (WEEKLY)

- The meeting shall be conducted to convey safety information to the project management members.
- Information shall include:
    - Weekly occurrence update (i.e., injuries and causes)
    - Statistical updates
    - Special training
    - Concerns
    - Achievements

GANG BOX SAFETY MEETING (WEEKLY)

- It shall be conducted by the immediate supervisor and periodically by a member of management (total craft). Any employees who missed these safety meetings shall be required to attend a **make-up** session upon returning to the site.
- Information shall include:
    - Weekly supplied safety topics
    - Special hazards existing with current and upcoming tasks
    - Review of injuries and/or near-miss incidents
    - Observations of deficiencies noted by the supervisor and workers
    - Worker concerns

GANG BOX SAFETY MEETING (MONTHLY)

- **Purpose:** The “Gang Box” Safety Meeting gives supervision a specific set time at which they are required to provide safety training to their employees.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- **Topics:** Topics of the meeting should include specific information regarding safety procedures, inspection analysis, injury analysis, and corrective procedures supplied either by the Site Safety Representative or the Supervisor himself. Additional topics of discussion at periodic intervals shall be safe work or tool use training (i.e., torch use, grinder use, safe rigging, equipment operation).

- **Timing:** The meeting shall be conducted on a weekly basis and shall range from 10 to 15 minutes or longer if needed.

- Successful meeting tips:
    - Prepare in advance
    - The planning determines the results. Never conduct a meeting without preparation.
    - Select a significant topic; Make it timely and practical - one that the group can discuss.
    - Obtain facts and figures; Be sure they are correct and complete
    - Prepare a visual aid such as a chart, table, tool, whatever possible
    - Plan the presentation; Determine the best way to present the meeting subject. Try to anticipate the group's reactions and questions. Outline the result you want to accomplish.
    - Set the time of the meeting: Allow adequate time, but set a reasonable limit.
    - Be sincere; your sincerity and interest in the worker's welfare must be genuine.
    - Introduce the topic. Tell in simple terms what the meeting is about
    - Present facts provoke interest; State highly pertinent facts in an exciting manner
    - Promote group discussion: Ask questions that cannot be answered "yes" or "no." Prompt members to talk. Let them talk.
    - Agree on an action plan; try to reach group agreement on methods of correction and improvement.
    - Summarize the meeting: What was discussed and decided upon?
    - Follow up
- Documentation shall be maintained concerning all safety meetings to include:
    - Topic
    - Date
    - Attendees
- Documentation shall be distributed as follows: Original to the Human Resource Department; Copy to remain at the job site. All documentation shall be kept for three (3) years.

DAILY TASK MEETINGS

- Meetings shall be conducted by the supervisor at the start of each day and the start of each job.
- Information conveyed to the crew shall include the task plan and precautions that should be taken.

SPECIAL HAZARD MEETING

- Conducted to bring together different parties for the recognition of special hazards and procedures
    - Hazardous/heavy lifts
    - Equipment start-up, etc.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TRAINING

GENERAL

- Training is an essential part of every safety program in that it expands the knowledge of the worker. Various types of training are required, while others are determined on an as-needed basis by management.

DOCUMENTATION

- All training conducted shall be documented with the attendees signing such documentation.

RECOGNITION

- If feasible, trained workers should receive a Certificate of Completion or a decal designating that they have completed such training.

TRAINING REQUIREMENT

- Proper training includes, at least, when PPE is necessary, what PPE is necessary, how to properly don, doff, adjust, and wear PPE; the limitations of PPE; the proper care, maintenance, useful life, and disposal of PPE. Retraining of the employee is required when the workplace changes, making the earlier training obsolete; the type of PPE changes; or when the employee demonstrates a lack of use, improper use, or insufficient skill or understanding. The certification must include the employee's name, the dates of training, and the certification subject.
- Third-Party Generic Training (where required)
- Basic safety rules
    - Conduct prior to/upon hire.
- Employee Orientation
    - Project
        - Conduct upon hire (Training script provided in Appendix B)
        - Expanded basic safety rules
        - Required safety training includes: excavation/trenching; hearing conservation; confined space; lock out/tag out; hazard communication; and PPE
- Primary Skills
    - Should be conducted by the superintendent or designated representative
    - Reinforces project goals
    - Establishes goals
- Supervisor
    - Conducted by immediate supervisor
    - Orientates worker to group/area/project
    - Gives expectations/requirements
    - Site-specific
- Forklift Operator (required)
    - To be conducted as part of the operator qualification
- Aerial Lift Operator (required)
    - To be conducted as part of the operator qualification
- Equipment Operator (required)
    - To be conducted as part of the crane operator qualification
    - Basic project requirements
- Hearing Conservation (required)
    - Conducted on an annual basis
- Respiratory protection/fit testing (required)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Conducted on an annual basis for those employees who wear respiratory protective equipment
  - Initial training shall be prior to initial use.
- Hazard Communication (required)
  - Conducted on an ongoing basis and prior to the exposure to new hazardous materials
- Asbestos, Benzene, and Lead Awareness (required)
  - Conducted on an ongoing basis and prior to the employees' possible exposure to asbestos hazards
- Powder-actuated tool operator (required)
  - Conducted prior to powder actuated tool use as part of operating qualification
- Fire Protection (required)
  - Conducted on an ongoing basis to educate the employees on the fire prevention and extinguishing methods
- Emergency evacuation training (required)
  - Action plan
  - Conducted on a regularly scheduled basis to instruct the workers on the proper evacuation/emergency procedures
- Work Permit Process
- Grounding Assurance Program

NEW EMPLOYEE MONITORING

- New employees shall be identified and monitored for a minimum of thirty (30) days. Responsibility for this monitoring shall begin with the Site Superintendent and/or Site Safety Representative. New persons on a job site shall be paired with an experienced worker at that job site for the thirty-day (30) period.
- Documentation of the new hire control system must be done during the initial orientation process using the "Employee Orientation Report" form. If markers, tape, etc., are also used to identify new employees, this must also be posted and used in the site-specific training and orientation to ensure awareness.
- It is of utmost importance that the company take every measure to afford a safe and healthy work environment. Should the initial thirty-day (30) period prove to be insufficient to equilibrate new employees, the Human Resource Department shall re-evaluate the work site, and/or the new employee should be further evaluated for competency in that environment.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PRE-PLACEMENT PHYSICAL EXAMINATIONS

GENERAL

- It is highly recommended that all new employees be given pre-placement physical examinations to determine if the employee's physical condition is suitable for the task which he is required to perform.
- The pre-placement physical examination is, by no means, designed to discriminate against the physically disabled individual but is designed to ensure that the employee's physical condition shall not be a safety or health hazard to himself or his co-workers.

CRANE OPERATORS

- All crane operators should take and pass a physical examination on an annual basis to ensure they are physically fit for the task.
    - They must have vision of at least 20/30 in one eye and 20/50 in the other, with or without glasses.
    - They must be able to distinguish red, green, and yellow, regardless of the position of colors, if color differentiation is required for operation.
    - Hearing, with or without a hearing aid, must be adequate for specific operations.
    - A history of epilepsy or a disabling heart condition shall be sufficient reason for his disqualification.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

MOTOR VEHICLE OPERATIONS

GENERAL

All Company employees required to operate motor vehicles shall have the appropriate license to comply with the regulations of the state in which work is being performed.

Traffic rules inside the Plant shall be strictly adhered to. Obey traffic signs and posted speed limits. (Speed limit is 10mph unless otherwise posted).

- No employee vehicle shall be allowed within the confines of any plant. The company shall designate parking lots and employee gates.
- Only those designated employees who possess a valid driver's license and have an acceptable driving record (no DUIs or other vehicular citations/convictions) shall be allowed to operate company vehicles. Non-employee company vehicle operators are not allowed without written permission from the President of the company.
- All company vehicles must have a 1-800 decal on the tailgate or back of the vehicle. The 1-800 decal provides information for a person to report the unsafe operation of any company vehicle. In the event the company receives a complaint about company vehicle operation (operator), the operator's company vehicle privileges shall be revoked.
- No one shall be allowed to ride in the back (bed) of a company vehicle (truck) while on public roads. When personnel are allowed to ride in the bed of a truck by the client/owner, the passengers must sit on the floor of the bed and not against the tailgate or on the sides of the bed.
- While operating a company vehicle, the operator shall not use alcohol, illegal drugs, or medication that will impair the ability of the operator to operate the vehicle safely. All vehicle safety devices shall be inspected prior to use, and the vehicle operator must use these safety devices as designed and intended.

DOCUMENTATION

- A copy of the Motor Vehicle Operator's License shall be on file on the project site.
- **Failure to comply with this policy may result in disciplinary action up to and including termination of employment.**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Personal Vehicle Policy

This policy intends to address the use of personal vehicles on any of the company's client-owner property. Any employee who uses a personal vehicle drives a personal vehicle, or is allowed to have a personal vehicle on client-owner property is required to comply with this policy. Company-owned or leased vehicles or equipment are not covered under this policy.

Any employee who uses, drives, or otherwise is allowed to have a personal vehicle on client-owner property must have a valid state-issued driver's license. The vehicle used on the client-owner property must also have a current and valid state-issued inspection sticker.

Any employee who uses, drives, or is otherwise allowed to have a personal vehicle on client-owner property must have current insurance and registration equal to or better than the minimum required by the state of Louisiana. Proof of this coverage must be in the vehicle at all times while on client-owner property. It may be requested at any time to show proof of such coverage and compliance. The driver of the personal vehicle must also be the owner of the personal vehicle that is to be driven onto, parked, or occupied client-owner property.

The company shall be held harmless and indemnified by the driver/owner of any personal vehicle for any loss or damages incurred to any personal vehicle for any reason while that personal vehicle is used, on, or occupies the client-owner property.

My signature below signifies that I, the driver of any personal vehicle on the client-owner's property, have read and understand the Personal Vehicle Policy and shall fulfill the obligations and requirements to remain compliant with this policy. Further, I understand that at any time, as the driver of any personal vehicle used, driven, or occupied the client-owner property, this privilege may be revoked or suspended. Compliance with this policy is a condition of employment.

Driver's Signature: _____

Driver Name (Printed):_____

Date: _____

Company Representative:_____

Project Number: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

MOTOR VEHICLE USE POLICY

1.0 PURPOSE AND SUMMARY

- This procedure prescribes the general requirements for the operation of motor vehicles on Company business. All operators of company-owned, leased, and rented vehicles, as well as personal vehicles used on Company business, are covered by this policy. U.S. Department of Transportation (DOT) regulated personnel must also comply with the guidelines contained in policies applicable to those personnel. Key elements of this policy include:
    - All employees who drive or may drive on Company business must be familiar with the requirements of this policy and certify their acceptance of the Company Rules for Motor Vehicle Operation (Attachment 2). In addition, covered employees may be required to sign a copy of the most current version of Attachment 2 on an annual or otherwise periodic basis.
    - All newly hired candidates who shall drive a company-owned/leased or rental vehicle shall complete the Pre-employment Driving Record Certification (Attachment 1). This certification shall be evaluated via the established point system to determine driving privilege status.
    - Employees must report all vehicular citations incurred while on Company business to their supervisor as soon as possible but not longer than 24 hours after the occurrence. Once reported, the established evaluation criteria in Section 5.4 shall be used to determine if any disciplinary actions are appropriate.
    - Employees utilizing vehicles while on Company business are required to review and comply with this policy.
    - Requests for the reinstatement of denied or revoked driving privileges can be made to the Divisional Vice President ("DVP") and the Corporate Safety Director("CSD") as set forth in this policy.
    - This is a broad company-wide policy, and each division of the company may execute supplemental policies and procedures that provide more detail on restrictions and procedures. In no event shall a Divisional Supplemental Policy be less restrictive than this policy, and in the event of a conflict between this Corporate Policy and the Divisional Supplemental Policy, the more restrictive policy provision shall apply.

2.0 TABLE OF CONTENTS

1.0 Purpose and Summary
2.0 Table of Contents
3.0 Responsibility for Policy Implementation
4.0 Definitions
5.0 Policy
- 5.1 Company Rules for Motor Vehicle Operation
    - 5.1.1 Project Assigned Employee Vehicle Use Requirements
- 5.2 Pre-employment Evaluation
- 5.3 Driving Record Point System
    - 5.3.1 Pre-Employment Driving Record Point System Evaluation
    - 5.3.2 Existing Employee Driving Record Point System
- 5.4 Employee Evaluation Criteria
    - 5.4.1 Work-Related Minor Citation
    - 5.4.2 Work-Related Major Citation
    - 5.4.3 Failure to Notify
    - 5.4.4 Employee Accidents
    - 5.4.5 Driving Under the Influence and Hit & Run (Leaving the Scene)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.5 Training
5.6 Reinstatement of Driving Privilege
5.7 Non-Excel Employee Vehicle Use Requirements
5.8 Driver Safety Notification Sticker
5.9 Insurance
6.0 Delegation of Authority
7.0 Attachments

3.0 RESPONSIBILITY FOR POLICY IMPLEMENTATION

- For each Division of the Company, the Corporate Safety Director (CSD) is responsible for the issuance, revision, implementation, enforcement, and maintenance of this policy. The CSD may delegate authority under this provision in writing.

4.0 DEFINITIONS

Chargeable Vehicle Accident - Any Motor Vehicle accident meeting any one of the following criteria:

- An individual other than an employee of the company is a party in the accident.
- Property owned by a person or entity other than the company is damaged.
- When only Company employees, company-owned, leased, or rented vehicles and property are involved, and damage exceeds $1,500.00.

Company – Excel Group Inc. and all of its subsidiaries and affiliates

Motor Vehicle - Any passenger vehicle, including trucks, used on the highway or in private facilities for transporting passengers and/or property. This includes personal vehicles operated on Company business. For this policy, off-road vehicles, such as ATVs (Four Wheelers), earthmoving equipment, forklifts, non-highway use trucks, etc., are not considered vehicles. The use of motorcycles on company business is prohibited.

Project Assigned Employees – Any employee that is assigned to a field operations project position. This designation includes Project Managers, Site Managers/Supervisors, Foremen, Technicians, Scientists, Geologists, Project Business Accountants, etc. This does not include employees who are typically assigned to an office but are visiting a site for brief periods, such as to provide technical assistance, perform audits, perform program reviews, etc.

5.0 POLICY

5.1 Company Rules for Motor Vehicle Operation

All employees who shall or may be required to operate a company-owned, leased, or rented motor vehicle or a personal vehicle used on company business shall acknowledge acceptance of the Company Rules for Motor Vehicle Operation (Attachment 2) prior to such operation. The Corporate Safety Department shall retain the signed form. The company may, on a yearly basis, require covered employees to sign a copy of the most current Company Rules for Motor Vehicle Operation.

FAILURE OF EMPLOYEES TO COMPLY WITH COMPANY RULES FOR MOTOR VEHICLE OPERATION OR THIS POLICY SHALL BE SUBJECT TO DISCIPLINARY ACTION UP TO AND INCLUDING (BUT NOT LIMITED TO) REVOCATION OF DRIVING PRIVILEGES FOR COMPANY BUSINESS AND/OR TERMINATION OF EMPLOYMENT.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.1.1 **Project Assigned Employee Vehicle Use Requirements**

The following requirements are set forth as it pertains to Project Assigned Employees.

- Project Assigned Employees are not permitted to operate a Company vehicle (owned, leased, or rented) on non-company business after 10:00 p.m. without written authorization from the project manager or the appointed Site Manager/Supervisor with jurisdiction over the vehicle. In those cases where there is shift work, a non-traditional workday (i.e., 3 p.m. to 11 p.m. workday, etc.), or other non-typical circumstances, it is understood that the after 10:00 p.m. restriction would not be appropriate. However, even in these non-typical circumstances, the Project Manager or the appointed site manager/supervisor shall be required to execute the required written authorization for the use of a Company vehicle, including the time frame in which employees shall be permitted to use the vehicle after their non-traditional workday.
- Project Assigned Employees who are residing in temporary housing/hotels are granted permission to drive to and from the temporary residence and work. Additionally, the Project Manager, or the appointed Site Manager/Supervisor his/her designee (Site Manager, Supervisor, etc.) is required to evaluate and optimize the potential of carpooling of project assigned personnel in an effort to reduce the number of Company vehicles being driven to and from the project site.
- Project Assigned Employees shall not use Company vehicles for sightseeing or any other personal/recreational activities.
- Vehicles may be used in support of "daily life activities" such as going to restaurants for dinner, laundromats, local retail stores, grocery stores, etc.
- A maximum distance for "daily life activity" driving shall be no further than 20 miles from the temporary housing in which an employee resides. In those cases where the maximum allowed distance does not permit daily life activities to be conducted, written authorization from the Project Manager or the appointed Site Manager/Supervisor is required to travel further distances.
- Should an employee be required to live at his/her permanent residence due to its proximity to the project site, that employee shall utilize his/her transportation to drive to and from work. At the site, employees shall be allowed to use a Company vehicle as required to perform project activities.
- If an employee is assigned to a project site that is located within driving distance from the employee's permanent residence but is too far away to allow for a daily commute, that employee shall utilize their transportation to drive to and from their permanent residence and the project site. (i.e., for initial assignment arrival to the project, trips home on rotation, etc.) Upon arrival at the site, employees shall be allowed to use a Company vehicle as required to perform project activities. In these cases, the employee shall also be required to drive their vehicle to and from the project site from their temporary housing/hotel, residence, for personal "daily life activities," etc.

5.2 Pre-employment Evaluation

The Corporate Safety Director shall distribute a copy of this policy to newly hired candidates who shall be required to operate a Company-owned, leased, or rented vehicle for the completion of Attachments 1 and 2. Information provided should be evaluated via

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

the point system in Section 5.3, and the hiring manager is advised regarding any hiring or driving privilege restrictions that may apply. Hiring of persons with regular driving duties (e.g., field technicians and leadmen, salesperson, or others with assigned Company motor vehicles) may only proceed after the information contained in Attachment 1 is evaluated.

Once Attachment 3 is completed, it is to be faxed to the Corporate Safety Department. The driving status of the prospective employee shall be reported to the Human Resources Department in two to three working days. The Corporate Safety Director shall notify the Human Resources Department when the attachments are not returned.

Discrepancies between the certified driving record report and Attachment 1 shall be reviewed with the prospective employee. Deliberate falsification of driving record information shall disqualify prospective employees from being hired.

5.3 Driving Record Point System

The following point system shall be used to evaluate the driving record of all existing employees and newly hired candidates who can reasonably be expected to operate a motor vehicle during their employment. This data is to be collected through Motor Vehicle Records (MVR) search and by the employee completing Attachment 1 of this policy. Attachment 1 is to be completed by the newly hired candidate and reviewed by the corporate safety director to ensure compliance.

Driving Record Point System	
Description	**Assigned Point Value**
Overweight, loss of load, vehicular equipment infraction, etc.	1
Moving violation: speeding, failure to stop, failure to signal, etc	2
At-fault accident	3
Major citations: reckless driving, tailgating, suspended license, speed contest, improper lane usage, Open Container (Non-Work Related), etc	6
Driving under the influence, Hit and Run (leaving the scene)	8
Open Alcohol Container (Work Related)	8

5.3.1 Pre-Employment Driving Record Point System Evaluation

If a new hire candidate has accumulated three (3) points or less in the last twelve (12) months or five (5) points or less in the last twenty-four (24) months, they shall be given the privilege to drive motor vehicles on Company business without restrictions.

If a new hire has accumulated four (4) to six (6) points in the last twelve (12) months or six (6) to eight (8) points in the last twenty-four (24) months, they shall be placed on probation for twelve (12) months. They shall be afforded the privilege to drive motor vehicles on Company business during this probationary period. Any driving infractions (i.e., speeding tickets, at-fault accidents, citations, etc.) accumulated during this probationary period shall result in the termination of the privilege to drive a motor vehicle on Company business.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

If the new hire candidate has accumulated seven (7) to eleven (11) points in the last twelve (12) months or nine (9) to fifteen (15) points in the last twenty-four (24) months, they shall not be eligible for company driving privileges. Employment can only be offered with the strict understanding of the denial of the privilege to drive motor vehicles on Company business. After the first twelve (12) months of employment, the employee can petition the Divisional Vice President and CSD for reconsideration of driving privileges.

If a new hire candidate is expected to drive a vehicle to fulfill the responsibilities of their role. If there has been an accumulation of twelve (12) points or more in the last twelve (12) months or sixteen (16) points or more in the last twenty-four (24) months, the candidate shall not be hired. See Table below:

Candidate's Driving Privilege Status Description	Past 12 Months	Past 24 Months
Can drive without restriction.	0 to 3 points	0 to 5 points
Can drive with an understanding of probationary status.	4 to 6 points	6 to 8 points
Not eligible for Company driving privileges for the first 12 months of employment.	7 to 11 points	9 to 15 points
The candidate is not eligible for hire.	12 points or more	16 points or more

5.3.2 **Existing Employee Driving Record Point System**

An acceptable traffic record is one requirement for continued driving privileges. Accordingly, all affected employees' MVR traffic records are subject to periodic and annual review to ensure compliance with state and federal regulations, as well as company policy.

WORK-RELATED TRAFFIC VIOLATIONS

It is the responsibility of all affected employees to provide verbal notice to their supervisor of any work-related traffic violations that have occurred as soon as practicable but not longer than 24 hours after the occurrence. This verbal notice shall be followed by the employee completing an updated "Employee Driving Record Certification" (Attachment 1) and "Notification of Work-Related Citation" form (Attachment 3). Both Attachment 1 and 3 shall then be immediately forwarded to the Corporate Safety Director.

NON-WORK-RELATED TRAFFIC VIOLATIONS

Employees do not need to report non-work-related citations to their supervisor as they occur. However, if an employee's overall MVR record (work-related or not) exceeds the company's established points system criteria, the employee must verbally inform their supervisor as soon as practicable but no longer than the following business day after the occurrence. This verbal notice shall be followed by the employee completing an updated "Employee Driving Record Certification" (Attachment 1), and it shall then be immediately forwarded to the Corporate Safety Director.

OVERALL DRIVING RECORD EVALUATION

If it is determined that an employee has accumulated three (3) points or less in the last twelve (12) months or five (5) points or less in the last twenty-four (24) months, they shall be allowed to continue with the privilege to drive motor vehicles on Company business without restrictions.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

If an employee has accumulated four (4) to six (6) points in the last twelve (12) months or six (6) to eight (8) points in the last twenty-four (24) months, the employee shall be placed on probation for twelve (12) months. The employee can continue to drive motor vehicles on Company business during this probationary period.

If the employee has accumulated seven (7) to eleven (11) points in the last twelve (12) months or nine (9) to fifteen (15) points in the last twenty-four (24) months, they shall not be eligible for company driving privileges. Continued employment may only be extended with the strict understanding of denial of the privilege to drive company-owned, leased, or rented motor vehicles on Company business. After the first twelve (12) months following driving privilege revocation, the employee can petition their respective Divisional Vice President and CSD for reconsideration of driving privileges. See Table below:

Employee's Driving Privilege Status Description	Past 12 Months	Past 24 Months
Can drive without restriction.	0 to 3 points	0 to 5 points
Can drive with an understanding of probationary status.	4 to 6 points	6 to 8 points
Company driving privileges are revoked.	7 to 11 points	9 to 15 points

5.4 Employee Evaluation Criteria

All employees who may operate a motor vehicle on Company business shall become familiar with the requirements of this policy and shall complete Attachment 2 prior to such operation. The employee driving evaluation criteria are based upon all infractions, including those incurred while on Company business and during off-work hours. It is imperative that employees notify their supervisors as immediately as possible and no later than 24 hours following a work-related citation/accident. Once notified, the supervisor shall ensure the completion of Attachment 1 and Attachment 3, forward it to the CSD Office, and initiate one of the following corrective actions as required. Additionally, as it relates to non-work related and work-related traffic violations, it is the employee's responsibility to ensure that their overall driving record does not allow for the exceeding of the driving records points system. Should the employee's driving record points exceed the system limits, they must notify their supervisor immediately, complete an updated "Employee Driving Record Certification" (Attachment 3), and forward it to the Corporate Safety Department.

5.4.1 Work-Related Minor Citation

When an employee is given a work-related minor citation (i.e., speeding ticket, moving violation, failure to signal turn, loss of load, etc.), the employee's supervisor shall meet with the employee to discuss the corrective action that must be taken so that further violations do not occur. The employee may be required to attend a recognized course in defensive driving on their own time, and the employee shall bear the cost of this training. This course shall be pre-approved by the CSD. The supervisor shall provide written direction to the employee regarding the assigned corrective action(s). The supervisor shall forward a copy of an updated Employee Driving Record Evaluation form (Attachment 3) and a form of verification showing the employee's successful completion of an approved defensive driving course to the appropriate regional Human Resources Department for inclusion in the employee's personnel file. These documents shall also be forwarded to the Corporate Safety Department.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.4.2 Work Related Major Citation

When an employee is given a work-related major citation (i.e., reckless driving, tailgating, suspended license, speed contest, etc.), the supervisor shall hold a meeting with the employee. At this time, the supervisor shall complete the Company Disciplinary Action Form, thereby informing the employee that any additional infractions shall lead to more severe disciplinary action. In addition, the employee shall be required to attend a recognized defensive driving course on his/her own time, as described in section 5.4.1, and may be suspended from work without pay. A copy of the Disciplinary Action\ Form shall be forwarded to the Human Resources Department for their information and inclusion in the employee's personnel file.

5.4.3 Failure to Notify

Should an employee fail to notify his/her supervisor of a citation or accident within the required reporting time, his/her Company driving privilege may be revoked. The supervisor may also take disciplinary action that is appropriate for the unreported event. All disciplinary actions shall be documented to the employee by the supervisor. This copy and any written response by the employee shall be forwarded to the Human Resources Department for their information and inclusion in the employee's personnel file.

5.4.4 Employee Accidents

Whenever an employee is operating a company-owned/leased/rented vehicle or his or her vehicle on Company business and is involved in a Motor Vehicle Accident, the Divisional Vice President and the Corporate Safety Director shall be convened and recommend the corrective action to be taken, if any. All disciplinary actions resulting from Employee Motor Vehicle accidents shall be reviewed for consistency by the CSD.

Depending upon the circumstances and severity of the accident, termination of the employee can be considered. The Human Resources Department must approve this. All communication to the employee regarding the accident and resulting action shall be in writing with a copy to the Human Resources Department for their information and inclusion in the employee's personnel file.

5.4.5 Driving Under the Influence, Hit & Run (Leaving The Scene) and Open Container

If an employee is charged with Driving Under the Influence, Hit and Run, or an Open Alcohol Container violation, they may have their driving privileges suspended pending the final resolution of the charge. If the charge is resolved in the employee's favor, with a final adjudication holding no penalty, driving privileges may be reinstated. However, if any penalty is attached, such as probation, license restrictions, etc., the employee may be considered unqualified to drive for the company. Whenever a current employee is convicted or pleads no contest to a Company-related driving under the influence, hit and run, or open container charge, they may be terminated.

In a case that is not work-related, and an employee is convicted or pleads no contest to a hit and run or driving under the influence charge, the employee shall notify his supervisor. Accordingly, the employee's Company driving privileges may then be revoked for a reasonable time. After the end of the privilege revocation, the employee can petition the Division Vice President and the Corporate Safety Director for reconsideration of driving privileges.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.5 Training

All employees who shall, or may reasonably be expected to, drive a company-owned/leased/rented vehicle shall review and comply with this policy. Additionally, the company may require the employee to attend a driver training class prior to such operation.

5.6 Reinstatement of Driving Privilege

Any employee who has had their privilege to drive a motor vehicle on Company business revoked or denied and who desires to reinstate this privilege must apply to the Division Vice President and the Corporate Safety Director for reinstatement.

The Division Vice President and CSD may require that the Employee complete specific programs before becoming eligible for reinstatement of driving privileges. If such a requirement is imposed, the employee must provide all documentation required by the Division Vice President and the CSD to prove compliance with such program completion. Copies of all documents shall then be forwarded by the CSD (or his or her designee) to the Corporate Safety Department.

Reinstatement of the driving privilege may occur one (1) time at the discretion of the Divisional Vice President and the CSD. If employee driving performance leads to a subsequent revocation of this privilege, such revocation shall be permanent.

5.7 Non-Excel Employee Vehicle Use Requirements

Only approved non-Excel employees (client, subcontractor, or temporary/temp agency employees) who have completed and signed the "Non-EXCEL Employee Driver Questionnaire" (Attachment 5) shall be allowed to drive an EXCEL owned, leased, or rented vehicle. Upon completing the questionnaire and prior to the driver operating an EXCEL vehicle, the subject questionnaire must be signed, dated, and placed on file at the job site. The primary vehicle operator or the Excel Project Management representative shall review the questionnaire and determine whether the non-Excel employee satisfies the driver qualification requirements of this policy. The driver qualification point system can be found in section 5.3 of this policy.

In addition to the above requirement, it is also a requirement of the responsible EXCEL Project/Site Manager to forward a fully executed, company-specific version of the correspondence that is found in Attachment 5 to the employer of the non-EXCEL driver prior to such driver operating any vehicle. This correspondence should not be modified except for the fields that specify the name and address of the client, subcontractor, or temporary employee to which the letter is being written. This written correspondence shall serve to notify that any employee that is assigned by their company to an EXCEL project and is required to operate/drive an EXCEL-owned, leased, or rented vehicle shall be subject to either meeting or exceeding the operator requirements for Excel employees.

As the employer of individuals who are assigned to an EXCEL project, the authorized non-EXCEL employer representative shall sign and return Attachments 2 and 5 to the CSD. By signing Attachments 2 and 6, the non-EXCEL employer is acknowledging that they are either adopting the requirements set forth in this policy (Motor Vehicle Operation) or have developed a similar policy that meets or exceeds these requirements. Failure of a non-Excel employer to comply with the requirements set forth in this policy shall result in the prohibition of their employees from driving any EXCEL-owned, leased, or rented vehicles.

5.8 Driver Safety Notification Sticker

A safety notification bumper sticker shall be applied to all EXCEL-owned/leased vehicles in an effort to ensure continued compliance with driving safety regulations.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The Corporate Safety Department shall serve as the first point of contact as it pertains to notifications that are received. The CSD shall then contact the affected employee and the employee's supervisor for a counseling/discussion meeting concerning the complaint. Upon conclusion of the meeting, the information shall be reviewed by the supervisor and the CSD for determination of corrective or disciplinary action.

The company shall endeavor to ensure that all company-owned/leased fleet vehicles shall have a safety notification bumper sticker applied to the rear of the vehicle. It is the responsibility of the driver, who is deemed the primary/responsible operator of the vehicle, to ensure that the sticker remains on the vehicle, remains legible, and is in no way defaced. If the vehicle is project or program assigned and there is no designated primary operator, then the Project Manager shall be considered the primary/responsible operator. The primary/responsible operator shall contact the CSD immediately upon recognizing that the sticker is defaced or removed such that a new one can be re-applied. Failure on the part of the primary operator to ensure that a legible sticker remains on the vehicle shall result in appropriate disciplinary action

5.9 Insurance

All employees who operate their vehicles for Company business, no matter how frequently, shall have in place the minimum insurance required for the state in which the vehicle is registered. If an employee uses their vehicle for more than 60% of his working hours, the company may require the employee to carry increased insurance coverage and limits. Employees agree that in the event of an accident occurring during working hours in his or her vehicle, the insurance on the employee's vehicle shall be primary, and recovery of any claims by the employee or third persons shall come first from the employee's personal vehicle insurance policy. By an employee driving their vehicle on Company business, the employee consents to this policy, including this provision for the employee and the employee's insurer.

6.0 Delegation of Authority

The Divisional Vice President and the CSD may delegate their duties and responsibilities under this policy in writing.

7.0 Attachments

1. Pre-Employment Driving Record Certification
2. Company Rules for Motor Vehicle Operation
3. Notification of Work-Related Citation
4. Non-Excel Employee Driver Questionnaire
5. Memo Template for Employers of Non-EXCEL Drivers

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

ATTACHMENT 1

DRIVING RECORD CERTIFICATION

DATE _____ **REQUESTOR** _____ **PHONE NO.** _____

Check which is applicable

Assigned Vehicle Primary Driver ☐ **Temporary Driver** ☐

CANDIDATE'S HOME DEPARTMENT # / Job # _____ / _____

Job Title:

Fair Credit Reporting Act Disclosure Statement In accordance with the provisions of Section 604 (b)(2)(A) of the Fair Credit Reporting Act, Public Law 91-508, as amended by the Consumer Credit Reporting Act of 1996 (title II, Subtitle D, Chapter I, of Public Law 104-208), you are being informed that reports verifying your driving record may be obtained on you for employment purposes. These reports are required by Sections 382.413, 391.23, and 391.25 of Federal Motor Carrier Safety Regulations. You have the right to receive a copy of the reports and have the prescribed allotment of time by law to have any errors corrected, and the reports obtained after corrections have been posted.	ASSIGNED POINT VALUE
Overweight, loss of load, vehicular equipment infraction, etc.	1
Moving violations: speeding, failure to stop, failure to signal turn, etc.	2
At-fault accident	3
Major citations: reckless driving, hit and run, suspended license, speed contest, open container, etc.	6
Driving under the influence	8

In the space provided below, please list all violations and accidents currently listed on your driving record by the state issuing your driver's license (include all states for which you have held a driver's license during the last two (2) years). Determine the number of points assigned from the table above, and write in the column labeled Points. Finally, write the total of all points where indicated.

Violations/Accidents	**Driver License #/State**	**Date (mo/yr)**	**Points**
		Total Points:	

I hereby certify that the information provided is a complete and accurate statement of my driving record for the previous twenty-four (24) months. I authorize the company to obtain a copy of my driving record from the state of issuance of my license(s). I understand that falsification of data shall disqualify me from being hired.

Driver's License No.:	State of Issuance:
Expiration Date:	Date of Birth:
Candidate Name (Printed):	Social Security Number:
Signature:	Date:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT 2

COMPANY RULES FOR MOTOR VEHICLE OPERATION

1. Prior to motor vehicle operation, all motor vehicle operators are required to provide the company with current documentation of licensing for the motor vehicle(s) to be operated. Supervisors shall review and approve said documentation.

2. The motor vehicle operator is responsible for the vehicle and for conducting a pre-trip, walk-around inspection prior to use (including load evaluation, if applicable). No vehicle with any mechanical defect, which endangers the safety of the driver, passengers, or the public, shall be used.

3. Except for standard-size passenger pick-up trucks, all company-owned/leased trucks should have small convex mirrors attached to the side mirrors.

4. The operator shall drive defensively at all times and is responsible for complying with all state and local traffic laws, as well as customer regulations concerning motor vehicle operation.

5. The operator and all passengers shall use seat belts at all times when the vehicle is in motion.

6. No employee shall operate a motor vehicle when abnormally tired, temporarily disabled, or under the influence of alcohol or drugs, which may affect the ability of the employee to operate a vehicle satisfactorily.

7. No employee shall allow a Company-owned, leased, or rented motor vehicle to be operated by an unauthorized employee or non-employee. (See also: unauthorized personal use of Company vehicles)

8. The operator shall not allow for any open alcoholic beverage containers within a Company vehicle or a personal vehicle while it is being utilized for Company business.

9. No employee shall drive beyond any barricades or into any area with designations such as HAZARDOUS, DO NOT ENTER, etc., unless required to perform the work.

10. Use caution when driving through congested areas or near where personnel and equipment are working.

11. Whenever possible, a spotter shall be used for backing all vehicles. This may be a fellow Company employee or a non-company employee who is willing to help.

12. Unless required, such as on a client's property, keys shall not be left in an unattended vehicle.

13. Employees shall not leave the driver's seat of a vehicle while the motor is running—exemption: Vehicles equipped with a power take-off device with parking brake set and chocks in place.

14. No motorcycles are to be operated on Company business.

15. Radar detectors are prohibited in all company-owned, leased, or rented vehicles or in personal vehicles while being used for Company business.

16. Analytical samples shall be transported in accordance with 49 CFR regulations. Regulated hazardous substances shall not be transported in personal vehicles.

17. In case of an accident, the following steps shall be taken:
    A. Stop.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

B. Call for medical assistance in case of injuries.
C. Notify the police.
D. Complete the Arch\Gallagher Bassett Services Auto Insurance Vehicle Accident Report and submit it to your supervisor as soon as possible.

18. Whenever a vehicle is stopped upon the traveled portion of a highway or the shoulder of a highway for any cause other than necessary traffic stops, the driver shall, as soon as possible, place or activate the warning devices with which the vehicle is equipped.

19. Employees must notify the supervisor as soon as possible, but not longer than 24 hours after occurrence, for work-related citations, accidents, and license expiration, suspension, or revocation.

20. No employee is authorized to operate a Company vehicle (including rentals) after having been on duty for 16 hours. No employee may drive for more than 12 hours in any single on-duty period. Once either of these criteria has been met, a period of 8 consecutive hours off duty is required before driving duties may be resumed. These are maximum, not minimum, requirements, and employees may be unfit to drive after shorter on-duty periods. Commercial DOT drivers are subject to the more restrictive hours of service regulations provided under DOT regulations and in other applicable Company policies.

21. Project-assigned employees are not permitted to operate company-owned, leased, or rented vehicles after 10:00 p.m. without written authorization from their supervisor. (See section 5.1.1)

22. Project Assigned Employees shall not operate Company vehicles for any personal use, with no exceptions. Personal use includes any usage that is not directly related to Company business.

23. Employees shall not use a Company vehicle to visit an establishment that has the primary function of providing nighttime entertainment, including the dispensing of alcoholic beverages.

24. Temporary or non-Excel employees shall be allowed to utilize Excel Company vehicles only after the driver has completed Attachment 5 and has satisfied the point system requirements set forth in Section 5.3 of this policy. In addition, the employer of that driver shall have satisfied the requirement set forth in section 5.7 of this policy and signed a copy of the memo set forth in Attachment 6. This includes clients, temporary agency employees, or subcontractors.

25. Employees shall not transport family members, friends, or any other unauthorized guest passenger unless it is arising out of the course and scope of Company business.

26. Employees needing to use a mobile phone or engage in other potentially distracting activities while operating a Motor Vehicle are advised to pull off the road when safe to do so for the duration of the activity.

I have read and understand these Rules for Motor Vehicle Operation as well as Excel Group, Inc.'s Motor Vehicle Use Policy, and I agree to abide by all requirements.

Employee's Name (Printed) Employee's Signature Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT 3

NOTIFICATION OF WORK-RELATED CITATION

This form is to be completed by employees incurring a work-related vehicular citation. Once complete, it is to be signed by the employee's supervisor and forwarded to the Human Resources Department for inclusion in the employee's personnel file.

Employee Name _____ Employee No. _____ Date _____

Nature of Citation _____

_____

Location of Citation (City, State) _____

Date/Time Citation Received _____

Is Citation Being Contested? ☐ No ☐ Yes Details _____

_____

_____

Employee Signature _____ Date _____

Corrective Action Being Taken _____

_____

_____

Supervisor Signature _____ Date _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT 4

Non-EXCEL Employee Driver Questionnaire

_____ _____
Date *Time*

_____ _____
Vehicle is assigned to what EXCEL Employee? *Signature of EXCEL Employee*

_____
Non-EXCEL Driver's Name

Do you have a valid driver's license? Yes No

State in which license was issued, DL Number, and Exp Date_____

Have you had any citations or accidents in the past 24 months? Yes No

If yes, please list the type of citations and the associated dates below:

_____

_____

_____

_____

(Refer to Section 5.3 to determine driver eligibility based on the points system provided)

By signing below, I, the temporary driver, am acknowledging that the above information is true and accurately represents my driving record. I understand and agree that any misrepresentation or omission of material fact on this questionnaire shall constitute sufficient grounds for your removal from the project site and shall restrict the future use of Excel vehicles.

I have read and fully understand the above:

_____
Signature of Non-EXCEL Driver

_____
Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT 5

Memorandum

Date:

To:

CC:

From: Project Manager

RE: Requirements for Motor Vehicle Operation

Attached is Excel Group's (Excel) Motor Vehicle Use Policy, which applies to all subsidiaries and affiliates of Excel. As you can see, this policy applies to all operators of EXCEL-owned, leased, or rented vehicles, as well as personal vehicles used on Excel business.

Accordingly, you are hereby notified that any employee who is assigned to a project and who is required to operate/drive EXCEL-owned, leased, or rented vehicles shall be subject to either meeting or exceeding the operator requirements for EXCEL employees. Please be aware that as the employer of individuals who are assigned to an EXCEL project, you must ensure that your company adopts the requirements set forth in this policy.

Only approved non-EXCEL employees who have completed and signed the "Non-Excel Employee Driver Questionnaire" shall be allowed to drive an EXCEL vehicle. Furthermore, prior to the driver operating an EXCEL vehicle, the subject questionnaire must be completed and placed on file at the job site. The primary vehicle operator or responsible Excel management representative shall review the questionnaire and determine whether the non-EXCEL employee satisfies the driver qualification requirements under the policy.

Failure to comply with the requirements of this correspondence or the requirements set forth in the Excel Motor Vehicle Policy shall result in disciplinary action up to and including driving privilege revocation, termination, or removal of an affected non-EXCEL employee from a project site. If your employees' duties are expected to include driving an EXCEL-owned, leased, or rented vehicle, please complete Attachment 5 for all of your affected personnel and provide these to EXCEL's site management. Alternatively, be aware and make your employees aware that they are not authorized to drive an EXCEL-owned, leased, or rented vehicle without such compliance.

By signing this document, I, an authorized employee and agent of the subject Company/employer, acknowledge acceptance of the above information and agree to my employer's compliance with the referenced requirements stated herein.

_____

Signature / Title

_____

Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

OSHA INSPECTIONS

GENERAL

- An employee complaint, serious or fatal accident investigation, special emphasis programs, or planned audits may initiate inspections by OSHA Compliance Officers (OCO).

- Call the Project Manager or Safety if OSHA shows up.

- The Occupational Safety and Health Act of 1970 authorizes the Department of Labor to establish mandatory safety and health standards and to carry out a program of standards enforcement. The purpose of this instruction is to guide OSHA inspections. Remember to contact the Corporate Safety Department at once.

COMPLIANCE INSPECTION

- The OSH Act permits the following types of inspection: (1) regularly scheduled compliance inspections, (2) inspections based on an employee complaint, or (3) where a death or catastrophic accident has occurred.

WARRANTS

- Federal and State court rulings allow employers to request an inspection warrant before permitting OSHA to conduct any compliance inspection. In general, we shall not require an inspection warrant when (1) the inspection is based on a valid employee complaint, (2) there is a death or catastrophic accident, or (3) there is a general compliance inspection. However, we may want OSHA to obtain an inspection warrant in some situations if it is evident that we are being harassed by unfounded employee complaints or suspiciously "random" inspections. Before deciding to request a warrant, the project superintendent must consult with and receive the approval of the appropriate manager. In any event, the Manager of Operations and the Safety Department must be informed immediately of all OSHA inspections.

CLIENT PARTICIPATION

- Much of our work is performed in existing facilities. Many of these facilities have established procedures that call for Client notification and participation during an OSHA inspection. Compliance with Client procedures must receive top consideration.

CREDENTIALS INSPECTION

- An inspection begins when the Compliance Officer arrives at the gate or establishment entrance. The Compliance Officer shall usually present his credentials at this time and ask to see whoever is in charge. If the inspector does not show his credentials, ask to see them. Remember, there have been incidents of industrial spying by individuals representing themselves as OSHA inspectors. Should there be any doubt as to the individual's authenticity, call OSHA's area office for verification. Once the identity of the Compliance Officer has been verified, he should be escorted directly to the Project Superintendent's office. Avoid taking the inspector through the work area whenever possible.

OPENING CONFERENCE

- Once in the Superintendent's office, the Compliance Officer should be again asked to show their credentials. They shall usually explain the purpose of their visit and outline the scope of their inspection. If the inspector is to conduct a general inspection, they may ask that all subcontractors on site be present during the opening conference. Should the inspection be based on an

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

employee's complaint, a copy of the complaint shall be provided. A copy of this complaint should accompany the final report. After the Compliance Officer has stated their purpose, outline job site safety rules such as mandatory wearing of safety glasses, smoking areas, etc. The Client's in-plant restrictions, such as picture taking, etc., should be discussed. The Compliance Officer should be advised of all safety and security requirements.

NOTE-TAKING

- During the walk-around, extensive inspection notes should be kept by the Superintendent or Safety Representative. Notes should list all employees or witnesses with whom the inspector converses. If the Compliance Officer takes photographs, a description of what was shot should be recorded. If a job site camera is available, a photo should be taken of the same item. If an industrial hygiene survey is made, notes should be kept of the instruments used, calibration procedures, areas tested, and preliminary results, if available. It should also be noted whether the employees tested were performing their normal jobs.

CLOSING CONFERENCE

- Once the walk-around portion of the inspection is completed, the Compliance Officer shall hold a closing conference with the Superintendent and any subcontractor inspected. During the closing conference, extensive notes should be taken since the Compliance Officer shall review what was found during the inspection.

INSPECTION REPORT

- Immediately after the Compliance Officer has completed the inspection and left the job site, the project superintendent must make a written OSHA inspection report. The report should include the following information:
    - Name and location of the facility or job site inspected
    - Date and time of inspection
    - Name and identification number of the Compliance Officer
    - Reason for inspection
    - Names of opening conference participants
    - Description of Safety Program and material presented to the Compliance Officer
    - Project safety and security restrictions such as photographs
    - Names of inspection party participants listing job functions or title
    - A general description of the area or items inspected and findings
    - Names of employees or witnesses interviewed by the Compliance Officer
    - Description of photographs taken
    - Industrial hygiene measurements are taken, such as air sampling for toxic substances and preliminary results, if available.
    - Names of closing conference participants
    - Compliance Officer's remarks during the closing conference
    - Citations alleged and proposed abatement dates
    - Comments made to Compliance Officer during closing conference
    - Any additional information pertinent to the inspection

GENERAL CONSIDERATIONS

- Our chances of coming out of a Federal or State OSHA compliance inspection with few or no citations can be enhanced by following a few basic rules:
    - **Safe work** - Our best defense against citation is to maintain a job site that can withstand the toughest of OSHA inspections. Though this may not be possible in every instance, it helps protect us in the long term from needless citations and fines.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- **Professional attitude** - The manner in which the Compliance Officer is handled shall have a significant bearing on the inspector's final inspection report and citation recommendations. The Compliance Officer should be treated courteously and professionally at all times.
- **Required postings and records** - Make sure that the OSHA informational poster is displayed correctly and that all required records are accurately maintained. These two items are examined almost always during an inspection.
- **Jobsite appearance** - Orderliness and good housekeeping practices are a must. These are the first items a Compliance Officer sees when entering a job site. Usually, a sloppy job shall be inspected more closely than one which is well-kept.
- **Documentation** - A documented policy of assuring safe working conditions for all employees must be established and maintained. Compliance Officers look for documented proof that an employer's safety program functions, more or less, as intended. Often, these records shall convince the Compliance Officer that a citation is not justified or warrants a less severe classification.
- **Answering questions** - Answer questions as straightforward as possible, and do not volunteer any unnecessary information.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

COMPETENT PERSON DESIGNATION

GENERAL

- The following functions shall be performed ONLY by documented competent persons:
    - Perform inspections on and maintain all lifting equipment
    - Supervise erection and inspection of all scaffolding
    - Perform and maintain the Electrical Assured Grounding Program
    - Inspect excavations over four (4) feet deep
    - Assign qualified equipment operators
    - Supervise confined space and lock-out procedures
    - Inspect and calibrate air-analyzing equipment
    - Perform carbon monoxide monitoring operations
- The job site superintendent shall designate competent persons.
- The Designated Competent Person Form must be used on our projects to document competent person designations. It must be filled out completely, updated as necessary, and maintained in readily accessible files.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Designated Competent Person Form

Company: _____

Job Location: _____

Job Number: _____

Activity in which engaged:

Electrical Assured Grounding Program _____

Equipment Maintenance/Inspection _____

Qualified Equipment Operator Instruction _____

Monitor Carbon Monoxide _____

Other (Explain): _____

_____

Designation:
The following person or persons are hereby designated competent person(s) and are responsible for the activities indicated.

Name	Address	Age
_____	_____	_____
_____	_____	_____
_____	_____	_____

Signatures of Competent Persons:

_____

_____

_____

Date: _____ Designated by: _____

_____
(Signature and Title)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SUBSTANCE ABUSE, WEAPONS, AND CONTRABAND POLICY

GENERAL

- This policy intends to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- This policy and procedure shall apply to all EXCEL personnel. Employees that the Department of Transportation regulates shall also adhere to the Procedures for Department of Transportation Workplace Drug/Alcohol Testing.

SUBSTANCE ABUSE, WEAPONS, AND CONTRABAND POLICY

- EXCEL recognizes its responsibility to employ all necessary measures to ensure a safe and healthful working environment for its employees, to protect and preserve our property and that of others, and to cooperate with our client in our mutual efforts to provide safe and efficient operations while maintaining conditions conducive to attaining the highest possible work standards.
- This responsibility, in a potentially dangerous industry that demands comprehensive safety measures, extends not only to the protection and well-being of our employees and job sites but to the community and general public as well. Our commitment to the protection of our employees, property, and the public is evidenced by the implementation of programs and procedures that ensure compliance with appropriate safety measures and all applicable laws and regulations.
- As a matter of law and general industrial practice, EXCEL has the responsibility to implement reasonable work rules governing the conduct of employees on job site premises, including parking areas or off-job site premises, while engaged in EXCEL business. This responsibility has, in the past, been carried out in various situations. Because of the growing concern over the use of alcohol and drugs in the workplace and their clearly negative impact on safe and efficient operations, EXCEL has developed the following policy.
- EXCEL prohibits the use, possession, distribution, or sale of intoxicants, illegal and unauthorized drugs, narcotics, "look-a-like" drugs, drug paraphernalia, firearms, weapons, unauthorized explosives, stolen property, or other contraband while on the job site premises or EXCEL business. (Contraband is anything prohibited by law, EXCEL policy, or work rules).
- EXCEL employees must not report for duty with any detectable amount of any drug, alcoholic beverage, intoxicant, narcotic, or other substance in their system, on their person, or in their possession. This includes legally prescribed drugs and medications, which shall, in any way, adversely affect their working ability, alertness, coordination, and response or adversely affect the safety of others on the job.

  Employees may continue to work at job sites while taking prescription or non-prescription drugs needed for the treatment of an illness, provided the medications do not affect the employee's ability to perform work safely. The employee may be required to complete a "Prescription Drug" form, and EXCEL may, as it deems appropriate, determine if the drug could affect the employee's safety. The employee is responsible for being aware of and following all precautions associated with the use of prescriptions or non-prescription drugs. In some cases, a release form from the attending physician may be required before the employee continues work activity.
- Non-prescription or over-the-counter drugs must be taken in accordance with the manufacturer's dosage recommendations and usage cautions. They must not affect the employee's ability to perform work safely.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- A licensed physician must legally prescribe prescription medication to the employee. If an employee is taking medication issued to someone else and receives a positive pre-placement drug screen result, the employee shall be terminated.

SEARCHES

- Entry into or presence at the job site or workplace by any person is conditioned upon EXCEL's right to search the person, personal effects, vehicles, lockers, baggage, and EXCEL quarters of any employee or other entrant for any items named above. By entering into or being present on an EXCEL job site, one is deemed to have consented to such searches, which may include periodic and unannounced searches of anyone while on, entering, or leaving the job site.

SUBSTANCE ABUSE TESTING

- In order to ensure compliance with EXCEL's position concerning the above substances, employees are required as a pre-requisite to employment and a condition to continuing employment to cooperate with alcohol and drug testing procedures. These procedures may include breath and/or blood testing and urinalysis. EXCEL shall test for all chemicals of EXCEL's choosing, either legal or illegal, that, in the opinion of a qualified physician of EXCEL's choosing, may affect or otherwise potentially impact the employee's mood, concentration, or thought process. Such tests shall be administered on the following basis:
  A. **Pre-employment** – Any offer of employment that may be extended to an applicant is conditioned upon the applicant's successful completion of a pre-employment alcohol and drug screen.
  B. **Post-Accident and Near-Miss Incident** – Any accident or near-miss incident that results or could have resulted in an injury requiring treatment by a medical professional or property damage when there is a reasonable suspicion the accident or near-miss incident could be related to drug or alcohol use
  C. **Reasonable Suspicion of Fitness for Duty** - When an employee's supervisor has a reasonable suspicion that an employee is intoxicated, using or under the influence of alcohol or drugs, and otherwise unfit for duty. "Reasonable suspicion" is a belief based on objective and articulates facts sufficient to lead a prudent supervisor to suspect that the employee is using alcohol or drugs.
  D. **Random, Periodic, Unannounced** – At EXCEL's direction, random, periodic, and unannounced testing may be required.
- Specimens shall be collected in accordance with the Department of Transportation's collection procedures found in 49 CFR Part 40. Any person who refuses to submit to a search or request for alcohol and drug testing by EXCEL, or who is found using, possessing, or distributing any of these items named, or who has detectable amounts of prohibited drug or substance in their system, regardless of when or where the drug entered the system, is subject to disciplinary action up to and including termination of employment. Information regarding drug and alcohol test results shall be kept strictly confidential, and only those with the need to know shall receive this information. Any other information concerning drug screen results shall require written consent from the employee.
- Any person who tests positive on an alcohol and/or drug test shall be ineligible for employment until such person enrolls in or completes an acceptable rehabilitation program. Any offer of employment that may be extended is conditioned upon successful completion of a pre-employment alcohol and/or drug screen and agreement to comply with all conditions stated in EXCEL's post-rehabilitation, treatment, counseling, return to work agreement.

CONVICTION OF CRIMINAL DRUG STATUTES

A. In compliance with the Drug-Free Workplace Act of 1988, any employee directly or indirectly working on a Federal Government project and convicted for a violation of a criminal drug statute

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

occurring in the workplace must notify the Human Resource Department no later than (5) five days after such conviction. Any employee failing to notify EXCEL of such a conviction shall be subject to dismissal from employment with EXCEL.

B. As required by the Drug-Free Workplace Act of 1988, the (Human Resource Manager) shall notify the appropriate federal agency or agencies for which EXCEL provides services within ten (10) days after receiving such notice from the employee and/or receiving the actual notice of the conviction.
C. EXCEL reserves the right to discipline or terminate employees convicted of an offense that involves the use, sale, or possession of illegal drugs in the workplace.

EMPLOYEE ASSISTANCE PROGRAM

A. Any employee who feels that they have developed an addiction to, dependence upon, or problem with alcohol or drugs, legal or illegal, is encouraged to seek assistance. Assistance may be sought by writing in confidence to or asking for a personal appointment with the Employee Assistance Program Coordinator ("E.A.P. Coordinator") designated for the Human Resource Department.
B. Each request for assistance shall be treated as confidential—only those persons with a "need to know" shall be made aware of such requests.
C. The Human Resource Department shall contact an approved consultant, hospital, or community organization offering alcohol or drug treatment programs. The Human Resource Department shall refer employees seeking assistance to any appropriate treatment organization.
D. No disciplinary action shall be issued against any employee who comes forward to EXCEL with their problem prior to EXCEL learning of a violation of this policy. EXCEL, at its sole discretion, may grant an employee rehabilitation leave in accordance with the provisions of this policy.
E. Rehabilitation itself is the responsibility of the employee. However, any employee seeking medical attention for alcoholism or drug addiction should examine the benefits available under the group medical insurance plan of EXCEL to determine the extent of insurance coverage. Employees on rehabilitation leave shall be subject to the sick leave and personal leave of absence policies of EXCEL for which they are employed, if applicable.
F. If the employee enters into a rehabilitation program, eligibility for continuing employment or re-employment is dependent upon continued enrollment in or completion of the program. Documentation of successful completion of a rehabilitation program must be provided to EXCEL. Employees enrolled in rehabilitation or aftercare programs must provide EXCEL documentation of continuous enrollment and compliance. This documentation shall be provided to EXCEL on a scheduled basis to be determined by EXCEL. Any employee suffering from an alcohol or drug problem that rejects treatment or leaves a treatment program prior to being properly discharged, therefore, shall not be eligible for re-employment with EXCEL. No employee shall be eligible for this employee assistance program more than one time. The recurrence of an alcohol or drug problem shall be cause for dismissal. An employee who undergoes voluntary counseling or treatment and continues to work must meet all established standards of conduct and job performance.
G. All eligible employees returning to employment from rehabilitation shall be required to sign a "Return to Work Agreement," providing:
    1. For unannounced testing for one year to ensure that the employee has freed themselves from alcohol or drug problems
    2. That failure of such a drug test during this period or the employee's refusal to submit to such testing shall be grounds for immediate dismissal.
    3. The employee must maintain an acceptable attendance and performance record and comply with all other EXCEL policies upon their return to work.
    4. The employee shall participate in any follow-up treatment and/or counseling recommended by the treatment program.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EMPLOYEE AND SUPERVISORY EDUCATION

- The Human Resource Department shall be available to assist with employee and supervisory education and training regarding the dangers of drug and alcohol use in the workplace. Materials on drug and alcohol use shall be made available to both employees and supervisors. EXCEL shall also provide periodic supervisory training to assist in identifying and addressing alcohol and illegal drug use by employees and the procedure for referral testing of employees suspected of violating this policy.

DEPARTMENT OF TRANSPORTATION REQUIREMENTS

- For those employees subject to Department of Transportation regulations regarding drug and alcohol use, the attached "Procedures for Department of Transportation Workplace Drug Testing" are applicable.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SUBSTANCE ABUSE TESTING CONSENT FORM

EXCEL has a policy prohibiting the use, possession, distribution, or sale of intoxicants, illegal and unauthorized drugs, narcotics, "look-a-like" drugs, and drug paraphernalia while on EXCEL job site premises or EXCEL business. In order to ensure compliance with EXCEL's prohibition concerning the above substances, employees are required as a pre-requisite to employment and condition to continuing employment to cooperate in alcohol and drug testing procedures. These procedures may include breath and/or blood testing and urinalysis. Specimens shall be collected in accordance with the Department of Transportation's collection procedures found in 49 CFR Part 40. EXCEL shall test for all chemicals of EXCEL's choosing, either legal or illegal, that, in the opinion of a qualified physician of EXCEL's choosing, may affect or otherwise potentially impact the employee's mood, concentration, or thought process. Such tests shall be administered on the following basis:

- Pre-employment
- Post-Accident and Near-Miss Incidents
- Reasonable Suspicion and Fitness for Duty
- Routine, Periodic Unannounced

In accordance with this policy, any employee refusing to submit to such a test as stipulated by this policy shall be subject to disciplinary action up to and including discharge. Any applicant for employment refusing to submit to such test as stipulated by this policy shall constitute voluntary withdrawal of the application for employment. In the event that such tests should reveal any detectable amount of drug, intoxicant, narcotic, or other substance as outlined in this policy, the individual shall be subject to disciplinary action up to and including discharge or voluntary withdrawal of the application for employment.

My signature below acknowledges that I have been informed of EXCEL's drug and alcohol policy, have read the preceding statement, and have agreed to abide by it in full.

My signature below also constitutes my consent to give urine, breath, and/or blood samples to be used for drug and alcohol analysis. I agree to submit to this test, and I authorize the testing agency to provide the results of this test to EXCEL. I further agree to hold EXCEL, its agents, directors, officers, and employees harmless from any and all liability in connection with the testing for drug and/or alcohol content.

Employee Signature	Witness Signature
Social Security Number	Date

Emergency Hiring Waiver Statement:
I understand that I have been employed either pending the results of a drug screen or pending EXCEL's right to perform a drug screen at a later date. I agree to abide by EXCEL's Emergency Hiring Procedure.

Employee Signature	Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SUBSTANCE ABUSE, WEAPONS, AND CONTRABAND ACKNOWLEDGMENT

By my signature below, I hereby acknowledge that I have read, understand, and agree to abide by and be governed by EXCEL Substance Abuse, Weapons, and Contraband Policy and that I have received a copy of this policy.

I also understand that should I choose to terminate my employment with EXCEL, the cost of my pre-placement medical examination and/or drug test shall be deducted from my final paycheck in accordance with LA R.S. 23:897 (K).

Employee Name (Printed)	Employee SSN
Employee Signature	Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SUBSTANCE ABUSE, WEAPONS, AND CONTRABAND POLICY POST REHABILITATION/TREATMENT/COUNSELING RETURN TO WORK AGREEMENT

As consideration for EXCEL granting the request for re-employment, the following conditions shall prevail:

1. The employee shall submit to EXCEL proof of his or her enrollment in an alcohol and/or abuse follow-up treatment, counseling, or rehabilitation program. Proof of employee's attendance at all required sessions must be submitted to EXCEL on a scheduled basis to be determined by EXCEL. Attendance shall be monitored closely.

2. For one (1) year, the employee agrees to voluntarily submit to testing for alcohol and/or illegal drugs. EXCEL shall test for all chemicals of EXCEL's choosing, either legal or illegal, that, in the opinion of a qualified physician of EXCEL's choosing, may affect or otherwise potentially impact the employee's mood, concentration, or thought process. Such tests shall be administered on the following basis: on a random basis as requested by EXCEL. The employee's failure of such test during this period or the employee's refusal to submit to such testing shall be grounds for immediate termination.

3. The employee must maintain an acceptable attendance and performance record and comply with all other EXCEL policies upon their return to work. For one (1) year, any absence by the employee shall require a written doctor's certificate detailing the reason for such absence. If such absence(s) is the result of alcohol and/or illegal drug use, the employee shall be terminated.

4. The cost of rehabilitation not covered by the group medical insurance plan of EXCEL shall be borne by the employee.

5. Nothing in this agreement alters your status with EXCEL. EXCEL desires your employment relationship with it to be successful. Nevertheless, you remain free to resign your employment at any time for any or no reason, with or without notice. Similarly, EXCEL reserves the right to terminate you for any or no reason, with or without notice.

6. Failure of the employee to comply with all of the above conditions shall result in the employee's immediate termination.

I voluntarily agree to all of the above conditions, and I sign this agreement of my own free will, without duress.

Employee Name (Print)	EXCEL Representative
Employee Signature	Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CONTACT INFORMATION

REGION LOCATION: BATON ROUGE, LOUISIANA

Name: Prime Medical
Address: 15475 Airline Highway
Baton Rouge, LA 70817
Telephone: (225) 749-5750
Contact: Mary Jones
MRO: Dr. Lee

REGION LOCATION: BOSSIER CITY, LOUISIANA

Name: Company Clinic
Address: 5015 Shed Road, Suite 500
Bossier City, LA 71111
Telephone: (318) 741-5858
Contact: Jo Cummings
MRO: Dr. Regina Willis

REGION LOCATION: KENTUCKY

Name: Baptist Occupational Health
Address: 5013 Gilbertsville Hwy
Calvert City, KY 42029
Telephone: (270) 909-2196
Contact: Amy Bebout
MRO: Dr. Theo Powell

REGION LOCATION: TEXAS

Name: All American Screening and Medical
Address: 1102 ABC Avenue, Suite 400
Freeport, TX 77541
Telephone: (979) 239-3000
Contact: Dorothy Patterson
MRO: Dr. Ralph Wehmer

Name: Texas Industrial Medical
Address: 1009 South Broadway Street
LaPorte, TX 77571
Telephone: (281) 941-4174
Contact: Alexis Richardson
MRO: Dr. Phillip Lopez

Name: Prime Medical
Address: 1803 Center Street
Deer Park, TX 77536
Telephone: (281) 476-4600
Contact: Lou Ann Enis
MRO: Dr. Rick Boyles

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Name:	East University Family Medicine - Full-Service Clinic
Address:	3051 E University Blvd.
	Odessa, TX 79762
Telephone:	(432) 362-4376
Contact:	TBD
MRO:	TBD

REGION LOCATION: OKLAHOMA

Name:	Concentra Urgent Care
Address:	6101 W Reno Avenue
	Oklahoma, OK 73127
Telephone:	(405) 495-3085
Contact:	TBD
MRO:	TBD

EXCEL CONTACT:

Byron "Boo" Ragan (225) 677-3237

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PROCEDURES FOR DEPARTMENT OF TRANSPORTATION WORKPLACE DRUG/ALCOHOL TESTING

APPLICABILITY

- This procedure applies to all employees as defined by the Department of Transportation (DOT) Regulations of EXCEL, which agencies of the DOT regulate. These agencies include the United States Coast Guard, the Federal Aviation Administration, the Federal Railroad Administration, the Federal Highway Administration, the Urban Mass Transportation Administration, and the Research and Special Programs Administration.

TESTS REQUIRED

- Agencies of the DOT require drug and alcohol testing to be performed on the following basis:
    1. Pre-placement – Testing performed prior to the employee commencing work.
    2. Periodic – In conjunction with regular DOT physicals.
    3. Reasonable Cause – When an employee's supervision has a reasonable suspicion that an employee is under the influence of alcohol or drugs and otherwise unfit for duty.
    4. Random – The number of random tests conducted annually must be equal to at least 50% of the total number of employees covered, and testing must be spread reasonably over 12 months.
    5. Post Accident – Any accident or near-miss incident that results or could have possibly resulted in any injury requiring treatment by a medical professional or property damage (as defined by the appropriate agency).

TESTING PROCESS

- Drug Testing: EXCEL shall designate one or more collection sites that have all necessary personnel, materials, equipment, facilities, and supervision to provide for the collection, security, temporary storage, and shipping or transportation of urine specimens to a certified drug testing laboratory. An independent medical facility or properly equipped mobile facility may also be utilized as a collection site, provided it meets the requirements listed above.
- Specimen collection shall be done using proper chain of custody and collection procedures found in 49 CFR Part 40.
- Specimens shall be sent to an EXCEL-designated laboratory certified by the Department of Health and Human Services "Mandatory Guidelines for Federal Workplace Drug Testing Programs" 53 CFR 11970, April 11, 1988. Since EXCEL has operations nationwide, laboratory designations may be established regionally (Attachment 1).
- The DOT presently requires that drug-testing programs include testing for marijuana, cocaine, opiates, amphetamines, and phencyclidine. The following initial threshold levels shall be used when screening specimens to determine whether they are negative for these five drugs or the class of drugs. EXCEL shall test for all chemicals of EXCEL's choosing, either legal or illegal, that, in the opinion of a qualified physician of EXCEL's choosing, may affect or otherwise potentially impact the employee's mood, concentration, or thought process. Such tests shall be administered on the following basis.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Initial Test Threshold Level

	NG/ML
Amphetamines	500
Barbiturates	200
Benzodiazepines	200
Benzoylecgonine-Cocaine Metabolite	150
Extended Opiates	300
Marijuana Metabolite	50
Methaqualone	300
Methadone	300
MDMA	500
Phencyclidine (PCP)	25
Propoxyphene	300
9MAM	10.0

- All specimens identified as positive on the initial test shall be confirmed using gas chromatography/mass spectrum (GC/MS) techniques at the threshold levels.

Confirmatory Test

	Threshold Levels (NG/ML)
Amphetamines	250
Barbiturates	200
Benzodiazepines	200
Benzoylecgonine-Cocaine Metabolite	100
Extended Opiates	300
Marijuana Metabolite	15
Methaqualone	300
MDMA	250
Methadone	300
Phencyclidine (PCP)	25
Propoxyphene	300
9MAM	10.0

- Alcohol Testing: EXCEL shall conduct alcohol testing in a location that affords visual and aural privacy to the individual being tested, sufficient to prevent unauthorized persons from seeing or hearing test results. All necessary equipment, personnel, and materials for breath testing shall be provided at the location where testing is conducted. An independent medical facility or properly equipped mobile facility may be utilized for alcohol testing, provided it meets the requirements listed above.
- Unauthorized persons shall not be permitted access to the testing location while testing is being performed or when the evidential breath testing devices remain unsecured.
- In unusual circumstances, when it is essential to conduct a test outdoors or at the scene of an accident, a test may be conducted at a location that does not fully meet the requirements listed above. In such a case, the Breath Alcohol Technician shall provide visual and aural privacy to the greatest extent possible.
- Alcohol testing shall be done using a Breath Alcohol Testing Form (Attachment 2) and Evidential Breath Testing device approved by the Department of Transportation procedures found in 49 CFR Part 40.
- If the result of the screening test is an alcohol concentration of 0.02 or greater, a confirmation test shall be performed. In the event that the screening and confirmation test results are not identical, the confirmation test result is deemed to be the final result upon which any disciplinary action may be taken.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- If the result of the confirmation test is between 0.02 and 0.039, the applicant or employee shall not be allowed to work for at least eight (8) hours.
- Individuals that have results of 0.04 or greater on the confirmation test shall be subject to disciplinary action up to and including discharge or voluntary withdrawal of application for employment.

MEDICAL REVIEW OFFICER

- EXCEL shall designate one or more physicians to perform Medical Review Officer functions. A Medical Review Officer may be designated on a regional basis (Attachment 1). The Medical Review Officer shall be a licensed physician responsible for receiving laboratory results, must have knowledge of substance abuse disorders, and have appropriate medical training to interpret and calculate an individual's confirmed positive test result with his or her medical history and any other relevant biomedical information. The Medical Review Officer shall review all test results and report them to the designated EXCEL representative.

RESULTS

- Laboratories shall be required to maintain employee test records in confidence, as provided in DOT regulations.
- **Individual Access to Test Results** – Employees tested under the DOT regulations shall, upon written request, have access to records relating to his or her drug test and any records relating to the results of any relevant certification, review, or revocation-of-certification proceedings.
  Record Keeping – EXCEL shall keep the following records for the periods specified and permit access to the records as provided earlier in this section.
  1. Records that demonstrate the collection process must be kept for at least three (3) years.
  2. Records of employee drug test results that show employees failed a drug test and the type of test failed (i.e., post-accident). Records that demonstrate rehabilitation, if any, must be kept for at least five (5) years and include the following:
     a. The functions performed by employees who failed a drug test.
     b. The prohibited drugs were used by employees who failed a drug test.
     c. The disposition of employees who failed a drug test (i.e., termination, rehabilitation, etc.)
     d. The age of each employee who failed a drug test.
  3. Records of employee drug test results that show employees passed a test must be kept for at least one (1) year.
  4. A record of the number of employees tested by type of test (i.e., post-accident) must be kept for five (5) years.
  5. Records confirming that Supervisors and employees have been trained as required must be kept for three (3) years.

EAP TRAINING

- EXCEL shall provide employees and supervisory personnel with a minimum of 60 minutes of education and training regarding the dangers of drug and alcohol use in the workplace. Materials on drug and alcohol use shall be made available to both employees and supervisors. In addition, provisions shall be made for the display and distribution of informational material, the display and distribution of a community service hot-line telephone number for employee assistance, and the display and distribution of the employer's policy regarding the use of prohibited drugs. The education program must include at least the following:
  1. The effects and consequences of alcohol and controlled substance use on personal health, safety, and the work environment;

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

2. The manifestations and behavioral changes that may indicate alcohol and controlled substance use or abuse;
3. Documentation of training given to employees and supervisors.

REHABILITATION PROCEDURE

Step 1: Employee must be evaluated by one of the following:

1. Board Certified Substance Abuse Counselor (BCSAC)
2. Toxicologist
3. Addictionologist

Step 2: Employee must be enrolled in and attend a recommended treatment program.

Step 3: Employee must pass a new drug screen.

Step 4: Employee must sign a return-to-work agreement.

Note: Steps 1-3 must be completed and documentation sent directly to Byron "Boo" Ragan, marked "CONFIDENTIAL," at the home office before the employee is allowed to return to the job site.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

OCCUPATIONAL TESTING PROTOCOL

Please implement this protocol for all EXCEL pre-employment, random, annual, reasonable cause & return to work Occupational Testing.

If an employee arrives without authorization, please contact our office so an authorization may be emailed immediately. Billing information should be taken from the top of Excel's medical authorization to ensure proper receipt of invoice. The following should be completed at the time of collection:

On all Pre-Employment, please complete the following:

- 12 panel non-DOT quick screen & non-DOT Breath Alcohol Test (BAT) for required sites.
- Pre-Employment Physical

On all Return-to-Work Evaluations please complete the following:

- Medical Clearance from PCP with respected return date
- Return to work evaluation.
- 12 panel non-DOT quick screen

On all Post Accident collections, please complete the following:

- 12 panel non-DOT quick screen and use Synthetic Marijuana & Synthetic Opioid Panel for sendoff
- Breath Alcohol Test (BAT) (As requested)

On all Random collections, please complete the following:

- Twelve panel test that includes extended opiates. Synthetic Marijuana & Synthetic Opioid Panel.
- Random collections are a sendoff ONLY.

Hair follicle testing may be included in Post Accident, Reasonable Suspicion, Random, and Return-to-Work substance screening at the discretion and recommendation of Corporate Safety.

EXCEL requires that all results be received by email before the close of business on the same working day to the recruiting department (confidential contact info listed below). In the event of an INCONCLUSIVE drug or positive alcohol screen, cold or hot specimen, or other inconclusive results with physicals, etc. we require a representative from the collection facility to report by phone the results at the numbers listed below before emailing. Please notify a representative from our recruiting department before MRO. Excel would like to MRO all pre-employment presumed positives.

All pre-employment screening results & return to work evaluations should be reported to the staff member that has created the authorization. If they are not able to be reached, please contact another member listed below.

- Amanda Cedotal ACedotal@excelusa.com / 225-408-1344 or 225-382-7701 - Baton Rouge
- Kasye Bailey KBailey@excelusa.com / 225-408-3672 or 225-828-0682 - Baton Rouge
- Jaci Lavigne JLavigne@excelusa.com / 225-408-3676 or 225-512-4854 - Baton Rouge
- Cheryl Matt CMatt@excelusa.com / 337-607-1567 or 337-540-6437 - Lake Charles
- Guillermo Torres Guillermo.Torres@excelusa.com / 832-400-1504 or 979-267-3234 - Texas

Post-Accident/Random/For Cause results are reported to the following:

- Richard Beemer – Director of HS&E: rbeemer@excelusa.com / (225) 717-7858 – Baton Rouge
- Mike Carder – Director of HS&E: mcarder@excelusa.com / (979) 481-2401 – Texas

Alternates if all are unavailable:

- Boo Ragan - Director of Recruiting: bragan@excelusa.com / 225-202-7208
- Cody St. Arnaud – Training Manager: cstarnaud@excelusa.com / 225-333-0393
- Corey Audibert – VP of Safety: caudibert@excelusa.com / 225-571-3816

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

WEEKLY SAFETY MEETING REPORT

Job Site:_____ Job No.:_____

Topic of Safety Meeting:_____

Date: _____

Accidents or Unsafe Incident of Prior Week:

_____

_____

_____

Unsafe Conditions Recognized by Employees:

_____

_____

_____

Corrective Action Suggested by Employees:

_____

_____

_____

Names of Employees or Guests Attending Meeting:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EMPLOYEE ORIENTATION REPORT

Employee Name: _____

Date: _____ Project Name: _____

Supervisor Giving Orientation: _____

Handouts Received: _____

		DISCUSSED	
1.	Company History	☐ Yes	☐ No
2.	Safety Policy	☐ Yes	☐ No
3.	General Safety Rules	☐ Yes	☐ No
4.	Quality Process	☐ Yes	☐ No
5.	Specific Job Rules	☐ Yes	☐ No
6.	Use of Personal Protective Equipment	☐ Yes	☐ No
7.	Participation in Safety Meetings	☐ Yes	☐ No
8.	Reporting Unsafe Situations	☐ Yes	☐ No
9.	Making Safety Suggestions	☐ Yes	☐ No
10.	Assisting in Accident Investigations	☐ Yes	☐ No
11.	Unusual Job Conditions	☐ Yes	☐ No
12.	Reporting of Injuries	☐ Yes	☐ No
13.	Other _____	☐ Yes	☐ No
	_____	☐ Yes	☐ No
	_____	☐ Yes	☐ No

The above items were discussed with me today, and I had an opportunity to ask questions. I understand the company policy and position on these items.

Signed: _____
Employee

Signed: _____
Supervisor

Title: _____

Date: _____

Date: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

VARIANCE REQUEST POLICY

PURPOSE

- The purpose of this document is to identify tasks that cannot be performed per EXCEL/Client safety policies. The document has a section that you shall complete stating the reasons the current policy/procedure cannot be followed and what safety precautions shall be implemented to protect the employees from illness or injury. Once completed, it shall be submitted to a Corporate HSE Representative for final review. If the variance is granted, you shall receive documentation stating its approval and expiration date. Once the document reaches the expiration date, it shall be null and cannot be updated without resubmittal and formal review.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL VARIANCE REQUEST FORM

Reason for Variance Request:

Policy Number:

What safety Measures shall be put in place to protect the worker during the time of variance?

Safety Manager Signature: _____

Construction Manager Signature: _____

Corporate Safety Manager Signature: _____

Date of Approval: _____

Expiration Date: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BEHAVIOR BASED SAFETY

PURPOSE

- EXCEL Companies has adopted this Behavior-based Safety Program for the safety of our employees and to help prevent occupational injuries and illness. The elements of our program consist of:
    - Common Goals - Employee and Managerial commitment to the process
    - Creating a systematic, ongoing process that defines a set of behaviors that reduce the risk of work-related injury derived from safety assessments
    - Training personnel in the Observation Process
    - Observation and data collection on the frequency of critical safety practices
    - Feedback and reinforcement to encourage and support positive safety practices
    - Action Plan - Team meetings to decide how to proceed based on the data
    - Review - Monitoring the progress of the Action Plan on a regular basis

OBSERVATION

- A critical element in our Behavior-based Safety (BBS) Program depends on on-site observation. Site observation includes direct and open communication with the employees involved. The observer shall:
    - Meet with the worker at the site and introduce himself and the job being done
    - Observe and monitor the worker, noting his safe behaviors
    - Monitor the At-risk behaviors the worker is putting himself in

OBSERVATION PROCESS TRAINING

- Training in the observation process shall be established and implemented for the proper personnel. These individuals shall be experienced employees of the Company. Training shall consist of either classroom or on-the-job training.
- Elements of the Training Program include:
    - Who is to be trained
    - Ensuring employees know the essential elements of the Behavior-based Program
    - Ensuring that all employees involved in the process are trained in the classroom or on the job
- The types of training that shall be provided are:
    - Management training: to ensure the common goals and process of the program are being met
    - New employee training: effectively communicating the program to all employees
    - Refresher training: to be performed as needed or when changes are made to the policy or procedure of the program
- This training shall include:
    - Program objectives and incident report reviews
    - How to conduct the site observations
    - The observer's knowledge of the job procedures they observe
    - Knowledge of the correct work and safety procedures involved
    - How to complete the observation form
    - How to determine and analyze at-risk behaviors
    - Feedback training and role play (mentoring and coaching). Employees should be aware that they may be observed at any time.
- This training process shall be documented in order to keep on record those qualified to observe on-site behaviors and effectively implement the program's elements.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FEEDBACK

- Communication is a crucial element in a successful Behavior-based Safety Program. To effectively accomplish this, feedback is of crucial importance.
- The observer shall start by commending the safe behavior the worker was doing during his work. You then want to explain, one by one, the at-risk behaviors the worker was exhibiting. Then, the observer asked the worker why he was putting himself at risk. For example, if the worker is welding a piece of metal and the sparks are flying in the worker's direction. The observer would then ask the worker why he was not wearing protective clothing, like a flame-retardant apron.
- At this time, the observer and worker shall discuss the at-risk behaviors until the worker agrees to try the suggested recommendation made by the observer. The worker might be aware of his at-risk behavior or maybe not. The worker may be doing the at-risk behavior for a long time.
- The observer's job here is to highlight this behavior and then explain the associated negative consequences of this behavior. The above discussion and agreement are the individual feedback that helps the worker to change his behavior. This feedback is considered as a form of reward since:
    - The worker got commendable comments on his safe behavior.
    - The worker understood his at-risk behavior without being reprimanded at the site or reported to his superiors for further penalties.
- Critical elements for the observer to remember during the feedback process are:
    - Reviewing the observation with the employee
    - Start with positive comments on behavior and procedure
    - Reinforce these behaviors
    - Describe and discuss the unsafe portions observed
    - Determine the reasons for the unsafe actions with open-ended questions to the worker.
- Re-emphasize that there are no negative consequences at this stage so long as the observer and worker agree on the change of behavior.

DATA COLLECTION

- At the end of the observation, the observer shall:
    - Fill out an Observation Form with the safe and at-risk behaviors he noticed
    - Record the date, time, and location of the observations
    - Note the worker's comments and reasons for the at-risk behavior
    - Record recommended safe behavior
- The worker's name or identification number is not noted in the Observation Form.
    - EXCEL Companies shall use these Company forms to summarize the observation process. Recording this interaction is crucial for later detailed analysis by the committee in charge of the program.
    - Data shall be gathered, and the Observation Form shall be entered into an electronic database. Reports shall be generated for the committee to analyze at-risk behavior trends.
    - Information taken from the observation and feedback phase of the program shall be compiled into valuable data and implemented in the action plan.

ELEMENTS OF THE ACTION PLAN

- In order to address unsafe behaviors, EXCEL Companies shall construct their Action Plan based on Observation Reports, trend analysis, and recommendations from the Observers and employees. The Vice President of EHS is responsible for the procedures of the Action Plan.
- Action planning shall include:
    - Regularly scheduled meetings to analyze Behavior-based report findings
    - Evaluating unsafe behaviors
    - Designating responsible parties and time frames to complete the Action Plan

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Ensuring support of management

- The committee shall:
  - Produce a set of recommendations to correct workers' behavior
  - Recommendations may be as simple as providing Personal Protective Equipment (PPE) to workers in a certain location or increasing the workforce in another location.
  - Some of the recommendations require site modification or costly machinery. Such recommendations are sent to top management for necessary approvals.
- The committee's responsibility is to ensure that recommendations shall:
  - Change the at-risk behaviors at the targeted location
  - Eliminate hazards and risks caused by hardware or wrong design

FOLLOW-UP

- Any Action Plans set out by EXCEL Companies at the direction of The Vice President of EHS shall be completed in a time frame agreed upon by the entire committee.
- Regularly scheduled meetings shall be held to:
  - Assign responsibility for the completion of the Action Plan
  - Ensure that the guidelines of the Action Plan are being carried out
  - To document the Action Plan and its progress

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FIT FOR DUTY

POLICY

- EXCEL Companies has adopted this policy to inform employees of the Fit for Duty Policy. This ensures the safety and health of the employees.

RESPONSIBILITIES

- Employer Responsibilities
  - Ensuring all employees are physically fit and capable of performing the job duties assigned
  - Training personnel to perform assigned tasks safely
  - Responding quickly to eliminate workplace hazards
  - Ensuring all equipment is kept in good repair
  - Ensuring employees follow safe job procedures
  - Reviewing job hazard analysis whenever there is a significant change to any element of the job or there has been an injury or illness.
- Supervisor Responsibilities
  - Establishing and maintaining safe and healthful working conditions
  - Monitoring employee work behaviors using behavior-based safety tools to determine if they should be removed from the worksite
  - Ensuring employees are not impaired by illness or medication use
  - Setting good examples, instructing their employees, making sure they fully understand and follow safe procedures
- Employee Responsibilities
  - Notifying their supervisors if they are fatigued to the point of not being able to perform their duties safely
  - Ensuring they are physically and mentally fit to perform their job functions safely, they must take responsibility for their safety as well.
  - Notifying their supervisor if they are taking prescription or over-the-counter medications
  - No employee is expected to undertake a job until they have received instructions on how to do it properly and safely and are authorized to perform the job.
  - No employee should undertake a job that appears to be unsafe
  - Employees are to report to a superior or designated individual all unsafe conditions encountered during work
  - Personal protective equipment must be used when and where required and adequately maintained

TRAINING

- EXCEL Companies is determined to ensure all employees are appropriately trained for their assigned tasks. Before any employee starts a new assigned task, the employee must receive specific training. Examples might include:
  - Forklift operation
  - Instrumentation
  - Heavy equipment operation
  - Scaffold building, etc.

PROCEDURES

- Drug and Alcohol Testing
  - It is the policy of EXCEL Companies that drug and alcohol testing for pre-employment, post-accident, or random shall be conducted by only a laboratory certified by the U.S. Department of Health and Human Services (HHS) under the National Laboratory Certification Program (NLCP).

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Testing Procedures — Pre-Employment
  - Any offer of employment is deemed conditional upon the potential employee having a negative test result for drugs.
  - Pre-employment drug testing shall be scheduled by the hiring supervisor directly with the third-party service provider immediately upon acceptance of a conditional offer of employment by the candidate. Testing should be done in a location most likely to ensure timely receipt of the results. The Medical Review Officer shall report pre-employment test results.
- Testing Procedures - Employees
  - Any person who requires an employee to be tested for Alcohol or Drugs must tell the employee beforehand why the test is being requested. Any employee who refuses a request to be tested is in breach of this policy and may be subject to disciplinary action that may include termination of employment.
  - When testing for either Alcohol or Drugs is to occur, EXCEL Companies shall direct the employee to a sample collection site designated by a third-party service provider and provide transportation to the site. At EXCEL Companies discretion, a qualified technician may be brought to the worksite to conduct the testing.

SAFE WORK PRACTICES

- It is the determination of EXCEL Companies that all employees shall be informed of the safe work practices and procedures in the workplace. Examples might include:
  - Lockout/Tagout
  - Process Safety Management
  - Asbestos Awareness
  - Electrical safety, etc.

PRESCRIPTION AND OVER-THE-COUNTER MEDICATIONS

- It is the policy of EXCEL Companies that all employees must notify their supervisor when taking any prescription or over-the-counter medication that could impair their ability to work safely.
- Over-the-counter medications such as allergy or cold and flu medications could also impair one's ability to perform safely and must be reported to their supervisor.

EMPLOYEE MONITORING

- To determine if an employee should be removed from the work site, EXCEL Companies shall monitor employee behaviors and activities based on the Behavior Based Safety Policy.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

REASONABLE SUSPICION

GENERAL

- If a supervisor has a reasonable suspicion that an employee is under the influence of alcohol or drugs because of appearance or behavior, the following steps should be taken:

1. The supervisor should escort the employee to a private setting. (Avoid having discussions in the presence of others).
2. At least two (2) management representatives should be present for the meeting with the employee.
3. Do not open discussions by making any accusations regarding the employee's condition. Remain objective.
4. Conduct an appropriate investigation utilizing the "Questions For Suspected Substance Abusers."
5. Record observations of the "Signals for Possible Fitness for Duty Exam" form and record a decision on the "Opinion of Employee's Condition Based Upon Observations" form.
6. If there is a reasonable basis to suspect that the employee is under the influence of alcohol or drugs, and you wish to have them tested, advise the employee of management's request and the consequences for refusal. If the employee agrees, have them execute a Consent Form.
7. If the employee agrees and executes the Consent Form, have the employee escorted to the test site and then escort home.
8. If the employee refuses to be tested, have the employee escorted home, preferably by a member of supervision or the office staff. Note: If an employee refuses to be escorted home, make sure this refusal is adequately documented at the time of the interview. Although physical restraint should be avoided, if the employee appears to be seriously impaired and cannot control his actions, under no circumstances should he be allowed to leave unescorted. Call the police if necessary.
9. Once escorted home, advise the employee not to report to the plant/project until requested to do so by management, pending the test results.
10. If test results are negative, reinstate the employee and pay for all scheduled hours missed. If the test result is confirmed positive, discuss the matter with the Personnel/Safety Department.

GUIDELINES FOR MANAGERS AND SUPERVISORS INVOLVED IN MAKING A REASONABLE SUSPICION TESTING DECISION

- Have the employee accompany you into a private office
- Two members of management should be present for the meeting
- Conduct an appropriate interview
- Complete opinion of Employee's Condition form
- Conclusions support: Return to work or testing
- Advise the employee that the company wishes to have testing conducted and ask for a consent form to be signed.
- If the employee agrees to testing and executes the consent form, have the employee escorted to the test site and then escorted home
- If test results are positive, act promptly to impose discipline.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SIGNALS FOR POSSIBLE FITNESS FOR DUTY EXAM

Employee: _____ Observed By: _____

Position: _____ Period of Observation: _____

The following checklist should assist supervisors in the workplace in the decision to make a referral for professional counsel. If an employee has manifested any of the following patterns (particularly as they represent a change in behavior) and your concern about their current behavior is high, a referral for medical evaluation should be considered. DO NOT DIAGNOSE. Enter only those observations clearly apparent from the investigation. Share your observations with the appropriate medical or management staff.

Personal Manner:

_____ 1. Change in appearance or behavior (dress, hygiene, etc.)

_____ 2. Speech changed or unusual (incoherent, stuttering)

_____ 3. Physical mannerisms (gesture, posture changed or unusual)

_____ 4. Facial expressions changed or unusual

_____ 5. Level of activity much reduced or increased (underline applicable word)

_____ 6. Topics of conversation changed or unusual (“magic powers,” disjointed, unfocused)

_____ 7. Detailed discussions about death, suicide, or harming someone else

_____ 8. Increasingly irritable, tearful, or agitated

_____ 9. Acting persistently boisterous or rambunctious

_____ 10. Unpredictable or out-of-control displays of emotion

_____ 11. Unusual fear (they are out to get me)

_____ 12. Lack of appropriate caution

_____ 13. Detailed discussion about using drugs and/or alcohol

_____ 14. Unfounded accusations towards others (e.g., feels persecuted)

_____ 15. Secretive behavior(s)

_____ 16. Memory problems (difficulty recalling instructions, data, past events)

_____ 17. Excessive fatigue

_____ 18. Unrealistic self-appraisal or grandiose statements

_____ 19. Temper tantrums or angry outbursts

_____ 20. Demanding, rigid, inflexible behaviors(s)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

_____ 21. Manifests excessive sweating or hand/foot tremor

_____ 22. Significant change in relationships with co-employees or supervisors

_____ 23. More frequent or intense arguments

_____ 24. Verbally abusive

_____ 25. Physically abusive

_____ 26. Persistently withdrawn or less involved with people

_____ 27. Intentional avoidance of supervisor

_____ 28. Expressed frustration or discontent

_____ 29. Change in frequency or nature of complaints

_____ 30. Complaints by co-employee

_____ 31. Cynical, “distrustful of human nature”

_____ 32. Unusual sensitivity to advise or criticism of work

_____ 33. Unpredictable response to supervision

_____ 34. Passive-aggressive attitude or behavior

_____ 35. Requires excessive advice or guidance to complete work

Physical observations:

1. Walking:	☐ Stumbling ☐ Staggering ☐ Falling
2. Standing:	☐ Swaying ☐ Unable to Stand ☐ Feet Wide Apart ☐ Sagging at Knees
3. Speech:	☐ Shouting ☐ Silent ☐ Whispering ☐ Slow ☐ Rambling ☐ Slurred ☐ Incoherent
4. Demeanor:	☐ Sleepy ☐ Talkative ☐ Excited ☐ Hostile ☐ Confused ☐ Nervous
5. Actions:	☐ Crying ☐ Hyperactive ☐ Unruly
6. Eyes:	☐ Bloodshot ☐ Watery ☐ Dilated ☐ Glassy ☐ Droopy ☐ Closed
7. Face:	☐ Flushed ☐ Pale ☐ Sweaty
8. Appearance / Clothing:	☐ Disarranged ☐ Partially Dressed
9. Breath:	☐ Strong Alcoholic Odor ☐ Faint Alcoholic Odor

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

10. Movements: ☐ Fumbling ☐ Jerky ☐ Slow

11. Smoking / Chewing: ☐ Gum ☐ Candy ☐ Mints ☐ Tobacco Product Type: _____

Other behaviors, please specify the following:

_____

_____

_____

Opinion of Employee's Condition Based Upon Observations

A. _____Under the influence of alcohol.

B. _____Does not appear to be under the influence of alcohol.

C. _____Under the influence of drugs.

D. _____Does not appear to be under the influence of drugs.

E. _____Unfit to operate machinery or to perform safely in the workplace.

F. _____Recommended for physical examination and/or testing for drugs/alcohol.

G. _____Additional Comments:_____

_____

_____

_____

Manager's Name **Date**

Based upon responses made, behavior exhibited, and observations at the time of questioning, I concur with the above assessment.

_____

Witness Name

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SAFETY DEPARTMENT

RESPONSIBILITY

- The Safety Department shall assist management in updating and monitoring an effective overall Safety Program. Their objectives are to advise management and supervisory personnel in safe work practices, to supply information required to comply with EXCEL's Safety Program and OSHA Regulations, and to ensure that records are maintained and submitted as required. The Safety Department shall assist management in determining that job supervisors and first aid attendants are qualified and trained to meet the special conditions existing on a given job. To ensure that adequate implementation occurs in the field, the safety personnel shall visit each job as required or as directed and report their findings to management. Weekly reports summarizing safety activities shall be submitted to management, with copies sent to the appropriate project superintendent.

- The safety personnel shall assist management in the following specific areas:

    1. Formulation of the Site Accident Prevention Program.

    2. Review the Accident Record System for all reports of injuries and recommend specific actions to the appropriate management personnel to eliminate accidents.

    3. Formulate and administer Safety Training Programs for supervisors.

    4. Personally inspect jobs for the purpose of discovering unsafe work practices and unsafe conditions and recommend corrective action.

    5. Ensure all concerned are familiar with Client, State, and Federal safety regulations.

    6. Ensure that qualified first aid trained attendants are available on each job; arrange for training, as necessary.

    7. Review selected safety equipment and first aid kits.

    8. Advise the Project Superintendent of any apparent violations of the Safety Program.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SITE MANAGEMENT

RESPONSIBILITY

- It shall be noted that the management of EXCEL advocates a robust accident prevention (safety and health) program because it prevents human suffering and individual hardships for our employees and directly contributes to the improvement of morale, which in turn results in better productivity and quality.

- Site management must accept this same philosophy, as well as accept total responsibility for the implementation of the procedures and policies set forth within this manual.

- Site management shall familiarize their selves with this manual in order to ensure adequate site implementation procedures are in place. Site management may, if the need arises, implement more stringent site safety and health procedures and policies to provide an even safer workplace.

- It shall additionally be the responsibility of the site management to ensure that their favorable safety and health philosophy is communicated to the workers.

- Site management shall ensure that PPE is provided, used, and maintained in a sanitary and reliable condition. Each job task shall require a JSA. PPE shall be reviewed with employees based on hazards and proper selection. Training shall be communicated prior to job assignment.

- If employee-owned equipment is permitted, the site manager shall be responsible for the assurances of its adequacy, maintenance, and sanitation.

- Site management shall ensure that the selected PPE is fitted to each affected employee. Defective or damaged PPE shall not be used.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SUPERINTENDENT COMPLIANCE CHECKLIST

		Completed
1.	Advise each new employee in writing of the working conditions and work rules of the job. General conditions should be published and posted at the craft buildings. All new employees must be advised of any specific safety hazards on the job.	_____
2.	Post the Job Safety and Health Protection poster in a conspicuous place.	_____
3.	Obtain and post in a conspicuous place near the telephone an emergency phone list showing doctors, ambulances, and hospitals/clinics.	_____
4.	Appoint a qualified first aid person to handle first aid cases and coordinate doctor/hospital relations.	_____
5.	Provide a fully equipped first aid kit suitable for the type of job and number of employees anticipated to man the job.	_____
6.	The Superintendent shall be responsible for posting all required medical treatment cases on the OSHA 300 Log “Log of Occupational Injuries and Illnesses.” This form should be posted in the field office.	_____
7.	Determine the need for personal protective equipment and set up requirements for use - hard hats, safety glasses with side shields, hearing protection, and safety harnesses. Determine the type of respirators required.	_____
8.	Fire extinguishers are required on mobile cranes, in shops, and in warehouses, etc. Fire extinguishers shall be provided in “proximity” to fuel storage tanks and to areas or elevations where welding or burning of metal occurs.	_____
9.	A firefighting program is to be devised by the Safety Supervisor and followed throughout all phases of construction. It should be coordinated with plant operations if they are at the site.	_____
10.	Maintenance sites should confer with the Client Safety Department to determine the contractor’s firefighting requirements.	_____
11.	EXCEL requires cranes and forklifts to be checked daily prior to use, and proof is required that instructions have been given and followed.	_____
12.	Drinking water shall be provided in containers that should be tightly closed and provided with tap. The containers shall be clearly marked. Paper cups should be kept in sanitary containers, and a receptacle provided to hold used cups.	_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

OSHA/PRE-JOB CHECKLIST

____ Do you have an OSHA poster properly displayed in a conspicuous place?

____ Are emergency telephone numbers posted near the telephone?

____ Is your first aid kit properly stocked?

____ Are all personnel properly equipped with personal protective equipment? Do you insist that this equipment be utilized?

____ Is there a trained first aider present at all times? If so, does this first aider possess an up-to-date card?

____ Is fire protection adequate? Are extinguishers properly charged?

____ Are appropriate caution signs, etc., properly posted (i.e., “Hard Hat Area”)

____ Are petroleum storage containers properly marked? Are they the approved type?

____ Are ladders and hand tools in good condition? Do ladders comply with OSHA regulations?

____ Are electrical extension cords of the three-wire type? Are they in good condition? Are all power supply panels properly grounded? Is temporary lighting properly rigged to comply with OSHA regulations?

____ Are scaffolds properly constructed? Are protective railings provided where required by OSHA regulations? Are all open-sided floors guarded? Are floor holes properly covered?

____ Are motorized vehicles in good working order? Are they serviced regularly?

____ Are open trenches properly shored? Sloped?

____ What about housekeeping? Is the site clean and orderly, free from debris, trash, and other hazards?

____ Are required records available and up-to-date?

____ Do you have a Safety Awareness Program within your project?

____ Do you have a positive attitude about safety?

The above is only a partial checklist. It should not be construed as being all-encompassing. It will, however, provide you a starting point.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SUPERVISOR

RESPONSIBILITY

- It shall be the responsibility of each member of supervision (general foreman, foreman, and leadman) to ensure that the safety and health procedures set forth in this manual are carried out. In addition, it shall be their responsibility to enforce safe work practices, as it is their responsibility to enforce practices to maintain productivity and quality.
- As the line supervisor, one must realize that he/she is the key to an efficient, effective Safety Program. The line supervisor provides the first line of communication and enforcement to the workers; therefore, he/she must set a good example for the subordinates, transmitting the safety and health program philosophy of the Company and site management to the workers.
- As a member of line supervision, one is and shall be held responsible and accountable for the work practices of his/her workers. It is, therefore, imperative that the members of supervision familiarize themselves with this manual and enforce the policies and procedures within.
- In addition to enforcing the policies and procedures within this manual, the supervisors have the responsibility to:
    - Plan each task, no matter how minor, with safety as an integral part
    - Orientate the worker in reference to:
        - The work group (the new worker)
        - The work area and hazards that exist
        - General and specific safety hazards
        - Accident (non-injury and injury) reporting standards and why
        - The worker's safety responsibility
    - Assign personnel to tasks for which they are qualified.
    - Ensure adequacy of material prior to use (inspection)
        Analyze worker and work group performance:
        - Quality of performance
        - Safety equipment use
        - Injuries and accidents
    - Correct deficiencies noted through analysis:
        - Educate the worker
        - Consult with management
    - Investigate accidents (non-injury and injury):
        - Detect direct cause
        - Implement corrective actions
        - Communicate with co-supervisors and management
        - Complete necessary reports
    - Train the workers and workgroup in safe work procedures:
        - Daily work planning sessions
        - Safety Meetings
    - Understand one's capabilities
        - Consult with management
        - Make self-evaluation and corrections
    - Ensure that the worker has been informed of the potential health hazards created from exposures to hazardous materials or tasks.
    - Enforce good housekeeping, proper lighting and ventilation, and wearing of appropriate personal protective equipment
    - If employee-owned equipment is permitted, it is the responsibility of the site supervisor to ensure its adequacy, maintenance, and sanitation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- The site supervisor shall assess the workplace to determine if hazards are present or likely to be present, which necessitate the use of PPE. If such hazards are likely to be present, the site supervisor shall select and have each affected employee use the types of PPE that shall protect the affected employee from the hazards identified
- The site supervisor shall communicate selection decisions to each affected employee and select PPE that properly fits each affected employee.
- Defective or damaged PPE shall not be used.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SITE SAFETY

RESPONSIBILITY

- EXCEL requires a Site Safety Representative when the project headcount reaches twenty-five (25) employees. Every seventy-five (75) employees after the initial twenty-five (25) employees shall require additional safety support. The Safety Representative(s) shall act as an advisor/consultant to management for the coordination and implementation of the Company and site-specific safety and health policies and procedures. In addition, this individual is responsible for ensuring compliance with the governing federal, state, local, and client safety and health regulations.

- The Site Safety Representative shall:
    - Analyze the site-specific safety and health procedures for adequacy
    - Ensure adequacy of necessary personal protective equipment selected for employee use
    - Ensure orientation of management and supervision concerning this manual, their particular responsibilities, and compliance.
    - Ensure the orientation of the workers.
    - Ensure compliance with all appropriate safety and health procedures through regular site inspections documenting such.
    - Ensure adequate investigation and analysis of accidents (non-injury and injury)
    - Ensure prompt and adequate treatment for injured employees
    - Provide safety and health training information for the education of management, supervision, and workers
        - Accident analysis (cause, results, and corrective action)
        - Inspection analysis and needed corrective actions
        - Trend analysis
        - Safe work procedures
    - Arrange publicity and coordinate Safety Incentive Recognition Programs
    - Ensure preparation and submittal of required safety and health recordkeeping information
    - Ensure documentation of required safety and health recordkeeping information (i.e., inspections, training, first aid logs, OSHA logs, etc.)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EMPLOYEE

RESPONSIBILITY

- It is recognized that our employee and their acceptance of the established safety and health procedures is the key to the success of the overall program. Although the reason for some of the safety and health procedures and policies may not be apparent to the worker at first, it is felt that worker compliance can be achieved through worker training and, if necessary, discipline.
- The worker must accept the responsibility to comply with procedures established for their safety and health.
- The worker is dependent upon management and supervision for leadership. The worker shall, in turn, assist management and supervision in the development of the co-workers' safety attitudes. The worker shall also always feel free to suggest improvements in methods and/or procedures because the primary goal is to prevent accidents, both non-injury and injury.
- The employee shall:
    - Ensure adequate understanding of the task to be performed
    - Ensure adequate understanding of safety and health procedures
    - Ensure understanding of task and safety equipment use
    - Report unsafe conditions
    - Correct the unsafe acts of their co-worker
    - Assist in the training of the co-workers
    - Ensure self-compliance with safety and health regulations
    - Remember that the safety and health program was developed to ensure a safe workplace free from injury

EMPLOYEE ACCIDENT PREVENTION

- You, the employee, are the prime asset of this organization. The accident prevention procedures that have been developed are designed not only to ensure compliance with Federal, State, Local, and Client safety and health regulations but also to reduce the probability of injury to you. For this reason, there are specific accident prevention responsibilities that you must accept to make our program whole.
- Always keep in mind that one of your primary responsibilities as an employee is to perform your duties safely.
- Learn the approved safe practices that apply to your work and observe them at all times.
- Ask for assistance from a co-worker, supervisor, or Safety Department when you are unsure of a work or safety practice.
- Maintain an active interest in the Safety Program. Give your undivided attention to safety discussions, which your supervisor may introduce from time to time to prepare you for new or different work. Request an explanation of points that you do not understand thoroughly.
- Always be alert to safety and health hazards. Whenever possible, correct or eliminate an obvious hazard yourself. Report all hazards and any corrective measures you have taken to your supervisor.
- Never bypass the function of a safety device. Report all safety device malfunctions to your supervisor as soon as possible and flag the device immediately to warn others of the hazard.
- Report promptly to your supervisor any injury you sustain while at work, no matter how slight you may consider the injury to be.

- Use the Near-Miss form to report details of an accident that did not result in personal injury or property damage but could do so if it should occur again. Remember, the goal is to prevent recurrence.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Never attempt to do a job alone when common sense and safe work practices tell you assistance is needed.
- Use personal protective equipment provided for the work you are doing.
- The work area is no place for clowning; never engage in scuffling, practical joking, or horseplay of any kind on the job. Such conduct shall not be tolerated.
- Be cautious in walking or moving about the work area so as to avoid slipping, tripping, or falling. Be especially cautious when weather conditions create or aggravate hazardous situations. Running on the job is prohibited.
- Always plan your work and try to anticipate any hazards you might encounter.
- For your protection, you are urged to observe good, safe practices off the job as well as on the job.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

COMPLIANCE ASSURANCE

PURPOSE

- Ensuring compliance with safety and health standards is the minimal basis for inspection routines.
- Inspections of work areas, procedures, and equipment shall not only point out what violations are occurring but the information shall be analyzed to determine the causes.
- The analysis shall reflect the reasoning why the violations are occurring and where and what appropriate corrective actions must be taken.

RESPONSIBILITY

- Routine inspections of work areas, procedures, and equipment will be conducted by the Safety Representative(s) and designated competent persons.
- It shall be the responsibility of the Safety Representatives (Corporate, Company, and Site) to ensure that adequate safety and health inspections are performed and recordkeeping is maintained.

SITE INSPECTIONS

- Periodic site inspections will be conducted by the Corporate and Company Safety Representatives. Such inspections shall be designed to review
    - Site Compliance
    - Employee Compliance
    - Recordkeeping
    - Accident and injury trend analysis
- Results of inspections will be reviewed with the appropriate personnel, i.e., Corporate, Company and Site Management, Project Supervision, and Site Safety Representatives, with recommendations for deficiency correction being noted.
- Planned site inspections should be conducted on a weekly basis by the Site Safety Representative, with documentation of such being maintained.
- As elected, on a periodic or regular basis, a member of the Site Management and/or supervision shall accompany the Safety Representative.
- Daily site inspections to ensure site and employee compliance shall be and is the responsibility of site management, supervision, and the job site Safety Representative, if assigned to the project. These individuals must correct or ensure the correction of deficiencies noted.

EQUIPMENT INSPECTIONS

- All equipment for use shall be inspected at periodic, regular, and daily intervals as required. Such inspections shall be conducted by Safety Representatives, supervision, employees, and/or designated competent persons.
- Periodic inspections shall be conducted on such items as lifting hooks, fire protection equipment, etc.
- Regular inspections shall be conducted on a monthly basis with such inspections including:
    - Rigging equipment
    - Electrical equipment
    - Fire protection equipment
    - Respiratory equipment, etc.
- Daily inspections shall be conducted by all user employees prior to the use of work tools and/or equipment, personal protection equipment, work platforms, and general work area.
- Deficiencies noted shall be either corrected or noted for correction.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TRAINING

- In order to ensure the adequacy of inspections, employees shall be educated on the deficiencies that should be looked for.

DOCUMENTATION

- Documentation shall be maintained and analyzed to detect trends and assure deficiency correction. Specific documentation shall be maintained on the following:
  - Periodic site inspections
  - Planned site inspections
  - Periodic equipment inspections
- Documentation shall be maintained by the Site Safety Representative.

JOB SAFETY ANALYSIS

- Each Site Superintendent will identify specific job site hazards in their "Site Specific Action Plan" before beginning construction and ensure that proper and safe practices are implemented in the construction phase of their job.

RESPONSIBILITY

- The Site Superintendent, Supervisor, or Engineer who is directly responsible for the work will develop their action plan and implement a job safety analysis (JSA).
- The Safety Representative assists the responsible person in the development of a JSA and approves all JSAs.

DEFINITION

- **Job Safety Analysis (Job Hazard Analysis)** - The breaking down into its component parts any method or procedure to determine the hazards connected therewith and the requirements or qualifications of those who are to perform the work; identify hazards associated with each step or task; and to implement adequate solutions to eliminate, nullify, or reduce to a minimum the consequences of such hazard.

JOB SAFETY ANALYSIS IS REQUIRED

- A JSA is mandatory for all tasks. The following are some examples of hazards that would be listed for mitigation purposes.
  - Potential for the release of stored energy, i.e., electrical, pressure, explosive, etc.
  - Danger of striking or being struck by.
  - Potential injury from burns, either chemical or thermal.
  - Potential oxygen-deficient environments, limited access or exit conditions.
  - Potential of being caught in, on, or between objects.
  - Potential injury from strain by pushing, pulling, or lifting.
  - Potential exposure to toxic/radioactive gases, vapors, fumes, mists, or dust.
  - Potential for property damage or loss of function (i.e., critical lifts, power outages, etc.).
  - Increased fall potential.

DEVELOPING THE JOB SAFETY ANALYSIS

- Use the following form for Job Safety Analysis.
- List the key steps in the sequence in which they occur.
- Determine the hazard(s) for each step.
- Apply specific and effective safety measures to eliminate or control the hazard(s).
- Be specific in the designations of protective devices or equipment.
- JSAs are to be developed in sufficient detail to prevent confusion and misunderstanding.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Consideration shall be given to movement, work area, specific hazards, safety rules, and "Triggers," i.e., recognition of abnormal or unexpected problems that could cause safety problems during construction.

POSTING AND FILING OF JSA'S

- The JSA serves as an operating procedure and will be available to personnel performing the work.
- A copy of the accepted JSA will be retained by the Safety Representative in the reference file, and a copy will be provided to the Safety Manager.
- A retention of three months is required.

TRAINING

- Personnel involved with the operation will be instructed as to the hazards involved and methods required to eliminate the hazards.
- Personnel will be made aware of the procedures to be used and the requirements of the JSA.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PRE-JOB AND MONTHLY SAFETY INSPECTION

Project Title: _____ Project No.: _____

Client: _____ Person in Charge: _____

Date: _____ Person Inspecting: _____

Rating Description

A. Adequate at the time of inspection.
B. Needs immediate attention.
C. Needs consideration.

		Comments:
I.	**Jobsite Information**	
	A. OSHA and other job site warning posters displayed.	
	B. Safety meeting reports on file.	
	C. Safety training, including first aid.	
	D. Medical services and first aid equipment, stretchers, emergency vehicles, and first aid kits readily available.	
	E. Jobsite injury records being kept (OSHA 300 Log).	
	F. Emergency telephone numbers (fire, police, doctor, hospital, and ambulance) posted.	
	G. Employees aware of the Right-to-Know Act.	
II.	**Housekeeping and Sanitation**	
	A. General neatness of working areas.	
	B. Regular disposal of waste and trash.	
	C. Passageways and walkways clear.	
	D. Adequate lighting.	
	E. Oil and grease removed.	
	F. Projecting nails, objects, etc.	
	G. Waste containers provided and used.	
	H. Sanitary facilities adequate and clean.	
	I. Drinking water tested and approved and marked "Drinking Water Only."	
	J. Adequate supply of water.	
	K. Disposable drinking cups.	
	L. Adequate toilet facilities.	
III.	**Fire Prevention**	
	A. Fire instructions to personnel.	
	B. Fire extinguishers identified and checked.	
	C. Phone number of fire department posted.	
	D. Hydrants, clear access to public.	
	E. Good housekeeping (disposal of oily rags).	
	F. "No Smoking" posted and enforced.	
IV.	**Electrical Installations**	
	A. Adequate wiring, well insulated.	
	B. Fuses provided.	
	C. Fire hydrants checked.	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

D. Electrical dangers posted. _____
E. Proper fire extinguisher provided. _____
F. Terminal boxes equipped with covers. _____
G. Assured grounding complete. _____
H. Lock Out/Tag Out Procedure known and used. _____

V. Hand Tools

A. Proper tool being used for each job. _____
B. Neat storage, safe carrying. _____
C. Inspection and maintenance. _____
D. Damaged tools repaired or replaced. _____
E. Are employees' tools inspected? _____

VI. Power Tools

A. Good housekeeping where tools are used. _____
B. Tools and cords in good condition. _____
C. Assured grounding done. _____
D. Proper instruction in use. _____
E. All mechanical safeguards in use. _____
F. Tools neatly stored when not in use. _____
G. Right tool being used for the job. _____
H. Wiring properly installed. _____
I. Tagging system for tools out of service. _____

VII. Powder-Actuated Tools

A. Local laws and ordinances complied. _____
B. All operators trained and qualified. _____
C. Tools/charges protected. _____
D. Competent supervision. _____
E. Tools checked and in good order. _____
F. Tools used on recommended materials. _____
G. Safety goggles on face shield. _____
H. Flying hazard checked by backing up, removal of personnel, or use of captive stud tool. _____

VIII. Ladders

A. Ladders inspected and in good condition. _____
B. Ladders spliced. _____
C. Properly secured. _____
D. Side rails extend 36" above landing. _____
E. Built-up ladders of sound material. _____
F. Rungs or cleats on 12" centers. _____
G. Step ladders fully open. _____
H. Metal ladders not used around electrical hazards. _____
I. Proper maintenance and storage. _____
J. Ladders painted. _____
K. Safety shoes in use and secured. _____
L. 4:1 ratio for straight ladders. _____
M. Ladders tied off. _____

IX. Scaffolding

A. Erection properly supervised. _____
B. Do structural members meet safety factors. _____
C. All connections secure. _____
D. Scaffold tied off into structure. _____
E. Working area free of debris. _____
F. Workers protected from falling objects.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

G. Scaffold plumb square with cross.
H. Guard rails, intermediate rails and toe boards in place.
I. Scaffold equipment in good order.
J. Ropes and cables in good condition.

X. Motor Vehicles/Equipment

A. Regular inspection and maintenance.
B. Qualified operators with license.
C. Local and state laws and regulations observed.
D. Brakes, lights, warning devices.
E. Weight limits and loads controlled.
F. Personnel carried in a safe manner.
G. Glass in good condition.
H. Back up signals provided.
I. Fire extinguisher installed, where required.
J. Spotter / Operator Checklist

XI. Barricades

A. Floor openings planked or barricaded.
B. Roadways and sidewalks protected.
C. Adequate lighting provided.
D. Traffic controlled.
E. Utilized for overhead work.
F. All barricades of proper design.

XII. Handling and Storage of Materials

A. Materials properly stored or stacked.
B. Passageways clear.
C. Stacks on firm footings, not too high.
D. Proper number o men for operation.
E. Men lifting loads correctly.
F. Materials protected from weather.
G. Protection against falling in bins.
H. Dust protection observed.
I. Extinguisher and other fire protection.
J. Traffic controlled in storage area.

XIII. Excavation and Shoring

A. Adjacent structures properly shored.
B. Shoring, sheathing used for soil and depth.
C. Roads, sidewalks supported and protected.
D. Material stored too close to excavation.
E. Excavation barricaded and lighted.
F. Equipment is safe distance from edge.
G. Ladders provided, where needed.
H. Equipment rams adequate.
I. Job supervision adequate.

XIV. Flammable Gases and Liquids

A. Signs/placards made discernible.
B. All containers clearly identified.
C. Proper storage practices observed.
D. Fire hazards checked.
E. Proper storage temperatures.
F. Carts for moving cylinders.

XV. Welding and Cutting

A. Are welders certified?

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

B. Screens and shields.
C. Goggles, gloves and clothing.
D. Equipment in operating condition.
E. Electrical equipment grounded.
F. Power cables protected and in good repair.
G. Fire extinguishers of proper type nearby.
H. Inspection for fire hazards.
I. Flammable materials protected.
J. Gas cylinders chained upright.
K. Gas lines protected and in good condition.
L. Cylinder caps in use.
M. Oxygen and flammable cylinders separated in storage.
N. Respiratory protection/ventilation provided.

XVI. Personal Protective Equipment

A. Eye protection.
B. Face shields.
C. Respirators and masks – Proper fit?
D. Helmets and hoods.
E. Head protection.
F. Gloves, aprons and sleeves (rubber or plastic) designed to afford protection from alkalis and acids, electrician's rubber gloves with protectors.
G. Respirators for harmful dust, asbestos, sand blasting, welding (lead paint and galvanized zinc or cadmium). Adequate ventilation when painting or applying epoxy resins. All safe practices in spraying asbestos materials using vacuum to clean up. When there is a question about injurious exposure, notify supervisor immediately, who, in turn, shall arrange for atmospheric samples to be taken.

XVII. Hazard Communication Program

A. Orientation training complete.
B. SDS Book available.
C. Training script complete.
D. Chemical labeled.

XVIII. Unsafe Acts and/or Practices Observed

A.

B.

C.

D.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

NON-COMPLIANCE WITH SAFETY AND HEALTH REQUIREMENTS

To: _____
_____
_____

On _____, an inspection was made in your area of work. Our inspection revealed you were in violation of safety standards established by THE COMPANY and the Occupational Safety and Health Act of 1970. This notice confirms the oral warning given to you on the following violations:

_____
_____
_____

Please indicate below the corrective actions you intend to take on each of the cited violations and the dates by which each item will be corrected. Please return this notice to the issuing authority _____.

_____
Superintendent/Safety Representative

Corrective action to be taken:

_____
_____
_____

_____
Name

_____
Title

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EMPLOYEE SAFETY AUDIT PROGRAM

The purpose of the following program is to establish a system of interactive audits and evaluations between the general workforce and supervision. The program will promote increased awareness and compliance by utilizing employee participation and intervention. An incentive program will also be integrated to reward outstanding safe work performance.

Supervision will allow a reasonable time frame per day for employee-performed job audits.

A. Supervision will conduct an initial meeting with all employees to inform them of the implementation of this program. Employees should be made aware that each co-worker will, in turn, be performing daily audits for a period of one week. They will be observing personnel to identify safe behaviors and should praise all safe acts or behaviors found. This information should also be documented. Likewise, any unsafe behaviors or acts observed should be addressed and documented at the time of the observation. All employees must be aware that this documentation will be kept confidential and is only for use by the job site supervision and management.
B. Immediately following the last audit of the week, the auditor will compile the daily information and provide a brief written summary to the Site Superintendent. This summary will contain only the names of those individuals who were praised for their safe acts or behaviors.
C. If, during the course of the week, the auditor should encounter a gross violation or a pattern of repetitive violations by an individual, this information should be communicated to the auditor's immediate supervisor. If supervision deems it appropriate or necessary, the auditor will provide them with the name/names of those individuals so that he may provide redirection to the employee(s). At no time shall these audits become a means by which employees will retaliate against one another. They are to be viewed as an intervention tool and a method to increase the safety focus of our working environment.
D. The summary provided by the auditor will be the focus of the following week's safety meeting. Praise for employees' safe acts or behaviors will be communicated at this time. Unsafe acts or behaviors observed the previous week will then be discussed, and pertinent company or client procedures or policies will be reviewed. We always want to end a meeting on a positive note by encouraging employees to work safely and look out for each other. *** Remember, always praise employees publicly and always redirect or reprimand them privately. ***
E. Safety is not just an initial commitment; it is an integral part of our success. As a means to this end, we always want to encourage desired behavior. We will use incentive programs to help us accomplish this goal when necessary or as designated per site.

This program is not intended to replace regular supervisory audits and evaluations. It is felt that implementation of this program will enhance our safety performance and help us to achieve our corporate goal of a 0% incidence rate.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

AUDIT QUESTION DETAILS

FALL PROTECTION

1. Are workers wearing safety harnesses where regulations require them?
   - Harnesses are required for vessel entries.
   - Harnesses are required for elevated work at 4 ft. or above when working from scaffolding that does not have a green tag, including working from ladders JLGs.
2. Are lanyards tied off properly?
   - Workers should be tied off whenever they are working 4 ft. or more above the ground or when working from scaffolding that does not have a green tag - provided they are wearing harnesses when required!
   - Workers should tie off to 3" pipe or larger when available. Also, "lifelines" may have been erected specifically for tying off. Scaffolding handrails are acceptable when nothing else is available.
   - Workers should not be tied off to conduit or cable trays.
3. Are those using harnesses wearing them properly?
   - The D-ring should be located in the middle of the shoulder blade area.
   - Lanyards should be in good condition - look for frayed/cut straps tape on harnesses.
   - Harness should fit securely on the worker - buckled and tightened.
   - Lanyards should be properly positioned when not in use to prevent tripping when traveling on the ground or hang-ups/falls when climbing.
4. Are portable ladders used correctly?
   - Rungs and ladder feet should be in good condition.
   - The ladder needs to be stable.
   - Braces on step ladders should be fully extended.
   - Extension ladders should be tied off at the top.
   - Only one person is allowed on the ladder at a time.

HAND & PORTABLE TOOLS

1. Are GFCI's used properly?
   - GFCIs should be used for all electrical tools.
   - If electrical cords are connected to welding rigs, check the outlet on the rig. The outlets must be AC GFCI outlets.
2. Are electrical cords in good condition?
   - Inspect cords for cuts, tears, etc.
   - Cords should not have any tape on them.
   - Is strain relief functioning properly?
3. Are electrical tools in good working condition?
   - Inspect the same as (2) above
   - Are necessary guards in place - i.e., guard on a grinding wheel
   - Are necessary handles in place?

PERSONAL PROTECTIVE EQUIPMENT

1. Are personnel wearing proper block PPE?
   - Respirators should be equipped with a nose clip (if required).
   - Rubber boots or leather boots/shoes are required - no tennis shoes or canvas shoes in operating/work areas.
   - Boots/shoes should be in good condition - no splits or holes in soles.
2. Are personnel wearing hearing protection when required?
   - Hearing protection is required for all operating areas and in all other areas as designated by the client.
3. In addition to mono goggles and hearing protection, are face shields worn when impact wrenches or grinders are being used?

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- This requirement applies to the worker(s) using the tool(s) - it is recommended that if someone is working in close proximity to the impact wrench or grinder, they also wear a face shield.

CHEMICAL EXPOSURE

1. Check the safe work permit when personnel are working in a hazard zone (taped-off area). Are the workers in the hazard zone wearing all of the PPE that the permit lists?
   - Do not go into a red-taped hazard zone - a copy of the permit should be available outside the hazard zone - if not, get the attention of someone inside the barricaded area - ask them for the permit - someone on the job should have a copy - make a note in the comment section on the back if no one has the permit - request that the foreman secure a permit ASAP.
2. Poll any one worker on the job. Does this person know all of the hazards of the job - refer to a safe work permit?
   - Same note as for question (1). A copy of the permit should be available at the job site.
3. Poll any one worker on the job. Does this person know the location of the nearest eyewash/safety shower?
4. Is a safety standby present for all vessel entry work?

HOTWORK

1. If welding is done above walkways, stairways, cable trays, etc., have adequate means been provided to contain slag and/or sparks?
   - Generally, a fire blanket is the most effective means of protection.
2. Is the ground lead connected as close as possible to the equipment being welded on?
   - There should be no "breaks" between the ground lead and where the weld is being made.
3. Are gas cylinders upright and properly secured?
   - Cylinders should be secured with chains or wire - rope is not acceptable. Note: Some fresh air cylinders are on skids or trailers and will be positioned horizontally - this is acceptable as long as they are properly secured.
4. Is there a fire extinguisher on site where cutting/welding rigs are present? If not, ask to see the permit. Is a method to extinguish fires addressed on the permit?
   - A copy of the permit should be available at the job site. If a fire extinguisher is not present on the job site, check to make sure the hot work section of the permit is filled out and that it addresses a method of putting out a fire.
5. If hot work is being performed at elevations, it is the area below the barricade.

GENERAL WORK CONDITIONS

1. Are cords and hoses routed such that they do not present a tripping or hang-up hazards?
   - Cords and hoses should be neatly routed - they should not be draped over equipment.
2. Are tag lines used on all lifts made by pickers?
   - There should be no knots in the tagline.
   - The tagline should be at least six feet long.
3. Are workers using proper tools and techniques to loosen flange bolts?
   - No double wrenching or "cheater" pipes allowed.
4. Are workers using proper lifting techniques when picking up material?
   - Using their legs (not backs) to do the lifting?
5. Are tools and materials being allowed to "clutter up" the worksite?

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RECORD OF SAFETY AUDIT

DATE: _____ _____

JOB #: _____ JOB NAME: _____

LOCATION: _____ SUPERVISOR: _____

OVERALL GENERAL COMPLIANCE: _____

NOTED HAZARDS ON THE SITE: _____

RECOMMENDATIONS FOR IMPROVEMENTS: _____

EMPLOYEES RECOMMENDED FOR ADDITIONAL TRAINING: _____

CORRECTIVE ACTION TAKEN: _____

AUDIT PERFORMED BY:		POSITION:	
AUDIT PERFORMED BY:		POSITION	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SUBCONTRACTOR SELECTION

GENERAL

- When it is desirable to evaluate prospective subcontractors on their safety record, the following three sources of information provide ways to evaluate the probable safety performance of prospective subcontractors:
  - Experience Modification Rates for Workers' Compensation Insurance
  - OSHA Incidence Rates for Recordable Injuries and Illnesses
  - Contractor safety attitudes and practices

EXPERIENCE MODIFICATION RATES FOR WORKER'S COMPENSATION INSURANCE

- The insurance industry has developed experience rating systems as an equitable means of determining premiums for worker's compensation insurance. These rating systems consider the average workers' compensation losses for a given firm's type of work and the dollar amount of payroll based on three previous years and predict the dollar amount of expected losses to be paid by that employer in the succeeding year. Rating is based on a comparison of firms doing similar types of work, and the employer is rated against the average expected performance in each work classification. Losses incurred by the employer for the rating period are then compared to the expected losses to develop an experience rating.
- Workers' compensation insurance premiums for a contractor are adjusted by this rate, which is called the experience modification rate (EMR). Lower rates, meaning fewer or less severe accidents had occurred than were expected, result in lower insurance costs. A contractor's EMR is adjusted annually by using the rate for the first three of the last four years.

OSHA INCIDENCE RATES

- The Occupational Safety and Health Act (1970) requires employers to record and report accident information on Occupational Injuries and Illnesses Annual Survey Form 301. The employer must retain completed forms for five (5) years.
  - The information available from a contractor's OSHA Form 300 includes:
  - Number of fatalities
  - Number of injuries and illnesses involving lost workdays
  - Number of injuries and illnesses involving restricted workdays
  - Number of days away from work
  - Number of days restricted work activities
  - Number of injuries and illnesses without lost workdays
- A contractor, having the number of hours his employees worked during the year, can compute incidence rates for any or all of the items above using the following formula:

$$\frac{\text{Number of incidents X 200,000 hours}}{\text{Number of hours worked}} = \text{Incidence Rate}$$

- The 200,000 hours in the formula represent the equivalent of 100 employees working 40 hours per week, 50 weeks per year, and it is the standard base for incidence rates.
- In calculating the OSHA recordable incidence rate, the number of incidents in the formula is the total number of fatalities, injuries, and illnesses involving lost and restricted workdays and injuries and illnesses without lost workdays. The Bureau of Labor Statistics compiles construction industry incident rate averages each year for 14 separate classifications of construction work and various employee size groupings.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CONTRACTOR SAFETY ATTITUDES AND PRACTICES

- Management accountability for safety performance is a very important factor in determining a company's safety record. Companies that hold their project management accountable for accidents along with productivity, schedules, quality, etc., are the ones that have the best safety records. The following five measures of managerial accountability for safety are:
    1. The recipients of accident reports and frequency distributions of the reports (field superintendent, vice president, and president of the firm)
    2. The frequency of project safety inspections and the degree to which they include project and field superintendents.
    3. The frequency of safety meetings for field supervisors.
    4. The compilation method for accident records and the frequency of reporting (those contractors who subtotal their accidents by superintendent and foreman, rather than by just company, have a more detailed accountability system).
    5. The compilation method for accident costs and the frequency of reporting (again, greater accountability comes from a more detailed system so that individual foremen and superintendents are measured in terms of their accident costs on the job).

CONCLUSION

- The experience modification rate is a widely used indicator of a subcontractor's past safety performance. Each company should request EMRs from prospective subcontractors for the three most recent years, which will show the firm's trend in safety performance. Interstate EMRs, intrastate EMRs, and monopolistic state ratings should not be compared with each other because different databases are used for each system. Interstate EMRs of different subcontractors can be compared, as can intrastate EMRs of different subcontractors operating in the same state.
- The OSHA incidence rates also show past safety performance. Moreover, OSHA incidence rates reflect more recent experience than EMRs. The company should request, from prospective subcontractors, OSHA incidence rates for recordable injuries and illnesses for the three most recent years.
- The reliability of OSHA incidence rates is solely dependent on judicious reporting by the employer, while EMRs are established by independent rating bureaus. Although the EMR is a more objective measure than the OSHA incidence rate, there is a correlation between them. Both will indicate past safety performance.
- The safety attitudes and practices of subcontractors are helpful in evaluating the overall safety program and should be evaluated based on management accountability, written safety and health programs, the regular orientation of foreman and new employees, frequency of effective toolbox safety meetings, job site safety inspections, and management commitment.
- The following Subcontractor Safety Performance and Qualification Form will assist with the safety evaluation of subcontractors.

METHODS TO MONITOR SUBCONTRACTOR SAFETY PROGRAMS

- The following areas will be used to improve and monitor the safety performance of contractors:
    - Require the use of a Permit System for potentially hazardous activities.
    - Require the contractor to designate a responsible supervisor for safety coordination on the job site.
    - Provide the contractor with safety guidelines that must be followed.
    - Discuss safety at subcontractor meetings.
    - Discuss safety audits of the contractor during operations.
    - Require immediate reporting of contractor accidents.
    - Stress safety as part of the contract during pre-bid walkarounds.
    - Investigate contractor's accidents.
    - Maintain statistics of contractor's accidents.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Conduct periodic safety inspections.
- Set goals for construction safety.
- Consider safety in pre-qualifying contractors to bid.
- Set up a Construction Safety Department to monitor contractor safety.
- Set safety guidelines in the body of the contract.
- Be involved in orientation sessions, alerting workers to safety hazards on the job.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

SUBCONTRACTOR SAFETY PERFORMANCE AND QUALIFICATION FORM

1. List your firm's Interstate Experience Modification Rate for the three (3) most recent years:

   20 ____ _____
   20 ____ _____
   20 ____ _____

2. Use your last year's OSHA 300 Log to fill in:

   a. Number of Injuries and Illnesses _____
   b. number of lost workday cases _____
   c. number of restricted workday cases _____
   d. number of cases with medical attention only _____
   e. number of fatalities _____

3. Employee hours worked last year (do not include any non-work time, even though paid):

   _____

4. Are accident reports and investigation summaries sent to the following? How often?

	No	Yes	Monthly	Quarterly	Annually
Field Superintendent	____	____	_____	_____	_____
Vice President	____	____	_____	_____	_____
President of Firm	____	____	_____	_____	_____

5. Do you hold site safety meetings for field supervisors? ☐ Yes ☐ No

   How Often? ☐ Weekly ☐ Bi-Weekly ☐ Monthly ☐ Less Often, as needed

6. Do you conduct project safety inspections? ☐ Yes ☐ No

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Subcontractor Performance Evaluation

Client: _____ Project #: _____

Subcontractor: _____ S/C Number: _____

Subcontractor Address: _____

Amount: _____ Start Date: _____ Completion Date: _____

Was work completed on time? _____ Explanation: _____

_____

_____

_____

_____

Type of contract: Lump Sum _____ Time & Material _____ Other _____

	Excellent	Good	Fair	Poor
Management Participation	( )	( )	( )	( )
Schedule Performance	( )	( )	( )	( )
Quality of Workmanship	( )	( )	( )	( )
Quality of Supervision	( )	( )	( )	( )
Safety Performance	( )	( )	( )	( )
Construction Methods Used	( )	( )	( )	( )
Adequate Tool/Equipment	( )	( )	( )	( )
Condition of Tools/Equipment	( )	( )	( )	( )
Caliber of Workmen	( )	( )	( )	( )

General Comments and Recommendations: _____

_____

_____

_____

_____

_____ _____

Superintendent Signature Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Sample Warning Letter to Subcontractor

XYZ Construction
Home Office Address
Anytown, USA

RE: Safety Inspection
Project Identification

Dear Sir:

On _____, an inspection was made of your area of work. Our inspection revealed that you were in violation of the following safety standards set up by THE COMPANY and the Occupational Safety and Health Act of 1970.

(List Violations)

According to our Subcontract General Terms and Conditions, you must comply with all applicable safety regulations. The subcontract also provides, and our company policy requires, that non-complying contractors be ordered to stop work if deficiencies are not corrected. Refusal to comply is cause for contract termination for default and may constitute a violation of the law.

Please take immediate steps to correct the unsafe conditions. We expect corrective work to be completed by _____.

Sincerely,

Name
Project Superintendent

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EMERGENCY EVACUATION (GENERAL)

GENERAL

- This procedure will give guidelines for each project to prepare an evacuation plan to cope with emergencies (fire, explosion, toxic fumes, bomb threat, natural disasters, etc.) that could endanger personnel or property. Specifics as to signals, communications, evacuation routes, and assembly points must be developed locally, publicized, and coordinated with the operating departments.
- It is the responsibility of each supervisor to ensure compliance with this procedure.
- Use the attached format to help organize your evacuation procedure.
- Certain items must be included in all plans, and documented training must be given to all personnel. They are:
    - Signals and Alarms
        - Type and frequency
        - Action to take for each type
        - Times, days alarms tested
        - How to turn in an alarm
    - Evacuation Routes
        - Use of windsock to determine routes
        - Identify paths for existing operating areas
        - Identify paths for existing construction areas
        - Identify paths for existing office buildings
    - Assembly Points
        - Designate points for each area and/or each alarm type
        - Assign primary and secondary persons to each assembly point to take “headcount”
        - Set up communications between each

- The evacuation plan and implementation will be administered in accordance with EXCEL’s Safety Manual Section 4.3 (Evacuation - General) and Client/Owner site-specific requirements. Training will be performed by the Human Resource Department, Site Superintendent, and Site Safety Representative. Implementation of the Emergency Response/Evacuation plan will be accomplished by using simulated situation drills and documented on safety meeting report forms as such.

TYPES OF EMERGENCIES EMPLOYEES ARE SUBJECT TO ENCOUNTER

- The objective of this outline is to identify those types of emergencies that EXCEL personnel are subject to encounter during the scope of their job.
    - Tripping Hazards
    - Falling Objects
    - Fire, sparks, and burns are created by electrical apparatus, electrical equipment, and hot work such as welding, burning, and CAD welding
    - Electrocution from energized equipment and apparatus
    - Exposure to chemical spills and gas releases
    - Plant process interruptions, releases, and uncontrolled process operations
    - Pinch points encountered during heavy lifting, rigging, and use of oversized equipment and materials
    - Falls from the same levels and different levels.
    - Exposure to uncontrolled environments such as heat stress, exhaustion, heat stroke, and cold
    - Employee health problems

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RESPONSE ACTIONS AND ACTIVITIES

- The objective of the plan is to identify, plan, organize, and implement response actions to emergencies and incidents.
- It will be the responsibility of the Corporate Human Resource Department, Project Manager, and Site Superintendent to identify, train, and exercise the correct action for emergencies or incidents that may create personal harm or property damage. Where the employee population requires a site-specific Safety Manager, that person shall also be included in and held responsible for response actions and procedures.
- The response plan should include, but is not limited to, the following:
    - Qualified competent person on-site at all times to manage such response activity
    - Location and transportation to medical facilities, safe haven, and evacuation
    - Signals and alarms - Types and frequency of signals and alarms, as well as actions to be taken for each. It should also explain how to report alarms
    - Evacuation routes, postings, and training to include drills
    - Assembly points, designation, communication, and designation of primary and secondary persons to take “head” count and/or administer evacuation procedure or other first responder duties, as required
    - Each area worked will have a designated “Responder,” who will be identified and trained by the Human Resource Department, Site Superintendent, and Site Safety Representative. The ultimate responsibility for response action/activities will fall on the Site Superintendent.
    - Medical emergencies are the responsibility of the Site Superintendent, Safety Representative, and other qualified designated persons. Medical emergencies will be handled only by trained, certified persons (i.e., First Aid, CPR, EMT, etc.).

ACCOUNTING FOR PERSONNEL

- The purpose of this plan is to account for daily employee attendance on the job site and for “head” count during emergencies, evaluations, and drills. The procedure will be as follows:
- A daily employee roster will be compiled by the Site Superintendent or his designee. The roster will be forwarded to the Client’s Security or Operations no later than 30 minutes after the shift begins.
- Telephone, radio, or such communication devices necessary to report headcount will be assigned to designated persons for the purpose of reporting headcount during such activities. The assembly area designee will report the area headcount to the site superintendent, who will, in turn, report it to client security or operations.
- Should a stationary communication device be used, its location and method of operation will be marked as such, and all employees shall be trained in its use. This training must be documented.

ALARM SYSTEM

- EXCEL will provide, when necessary, an alarm system that communicates activities and emergencies to its employees. This contractor alarm should parallel the client/owner system as closely as possible but is not intended to override any system currently in place by the owner.

- The following types of alarm devices are suggested; however, specific working conditions must be taken into consideration when selecting the alarm device to be used.
    - Portable, self-contained air horns
    - Portable, self-powered light
    - Portable, self-powered “bull horns”
    - Radios (i.e., isolated or confined spaces)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - “Area” systems may be used where duration or scope allows. Please note these systems must have auxiliary power supplies and should be placed in a manner that all employees in that area are able to receive the alarm.
  - Buddy System Procedure: The buddy system is mandatory in the _____ area. The buddy must: (1) Keep co-workers in view; (2) Know wind direction; (3) Alert co-workers of unusual events (4) Know the location of safe haven, sirens, and alarm devices; (5) In situations of obvious distress or where an employee has lost consciousness, sound the alarm and report the emergency to the designated person.
- In all situations, alarm systems must undergo functional testing on a routine basis. Portable systems should be tested each time the device is needed (i.e., shift). Permanent or “area” systems will be tested a minimum of once per week at a pre-determined time. All tested equipment, time, type of alarm device, and method of use will require proof of training and functional capability before such use. This documentation must be kept on file at the job site for inspection and review.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EVACUATION PROCEDURE FORM
(SITE SPECIFIC)

Job No.: _____ Location: _____

Coordinator: _____ Back-up: _____

EVACUATION ALARMS:

TYPE	FOR AREA
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

"All Clear Signal" _____

Tested on: _____ (Day) _____ (Time)

ASSEMBLY POINTS:

	ASSEMBLY POINT	FOR AREA
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____

Evacuation route maps on the back (numbered to correspond to assembly points).

GENERAL CONSIDERATIONS:

1. This evacuation procedure must be widely publicized and posted throughout the project.
2. All personnel must know what action to take in the event alarms sound other than on the test times.
3. One person must be assigned to each "assembly point" to make a headcount.
4. A monitor should gather all lists from assembly points and report to the Evacuation Coordinator.
5. No effort should be made to re-enter evacuated areas to locate missing persons until the "all clear" is sounded. Missing persons must be reported to the client immediately.
6. No person should leave the property unless told to by responsible authorities.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

INCLEMENT WEATHER

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- This procedure outlines steps to be taken in the threat of inclement weather, including lightning, hurricanes, or typhoons. In the event of a hurricane threat, a three-part alert procedure will be taken. The alert will be issued by the Project Manager. The procedures listed in the following sections address hurricane threats. The same procedures shall apply to threats of typhoons.

AREAS OF RESPONSIBILITY

- The Assistant Project Manager will coordinate with the various skills who will execute the alert procedures in their assigned areas. This information as to the approach and progress of the hurricane will come from the Project Manager, his assistant, or the Safety Department. The Safety Department will inspect, advise, and assist in all areas.

LEVEL I CONDITION

- This alert will be issued when a hurricane is in the Gulf of Mexico. Action taken during the alert will consist of a job clean-up activity so that material policed up will not have to be returned to the field in the event the storm alert is removed. In general, this alert is to identify locations for securing objects, materials, etc., trash and loose materials clean-up, and a notice for supervisory personnel to review the hurricane procedure.
- All employees will be responsible for the following:
    - Pick up all loose trash and unused material in all areas
    - Remove any unused scaffolding in all areas
    - Check all buildings for proper tie-down
    - Check and assist subcontractors in clean-up and tie-down
    - Determine the job shipping schedule for the construction dock

LEVEL II CONDITION

- The steady movement of the hurricane toward the project. In general, action taken during this alert consists of securing equipment and materials that cannot be practically moved. This procedure will be terminated at any point if it appears that the project is no longer under any threat by storm.
    1. Fill all gasoline and diesel tanks.
    2. Fill and/or secure all storage tanks.
    3. Locate and retain portable generating equipment.
    4. Secure all pumps and hoses, and make preparations for water removal.
    5. Review work and make arrangements for the removal of equipment and materials from all areas.

LEVEL III CONDITION

1. Recheck the anchor on all temporary buildings. Make a complete check to include subcontractors.
2. Make final clean-up of construction and in-plant areas.
3. All trash barrels and portable toilets are to be grouped together and secured to stable objects.
4. Water cans full of potable water are to be placed inside the warehouse.
5. Welding machines, air compressors, etc., are to be grouped together and secured to stable objects. All leads, hoses, and torches are to be rolled up and secured. Welding machines placed on trailers are to be secured together and trailers anchored.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

6. All scaffolding is to be taken to the scaffold storage area and secured from movement. Group, secure, and anchor down.
7. Wooden pallets, forms, and wooden decks are to be secured and anchored.
8. Trailers, floats, etc., not used in #5 are to be grouped at Dispatch and secured from movement.
9. All booms are to be lowered to a safe position.
10. All light equipment is to be lined up with brakes set.
11. Earthmoving equipment is to be left on high ground in shops and craft areas, along with pickups, flatbeds, and buses, and all are to be secured with brakes set.
12. All paint hoppers are to be tied down.
13. All mats are to be tied together and anchored.
14. All piling is to be grouped and secured against movement.
15. All gang boxes grouped in an area are to be secured and anchored.
16. Anchor all tanks, drums, and vessels that may be moved by high winds and water.
17. Check that all underground piping is protected against floatation.
18. Where possible, construction drawings and records should be protected from water damage in case of roof damage, window damage, or rising water by being raised to desk-top height.
19. All vital records, payroll, cash payment journal, etc., will be secured in a safe place to avoid wind and water damage.
20. Onsite vehicles are to be left with brakes set on high ground in the shop area.
21. The icehouse is to be secured with a full supply of ice on hand.
22. Turn off all electrical power at the main switches.
23. Evacuate the job site.
24. Security coverage will be directed by the Project Manager.
25. Notify appropriate management personnel when the final stages are complete.

TERMS TO KNOW

- **Hurricane** - A violent storm originating over tropical waters with winds near its center reaching 74 miles per hour (64 knots and higher). In the Northern Hemisphere, winds in hurricanes blow in a counterclockwise direction around its center, and the size of the storm may range from 50 to 1,000 miles in diameter. Not all hurricanes are alike. This creates overconfidence if you've been through a minimal hurricane and encountered a massive one.
- **Hurricane Center or Eye** - The eye is the relatively calm area near the center of the storm. In this area, winds are often light, and the sky may be only partly covered by clouds. Frequently, the storm appears to have passed, then resumes if the eye passes over you.
  Hurricane Force Winds - Hurricane force winds are winds of 74 miles per hour (64 knots) or higher.
- **Hurricane Watch** - A hurricane watch is an announcement issued by the U.S. Weather Bureau to the public and all other interests via press, radio, and television broadcasts whenever a tropical storm or hurricane becomes a threat to a coastal area. The "Hurricane Watch" announcement is not a warning. It indicates that the hurricane is near enough that everyone in the area covered by the "watch" should listen for subsequent advisories and be ready to take precautionary action in case hurricane warnings are issued.
- **Gale Warnings** - When winds of 38 to 55 miles per hour (33 - 48 knots) are expected, a gale warning is added to the advisory message. By the time gales reach shore, all work must be complete or cease - 40 mph is the limiting condition for outside work and then only with difficulty.
- **Storm Warning** - When winds of 55 to 74 miles per hour (48 - 64 knots) are expected, a storm warning is added to the advisory message. Gale and storm warnings indicate the coastal area to be affected by the warning, the time during which the warning will apply, and the expected intensity of the disturbance. When gale or storm warnings are part of a tropical cyclone advisory, they may change to a hurricane warning if the storm continues along the coast.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- **Hurricane Warning** - When hurricane conditions are expected within 24 hours, a hurricane warning is added to the advisory. Hurricane warnings identify coastal areas where winds of at least 74 miles per hour are expected to occur. A warning may also describe areas where dangerously high water or exceptionally high waves are forecast, even though winds may be less than hurricane force.

  When the hurricane warning is issued, all precautions should be taken immediately. Hurricane warnings are seldom issued more than 24 hours in advance. If the hurricane's path is unusual or erratic, the warnings may be issued only a few hours before the beginning of hurricane conditions. Precautionary actions should begin as a hurricane warning is announced.

  NOTE: Water is forced ashore with a "storm surge" if the eye passes to the west of you. Conversely, tides fall if the eye moves over land to the east of your location. In the latter case, anticipate winds from the west, then from the north, then from the west.

LIGHTNING SAFETY ON THE JOB SITE

- Construction work is affected more than any other work by severe weather, including the possibility of employees being struck by lightning. Construction workers work in open spaces near tall objects or conductive materials such as metal that have a higher risk of exposure to lightning. These workers must be protected from exposure to lightning through administrative controls. PPE is not an option for worker protection.

RESPONSIBILITIES

- The Site Manager/Site Superintendent/Site Supervisor will be responsible for determining whether a lightning storm will possibly affect construction activity at EXCEL's project site. He/she will, in a reasonable time frame, notify supervisors and workers at the site, including subcontractors, of the dangerous conditions and what actions to take to reduce the possibility of workers being struck by lightning. He/she will notify all personnel under his supervision when to return to work.
- Supervisors will be responsible for accountability of all workers reporting to them and furnishing the Site Superintendent with a list of employees that have reported to designated assembly areas. Missing employees will be accounted for.
- Employees and subcontractors are responsible for reporting to designated assembly point/s and remaining until notified to return to work by the Site Manager / Site Superintendent / Site Supervisor.

EXCEL'S LIGHTNING SAFETY WARNING AND ACTION PROGRAM

- On all EXCEL job sites, during severe weather, EXCEL's lightning warning policy will be as follows:
  - Lightning danger warnings will be issued by the Site Superintendent. Upon notification of an electrical storm risk by the Superintendent, all work will be shut down, and personnel working for EXCEL on the site will report to the designated assembly point.
  - Prior to the start of work on the project, the Superintendent or designee will identify and provide access methods for the assembly point. If the client has predetermined a designated assembly point, this will be used and covered in pre-start safety meetings for all personnel. Both employees and subcontractors will be made aware of the policy requirements and documentation kept on file that this information was provided to all affected personnel.
  - A documented head count will be completed to account for all workers. This information will be compiled by site Supervisors and forwarded to the Site Superintendent.
  - All affected personnel will remain at the assembly point until notified to return to work by the Site Superintendent.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TOOLS AND METHODS FOR ACCESSING LIGHTNING RISK

- Prior to approaching thunderstorms, the following tools or methods may be used to evaluate whether or not the lightning warning should be issued:
    - Weather bulletins and programs on the internet may be accessed.
    - Client Information was furnished for severe weather alert.
    - Use this rule of thumb to determine the closeness of the storm to the work site: Count the number of seconds from when you see the lightning flash until you hear the thunder. If you count 30 seconds or less, the risk from the storm is high. This would mean that work should be stopped and action taken to seek designated shelter. If, for any reason, the designated shelter cannot be reached, find a metal-topped vehicle (car or truck), put the windows up, and remain there until return to work is activated. The latter should be done as a last resort only.

CONDITION CODES

- The following condition codes are to be used during weather tracking (lightning meter and radar observation) and relayed from the EXCEL Site Safety Manager to the Project manager:
- BLUE
    - Intermittent lightning strikes were reported at a distance of 20-40 miles from the monitoring location. The strikes are not consistent, and the observed weather is unlikely to come closer to personnel in the field. Radar will be monitored periodically by the EXCEL Safety Manager / Coordinator to confirm that the inclement weather is moving away from the work area.
- BLUE+
    - Consistent lightning strikes were reported at a distance of 20-40 miles from the monitoring location. The strikes are repeated, and the observed weather is likely to approach personnel in the field.
- GREEN
    - Intermittent lightning strikes were reported at a distance of 8-20 miles from the monitoring location. Once condition green is reached, the contractor safety manager will recommend to the project manager that all personnel in the field should prepare to come down from heights. The final authority to call condition green over the radio to all personnel will come from the project manager. Radar will be monitored continuously by the EXCEL Safety Manager/Coordinator to confirm the storm track and estimate the arrival of inclement weather in the field.
- GREEN+
    - Consistent lightning strikes were reported at a distance of 8-20 miles from the monitoring location. Once condition Green+ is reached, the contractor safety manager will recommend to the project manager that all personnel in the field should come down from heights. Work can still be conducted at ground level at the project manager's discretion. The final authority to call condition Green+ over the radio to all personnel will come from the Project manager. Radar will be monitored continuously by the EXCEL Safety Manager/Coordinator to confirm the storm track and estimate the arrival and severity of inclement weather in the field.
- YELLOW
    - Intermittent lightning strikes were reported at a distance of 3-8 miles from the monitoring location. Once condition yellow is reached, the contractor safety manager will recommend to the project manager that all personnel in the field should prepare to leave the unit. All cranes in use at the time condition Yellow is called should fully retract their booms and make necessary movements per the owner's manual. The final authority to call condition Yellow over the radio to all personnel will come from the project manager. Radar will be

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

monitored continuously by the EXCEL Safety Manager/Coordinator to estimate the duration and severity of inclement weather in the field.

- YELLOW+
  - Consistent lightning strikes were reported at a distance of 3-8 miles from the monitoring location. Once condition Yellow+ is reached, the EXCEL Safety Manager/Coordinator will recommend to the project manager that all personnel in the field should leave the unit and seek shelter as soon as possible. All crane operations should be suspended at this time, and any suspended loads should be resting at grade and secured. The final authority to call condition Yellow+ over the radio to all personnel will come from the project manager. Radar will be monitored continuously by the EXCEL Safety Manager/Coordinator to estimate the duration and severity of inclement weather in the field.
- RED
  - Lightning strikes were reported at a distance of 0-3 miles from the monitoring location. Once condition red is reached, the EXCEL Safety Manager/Coordinator will recommend to the project manager that all personnel in the field must seek shelter immediately. The final authority to call condition Red over the radio to all personnel will come from the project manager. Radar, weather reports, and the lightning meter will be monitored continuously for adverse changes in the weather.

- NOTE: Any strikes (consistent or intermittent) observed at a closer location should be given priority when assigning a condition code.
- Example: If consistent strikes are observed at 8-20 miles (GREEN+), and intermittent strikes are observed at 3-8 miles (YELLOW), the default condition that should be assigned should be YELLOW.
- Once the project manager makes the call for a condition over the radio, HSSE and contractor safety managers begin the process of executing the requirements of the condition and obtaining a headcount if necessary.
- The project manager will give the call to return to work after taking collective recommendations regarding the weather situation from all parties involved.

OBJECTS AND EQUIPMENT TO AVOID DURING THUNDERSTORMS

- Objects that conduct electricity can attract lighting. Here are a few items to avoid:
  - Stay off of and away from anything tall or high, including rooftops, pipe racks, work platforms, scaffolding, ladders, trees, and lifting and heavy equipment such as cranes, dozers, backhoes, and man lifts. Do not touch any materials or surfaces that conduct electricity. This includes utility lines, columns, water, phones, and appliances.
  - Cell phones, if in use, have been known to attract lightning.
  - Do not stand near windows or touch metal exterior doors during the lightning storm.
  - Do not stand under trees.

RETURN TO WORK NOTIFICATION

- The Site Superintendent will notify all affected personnel when to return to work activity. This will be done a minimum of 30 minutes after the last thunder has been heard and the weather that produced the thunderstorm has dissipated.

MEDICAL TREATMENT FOR EMPLOYEES STRUCK BY LIGHTNING

- Victims do not carry any electric charge. Call 911 immediately or Local Emergency Management Services. If the victim has no pulse or has stopped breathing, perform CPR and breathing if trained to do so. This should be started immediately by the designated and trained First Aid person at the site.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BASIC SAFETY RULES AND REGULATIONS

SCOPE

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- These safety and health regulations are established as basic safety rules and shall be presented as such. These rules shall be reviewed with each new employee, who in turn shall sign the Employee Orientation Form, found in Section 2, noting understanding of this information.

RULES AND REGULATIONS

- A clean and orderly work area must be maintained at all times.
- ANSI-approved hard hats, safety glasses, and footwear are required in all areas, including welding operations in the field.
- Bump caps or metal hard hats are not approved for head protection.
- Sneakers, sandals, tennis shoes, high heels, and thongs are not considered approved footwear for construction areas.
- Work gloves are considered an asset in the reduction of hand injuries and must be worn for certain work.
- Appropriate work clothing in good repair shall be worn. Certain jobs may dictate the requirement of special clothing.
- Cell phones are not allowed on site unless approved by project management, the safety department, and the client.
- Hearing protection shall be worn when working in areas or using equipment that presents high noise hazards or as otherwise mandated or specified.
- Respiratory protection shall be worn when performing tasks that dictate the need for such equipment (painting, sandblasting, etc.). Ensure that employees are medically certified and fit tested if required.
- Additional eye and/or face protection shall be worn when the hazards dictate (grinding, chipping, etc.).
- Fall protection (ANSI-approved harnesses and lanyards) shall be worn when the hazards present themselves (a maximum free fall distance of 6’ shall be observed).
- Only trained, authorized personnel shall operate aerial lifts, forklifts, or such motorized equipment.
- Ladders must be properly constructed and kept in good repair. Ladders shall be the proper length and type for the task and secured at the top to prevent displacement.
- Ladders shall not be painted, as this may hide damage (stenciling is allowed).
- Scaffolds and work platforms must be built completely and substantially to support four times the intended load.
    - Solid foundation
    - Plumb
    - Adequate bracing
    - Solid, secured decking
    - Ladder
    - Handrails
    - Midrails
    - Toe plates
- Material shall be stored in a neat and orderly fashion. Waste material shall be disposed of properly.
- Nails shall be bent over or removed.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Compressed gas cylinders must be upright and secured at all times.
    - Rope shall not be used to secure cylinders; use wire or chain.
    - Protective caps shall be in place when the cylinders are not in use.
    - Gauges shall be removed prior to transportation of cylinders. This includes transport in an approved cylinder buggy.
- Hand tools, both company and personal, must be kept in good condition.
- All handles and guards must remain in place.
  Electrical tools must be grounded and be in compliance with the assured grounding program.
- All floor and wall openings must be protected by adequate means (i.e., covering, guardrails, and toe plates).
- All hooks, cables, ropes, or chains must be inspected before each lift.
- Employees shall avoid walking or working under suspended loads.
- Riding of a crane load or rigging is prohibited.
- Equipment must be shut off when being lubricated, refueled, or adjusted.
- Cell phone use is not allowed while operating ANY mobile equipment.
- All guards for personal or equipment protection shall be kept in place.
- All excavations must meet Federal requirements, and an adequate access (ladder) must be provided for excavations over four feet in depth.
- All excavations shall be barricaded or covered.
- General work permits may be required for certain practices and shall be complied with. Such permits may include:
    - Cold work
    - Hot work
    - Electrical lock-out
    - Excavation
    - Blinding
    - Confined space entry
    - Line Break
- Lock-out procedures must be in use before work is performed on electrical equipment.
- All safety and warning tags and/or signs shall be obeyed. Such tags and/or signs shall not be removed unless authorized to do so.
- Smoking is allowed only in authorized areas.
  All unsafe conditions shall be reported.
- All injuries, no matter how slight, must be reported immediately to the supervisor, who will, in turn, direct the employee for treatment.
- Intoxicating beverages, narcotics, and other mind-altering drugs or intoxicants, firearms, cameras, or other recording devices shall not be brought onto company property.
- Fighting, horseplay, or practical jokes will not be tolerated.
- Violation of the basic safety rules or other established safety and health procedures can result in termination.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

Job Safety Analysis (JSA)

Section 1

Job#: _____ Date: _____ Time: _____ Prepared by: _____

Task Description: _____

Work Area Location: _____ Superintendent: _____

Weather: Site Conditions: Wind Direction: Temp: Heat Index:

Section 3 CONSTRUCTION EQUIPMENT REQUIRED FOR TASK (crane, forklift, manlift, etc.)

Section 2

Which SDS's were reviewed? _____ [ ] N/A

Emergency Assembly Point: _____

Color Code (*Month/Quarter*): _____

Section 4 RIGGING REQUIRED FOR TASK

To be inspected by: _____

List type of rigging: _____

Is a lift plan required? [ ] Yes [ ] No [ ] Crane [ ] Track-hoe [ ] Forklift

Section 5 TOOLS REQUIRED FOR TASK

All tools are to be inspected prior to use	List the specific tools to be used and inspected for this task below
Hand Tools	
Gas Powered Tools	
Air Powered Tools	
Electrical Power Tools	
Hydraulic Power Tools	
Powder-Actuated Tools	
Manual Hoist Equip.	
Ladders	
Fall Protection Equip.	
Chains, Binders, & Ratchet Straps	
Other	

Note: Tools must be inspected by the user prior to each use.

Section 6 SPECIALTY TRAINING REQUIRED FOR TASK

Qualified Rigger (*name*): _____

Qualified Signal Person (*name*): _____

Spotter/Flagger (*name*): _____

Qualified Operator (*name*): _____

Other: _____

Section 7 PERSONAL PROTECTIVE EQUIPMENT

Required and has been properly inspected

Hard Hat [ ] Safety Glasses [ ] Safety Toe Boots [ ]

Work Gloves [ ] High Visibility Vest [ ] Hearing Protection [ ]

FRC [ ] Spoggles [ ]

Other Specialty PPE: _____

Section 8 PROCEDURES/PERMITS REQUIRED FOR TASK (walk the work area with permit writer)

Permit	Obtained by	Yes	No	Permit	Obtained by	Yes	No
Hot Work		[ ]	[ ]	Scaffolds		[ ]	[ ]
Lock, Tag, Try		[ ]	[ ]	Confined Space		[ ]	[ ]
Line Break		[ ]	[ ]	Lift Plan		[ ]	[ ]
Excavation		[ ]	[ ]	Safe Work		[ ]	[ ]
				Other:		[ ]	[ ]

Section 9 CREW ACKNOWLEDGMENT

I acknowledge that I have the authority and obligation to STOP WORK for any unsafe act or condition observed. (Everyone in crew must sign)

	Printed Name	Signature	Mid Shift Refocus (Initials)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Section 10 MANDATORY END OF THE DAY ACKNOWLEDGMENT

I acknowledge, by my signature, that I was not injured today nor am I aware of any incidents or injuries that should have been reported to Excel.

	Print Name	Signature		Print Name	Signature
1.			6.		
2.			7.		
3.			8.		
4.			9.		
5.			10.		

STOP WORK OWN IT

EXCEL strives for ZERO accidents.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Section 11 EXCEL'S LIFE SAVING SAFETY RULES

EXCEL has adopted a "zero tolerance policy" for Safety Violations related to these LIFE SAVING SAFETY RULES. *(CHECK ALL THAT APPLY TO YOUR JOB SCOPE)*

[ ] Tie-Off [ ] Confined Spaces [ ] Lockout/Tagout [ ] Suspended Loads [ ] Safety Critical Devices [ ] Energized Equipment [ ] Permits/JSA's [ ] Excavation Areas

Section 12 WORK STEPS FOR THIS TASK	Section 13 HAZARDS ASSOCIATED WITH WORK STEPS (CIRCLE what hazards have "Serious Injury Potential")	Section 14 HOW WILL THE HAZARDS BE ELIMINATED/CONTROLLED?

EXCEL
STOP WORK AUTHORITY

Section 15 EMPLOYEE COMMENTS/RECOMMENDATIONS

Section 16 NOTED CHANGES

(Minor changes shall be noted during course and scope of task and significant changes require new JSA)

What changes occurred today? _____

Was WORK STOPPED for any unsafe act or condition today? Yes [ ] No [ ] Was it corrected? Yes [ ] No [ ] N/A [ ]

Section 17 REVIEW (Management, Superintendent and Safety Rep should review and acknowledge during course and scope of task)

	Print Name	Signature	Title	Date	Time
Reviewed by:					
Reviewed by:					
Reviewed by:					

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

NEW EMPLOYEE MONITORING PROGRAM

GENERAL

- The purpose of this program is to identify and monitor employees who are new to the site until it is proven that they exhibit the desired safe work habits. The total success of the program is everyone's responsibility. Participation from everyone is key in ensuring new employees understand and accept the safety culture of The Company and our client. New employees must demonstrate the site safety expectations in the first ninety days.

DEFINITIONS

- **New employee** – Any employee new to the site

IDENTIFICATION

- **Orange dot** – Employee with more than one year of industrial experience in the skill they are employed.
- **Green dot** – Employee with less than one year of experience in the skill they are employed.

MONITORING

1. Each employee will be interviewed by his supervisor and a safety representative to establish an employee profile. The profile shall include education level, experience level, and type of industry.
2. After the supervisor/safety interview, the new employee will be issued the appropriate visual identification with a 90-day expiration date.
3. The visual identification can only be removed after the 90 days have expired, and the new employee's monthly evaluation is acceptable.
4. Foremen will perform monthly evaluations, and the new employee's work habits, safety performance, and attendance must be documented. (see evaluation form attached)
5. Acceptable performance will be measured through BBP observations, audits, peer nominations, and foreman evaluations.
6. A log will be kept on employee status and visual identification expiration dates.
7. Visual identification expiration will be announced during the weekly safety meeting.
8. Visual identification can only be removed by the employee's supervisor, and the date of removal must be documented and signed by the employee's supervisor.
9. Employees who do not exhibit acceptable performance shall not be allowed on site past their expiration date.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BUDDY SYSTEM TRAINING REPORT

Job #: _____ Instructor: _____

I, the undersigned, have been made aware of my duties and responsibilities as defined by the Buddy System procedures. I have also been issued a quick reference card showing the layout of the _____ plant, Buddy System areas, and the procedures to follow when performing buddy work. I understand that this card must be on my person at all times and that if it is lost, a nominal fee will be charged for replacement.

NAME	SOCIAL SECURITY NUMBER	DATE

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SHORT SERVICE EMPLOYEE

GENERAL

- EXCEL Companies has adopted the following program to ensure that short-service employees are identified, appropriately supervised, trained, mentored, and managed. This program is adopted in order to prevent accidents such as personal injury, injury to others, environmental damage, and/or property damage by the short-service employee.
- EXCEL Companies defines a short service employee (SSE) as any person or personnel with less than six (6) months experience in his/her current position or with one's current employer. A person or persons can also be classified as an SSE if they change jobs within the company they are working for or as a new hire for the same type of position for another company.
- EXCEL Companies is responsible for ensuring that the following policies and safe work practices are enforced.

RESPONSIBILITIES OF EMPLOYERS

- EXCEL Companies is responsible for leadership of the safety and health program, for its effectiveness and improvement, and for providing the safeguards required to ensure safe conditions.
- Supervisors are responsible for developing the proper attitudes toward safety and health in themselves and in those they supervise and for ensuring that all operations are performed with the utmost regard for the safety and health of all personnel involved, including themselves.

RESPONSIBILITIES OF EMPLOYEES

- Employees are responsible for wholehearted, genuine operation with all aspects of the Safety and Health Program, including compliance with all rules and regulations — and for continuously practicing safety while performing their duties.

HIGH HAZARD AREAS

- SSEs may be prohibited from entering and working in high-hazard areas in certain situations, and these may include:
    - Naturally occurring radioactive material (NORM)
    - H2S areas
    - Confined spaces

PROCEDURES (SAFE PRACTICES)

- Work Crew Assignments and Restrictions:
    - A single worker as his own crew is not considered an SSE.
    - Employees defined as SSE are not permitted to work alone.
    - When crew/group sizes of less than five (5) are assembled, no more than one (1) SSE per group/crew is allowed.
    - When working with crew/group sizes larger than five (5) members, the number of SSEs will not exceed 20% of the crew/group makeup.
    - If the crew/group exceeds the twenty percent (20%) makeup of SSEs, a written variance form is required, which will serve as a mitigation plan. This variance must be approved by the Supervisor and/or Manager in charge of the project.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

COMMUNICATION AND NOTIFICATION

- The processes for the proposed crew/group, when using an SSE, are outlined in the Short Service Employee Form. Prior to beginning the job assignment, the Supervisor/Manager in charge will submit the completed SSE form for all the jobs that will contain SSE personnel to the project's coordinator, onsite supervisor, or contractor. The work owner or supervisor/person in charge will decide the SSE approval status and will keep the original completed form in the project files.

IDENTIFICATION

- All SSE personnel must be visibly identified by employing one of the following methods:
    - Wearing a high-visibility orange hard hat
    - Wearing a high-visibility sticker on their hard hat
        - Wearing a high-visibility orange vest

- SSE Indicator Requirements:
    - **0-6 months Work Experience in Industrial Environment**:
        - EXCEL issued Orange Hard Hat (worn during entire employment with EXCEL UNTIL 6 months / 180-days of continuous employment is met AND successful completion of 6 months / 180-days SSE Program is validated)
        - 2” diameter hard hat sticker with SSE’s Start Date to be worn on hard hat until successful completion of 6 months / 180-days SSE Program
        - Orange Hi-Vis Vest to be worn until successful completion of 6 months / 180-days SSE Program

    - **6 months & more Validated Work Experience in Industrial Environment BUT new to EXCEL:**
        - 2” diameter hard hat sticker with SSE’s Start Date to be worn on hard hat until successful completion of 6 months / 180-days SSE Program
        - Orange Hi-Vis Vest to be worn until successful completion of 6 months / 180-days SSE Program

MONITORING SSE'S

- Supervisor must monitor their workers, which includes the SSE personnel, for Environmental, Health and Safety (EHS) awareness.
- The identifier marking the SSE may be removed from the SSE Program at the discretion of the supervisor at the end of the required six-month period if the SSE has:
    - Completed SSE Daily Safety Standards Guide
    - Passed the SSE Exam
    - Worked safely
    - Adhered to all EHS policies
    - Had no recordable incidents attributed to them
- The supervisor will require the worker who fails to complete the three-month period free of recordable incidents to get the operator to approve in writing prior to allowing the person to return to the operator's property.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

MENTORING PROCESS

- All SSEs will be assigned a mentor for the first six (6) months of employment. A mentor's responsibility is to provide guidance and develop the SSE personnel. A mentor may be assigned only one (1) SSE per crew/group. The mentor must always be on site with the SSE to monitor the SSE.
- The mentor must meet the following requirements:
    - Be familiar with the SSEs job, have the oversight responsibilities required, and all hazards accompanied with the job
    - Have up-to-date orientation training
    - Be familiar with all site policies, procedures, and any required specialized actions with the work to be done.
    - Show the ability to recognize any hazards and/or unsafe acts
    - Are able and willing to challenge their personnel on the job if they do not meet site procedures, policies, or other requirements and will see that the stop-work authority is enforced
    - Participate actively in the behavior-based safety process

- Note: A mentor must keep a helpful eye on new hires in your crew. Take time to describe the layout of the project, the best method to access the work, or how to work a tool they have never used before.

SUB-CONTRACTOR MANAGEMENT

- Sub-contractors working onsite will have assigned mentors who monitor their workers only. Mentoring of outside workers will be done on an individual basis and as required. They will also be managed by this policy.

REQUIREMENTS

SSE Plan

- EXCEL Companies has established this Short Service Employee (SSE) plan to verify all work is being carried out safely by requiring SSE supervisors to:
    - Communicate the SSE policy and procedure at all pre-job meetings
    - Submit the crew/group makeup and all SSE form(s) to the onsite representative of the work owner for approval
    - Ensure the onsite representative validates the crew/group makeup and experience level
    - See that the onsite representative approves the SSE variance form
    - Make sure the onsite representative posts the forms to the appropriate database if required

SSE Review

- To ensure each Short Service Employee is progressing satisfactorily through the SSE program, the company shall document the progress of each individual from start to completion.
- EXCEL Supervision/Mentor is responsible for reviewing the Daily EXCEL Safety Standard topic with the Short Service Employee. The SSE and Mentor shall sign in their designated areas of the Daily EXCEL Safety Standard topic daily upon completing the review. No more than one topic can be reviewed per day.
- Upon completion of the 30-day Daily EXCEL Safety Standards, the SSE must pass the EXCEL Short Service Employee Exam with a passing score of 100%. Should the SSE not pass the exam with 100%, the SSE must complete another cycle of the 30-Day Daily EXCEL Safety Standards for a second time and pass the EXCEL Short Service Employee Exam with a passing score of 100%. Should the SSE not pass the exam with 100% the second time, EXCEL Supervision will evaluate the SSE’s employment status.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- When the SSE passes the EXCEL Short Service Employee Exam, either after first or second time of taking it, the SSE will continue to wear their SSE indicators (i.e., designated colored hard hat, SSE hard sticker, designated colored hi-vis vest) for the remainder of his/her first 6 months / 180-days of employment.
- Based on the unique characteristics of the assigned work of the SSE, a checklist shall be developed for each SSE employee with a record of milestone requirements met. These requirements, based on the unique assigned area, group, or work, such as:
    - Receiving the required safety orientation
    - Attending the required safety training
    - The SSE demonstrates the ability to do the job required
    - SSE can use tools/machines/equipment safely
    - The ability to identify the hazards at the work site and how to protect oneself.
- Additional key milestones shall be added.

Program Review

- This Short Service Employee Program will be reviewed on a regular basis to ensure the practices are kept up to date by performing the following:
    - Continuous monitoring of the SSE
    - Ensuring all changes/updates to the forms are submitted prior to beginning work and whenever a change may occur thereafter

PPE

- Short-service employees shall be provided with the required PPE at the expense of the employer. SSE shall receive training in:
    - PPE that is required in various locations
    - How to inspect, don, doff, clean, and maintain required PPE

TRAINING

- Short-service employees shall be properly trained in the knowledge and skills necessary to conduct their assigned jobs safely and efficiently.
- Training shall include:
    - Federal, state, industry, and company requirements
    - Hazard(s) present in the workplace.
    - The policies, procedures, and processes utilized to control these hazards and prevent illnesses, injuries, property damage, and/or environmental incidents.
    - The proper use of PPE and all its requirements

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SHORT SERVICE EMPLOYEE STANDARDS GUIDE

INTRODUCTION

EXCEL Companies has adopted the Short Service Employee (SSE) Program to ensure that Short Service Employees, herein after referred to as “SSE”, are identified, appropriately supervised, trained, mentored, and managed in order to prevent accidents such as personal injury, injury to others, environmental damage, or property damage.

SCOPE

EXCEL Companies defines a Short Service Employee (SSE) as any person or personnel with less than six (6) months experience in his/her current position or with one’s current employer. A person or persons can also be classified as an SSE if they change jobs within the company they are working for or as a new hire for the same type of position for another company.
A supervisor will ensure that the SSE will monitor all activities conducted for the awareness of health, safety, and environmental issues. During the SSE period, the SSE will be required to wear identifiable SSE indicators. Upon successful completion of the 6 months /180-working days SSE period, a supervisor can approve the employee being removed from the SSE program or request the employee to undergo the program again.

INSTRUCTIONS

EXCEL Supervision/Mentor is responsible for reviewing the Daily EXCEL Safety Standard topic with the Short Service Employee. The SSE and Mentor shall sign in their designated areas of the Daily EXCEL Safety Standard topic daily upon completing the review. No more than one topic can be reviewed per day.

Upon completion of the 30-day Daily EXCEL Safety Standards, the SSE must pass the EXCEL Short Service Employee Exam with a passing score of 100%. Should the SSE not pass the exam with 100%, the SSE must complete another cycle of the 30-Day Daily EXCEL Safety Standards for a second time and pass the EXCEL Short Service Employee Exam with a passing score of 100%. Should the SSE not pass the exam with 100% the second time, EXCEL Supervision will evaluate the SSE’s employment status.

When the SSE passes the EXCEL Short Service Employee Exam, either after first or second time of taking it, the SSE will continue to wear their SSE indicators (i.e., designated colored hard hat, SSE hard sticker, designated colored hi-vis vest) for the remainder of his/her first 6 months / 180-days of employment.

SSE Indicators are as follows: EXCEL issued orange hard hat, SSE Hard Hat Sticker, orange hi-vis vest

SSE Indicator Requirements:

- 0-6 months Work Experience in Industrial Environment:
  - EXCEL issued Orange Hard Hat (worn during entire employment with EXCEL UNTIL 6 months / 180-days of continuous employment is met AND successful completion of 6 months / 180-days SSE Program is validated)
  - 2” diameter hard hat sticker with SSE’s Start Date to be worn on hard hat until successful completion of 6 months / 180-days SSE Program
  - Orange Hi-Vis Vest to be worn until successful completion of 6 months / 180-days SSE Program
- 6 months & more Validated Work Experience in Industrial Environment BUT new to EXCEL:
  - 2” diameter hard hat sticker with SSE’s Start Date to be worn on hard hat until successful completion of 6 months / 180-days SSE Program

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Orange Hi-Vis Vest to be worn until successful completion of 6 months / 180-days SSE Program

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Short Service Employee (SSE) - Employee Information	
SSE's Name: (print)	Program Start Date:
Mentor's Name: (print)	Program Completion Date: (Date can be no sooner than 180 days from start of program):
Supervisor's Name & Title: (print)	

Daily EXCEL Safety Standards

Date:	Day 1: EXCEL'S Life Saving Safety Rules (LSSR's)

Your Responsibility:
As EXCEL Employees, you and your supervision are responsible for knowing the Life Saving Safety Rules, their reporting.
Investigation; consequences. Ensure and verify that all Employees and Sub-Contractors know EXCEL'S LSSR. be engaged with the program and always recognize behaviors. Lead by example, ensure, and verify that the LS a fair way. Verify, measure and always work to continuously improve.

EXCEL'S Life Saving Safety Rules That Must Be Obeyed at All Times to Include:

- **Tie Off:** Maintain100% tie-off when working at height greater than 4 feet and exposed to a fall
- **Confined Spaces:** Only enter a confined space with proper permission, permitting, and meeting gas testing requirements
- **LOTO:** Follow Lockout/Tagout Procedures
- **Suspended Loads:** Do not walk under a suspended load or lift a load over personnel
- **Safety Critical Devices:** Obtain authorization before intentionally defeating, overriding, or disabling a safety critical device
- **Energized Equipment:** Do not work on or near energized equipment without being trained, qualified, and authorized to do so
- **Permits / JSA's:** Obtain a valid work permit when required and always maintain a properly completed JSA
- **Excavation Areas:** Do not enter an excavation that is unsafe or where the sides are not protected from cave in

What if you break a LSSR?
Rule violators expose themselves or others to a higher risk of injury or fatality. All rule-breaking events will be thoroughly evaluated by EXCEL Management. If the rule violation was intentional, appropriate disciplinary action will be applied. For employees of sub-contractors or visitors, this can include removal from site and disqualification from future EXCEL work.

If a supervisor sets the conditions for rule breaking or fails to follow through if one is broken, appropriate disciplinary action will apply.

Mentor Signature:	SSE Signature:	Comments:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Date:		**Day 2: Lockout & Tagout Standard (EXCEL LTT-Lock, Tag, Try)**
Mentor Signature:	SSE Signature:	When work is to be performed on equipment, machinery or other systems that contains, could contain or controls stored energy they must lockout, tagged and tried to ensure there will not be an unplanned release of energy. • Lockout and Tagout with proper Permit form must be completed prior to start of work to ensure proper isolation has taken place. • The removal of others' locks, or tags is prohibited without proper verification of that specific person. • Employee must receive proper training over Lockout & Tagout. Site specific may be required. • Do not alter or operate any red tag equipment such as a valve or switch in any way.
		Comments:
Date:		**Day 3: Fall Protection Standard**
Mentor Signature:	SSE Signature:	This standard covers the basic requirements of fall restraint systems set forth by EXCEL. • Fall protection equipment is required to be worn and attached to an approved anchor point when there is a fall potential greater than four (4) feet or where there is a danger of impalement. • Fall protection must be formally inspected daily and tagged on a quarterly basis by a competent person. EXCEL'S color code system will be used to verify the quarterly inspection. • Employee is required to tie off overhead when possible. • Personally owned safety harness and lanyards are prohibited. Falling distance determines your tie-off points. Example: If you are sitting on a pipe then your fall distance is measured from the point of which you are sitting.
		Comments:
Date:		**Day 4: Confined Space Standard**
Mentor Signature:	SSE Signature:	A confined space is any space that is large enough and so configured that a person can bodily enter, has limited or restricted means of entry or exit and is not designed for continuous occupancy by people. • Persons who perform confined space work are required to be trained prior to performing any confined space work. • No person may enter any "Permit Required Confined Space" without a confined space permit. Any part of the body (hand, head, foot, etc....) that crosses the plain of the opening or entry into the confined space is considered an entry. • Prior to entry, the atmosphere must be tested for oxygen content, contaminants and explosives. Acceptable oxygen content range is 19.5% to 23.5%, while the flammable acceptance level is 0 to 10% LEL. • A trained attendant must be stationed at the entry. Attendant must not leave assigned station without proper relief or perform any other duties. Attendant must keep a constant two-way communication with entrants and keep accurate accountability of all entrants on the "Attendants Log Sheet".
		Comments:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Date:		**Day 5: Knives and Cutting Tools**
Mentor Signature:	SSE Signature:	Knives shall not be used if alternative tools to perform the job task safely are available (cable stripper, cutter pliers, gasket scrapper, etc.). • Where a knife is an appropriate cutting tool to perform a cutting task, the knife must have a fixed or self-retractable blade system design (i.e., folding blade knives or folding locking blade knives are not acceptable except for emergency response activity performed by certified personnel. • Always the smallest blade possible and practical for the job. • Fixed-blade knives must be carried in an appropriate case, such as a sheath. • The appropriate type of Kevlar cut-resistant gloves and sleeves shall be worn whenever a knife is used to perform a job task. • A pre-job analysis must be completed before each use. • Cuts made with cutting instruments shall be made away from the body or others in the immediate area.
		Comments:

Date:		**Day 6: Hand Protection and Gloves**
Mentor Signature:	SSE Signature:	Employees are required to wear gloves at all times while performing any work activity except when they could be caught by moving or rotating equipment and parts, or if your dexterity is a key to the task at hand. • The standard issue glove is a leather Impact Level 1 / Cut Level A5 / Puncture Level 4 resistant glove (i.e. Magid Glove TRX818). • Employees performing detailed work or handling small parts that require high dexterity are required to wear hand protection unless specified by the supervisor or client. • Employee shall wear appropriate glove suited for job task such as Kevlar gloves for cutting and insulated rubber gloves working on or near energized electrical equipment. • Use tool holders when driving stakes or wedges, or holding star drill, bull points and other similar driven tools. • Never wrap your hand in a rope, chain, or cable for any reason. • A glove clip is required to secure gloves on your person at all times. • Where jobs are identified that pose a higher risk from using the standard issued gloves and are not listed on the exemptions list, these tasks must be identified explicitly on the JSA and submitted to the Project Manager, Site Manager, Site Safety Representative for approval. Submittal to the exemption list does not guarantee exemption.
		Comments:

JOB	HAZARD	GLOVE TYPE
General Purpose / Everyday Use	Cuts/Bumps/Pinches	Impact/cut-resistant leather gloves
Rigging	Pinches/Sharp Edges	Impact/cut-resistant leather gloves
Sheet Metal	Extremely Sharp Edges	Kevlar Gloves and Kevlar Sleeves
Welding/Oxy Acetylene Cutting	Burns/Sharp Edges/Heat Flames	Welder Gloves
Jack Hammer/Impact Type Equipment	High Vibration	Padded or Shock-absorbing
Boiler/Pipe Shop	Burns/Sharp Edges/Heat Flames	Impact/cut-resistant leather gloves
Carpenters	Pinches/Cuts/Bumps	Impact/cut-resistant leather gloves
FRP	Cuts/Bumps/Solvent	Kevlar / Impact/cut-resistant leather gloves
Scaffold Builder	Wood Slivers/Pinches	Impact/cut-resistant leather gloves
Insulators	Dust/Dirt	Impact/cut-resistant leather gloves
Knives	Sharp Edges	Impact/cut-resistant leather gloves See Site-specific Knife Policy
Chemicals	Chemical Hazards	Chemical resistance specified on the appropriate SDS
Masonry	Cement Exposure	Rubber lined
Electrician	Cuts/electrocution	Impact/cut-resistant leather gloves /Kevlar/High Voltage

EXCEL

Date:		**Day 7: Ladders**

Mentor Signature:	SSE Signature:	This standard covers basic requirements on the use and inspection ladders.
		• Ladder shall be visually inspected for defects by a competent person before each use and have a documented inspection done quarterly. The quarterly inspection should be recorded on the "Ladder Inspection Sheet".
		• Metal ladders are prohibited.
		• The top of an extension ladder must always extend at least three feet beyond the supporting object.
		• The portable ladder shall be placed on a substantial level base.
		• A safety harness is required when working under certain circumstances such as:
		  ○ Working over 4 feet on a ladder.
		  ○ Working outside the confines of the ladder.
		Do not lay tools or materials on the steps or cap of a stepladder.
		Ladders shall be tied off to a secure object.
		Carrying objects, tools, or any item while ascending and descending a ladder is prohibited.
		Only industrial ladders with the weight capacity of 350 pounds or more may be used.
		When ascending a ladder initially have another person ten the base of the ladder to help maintain its stability.
		Do not stand on the top step or "cap" of a ladder.

		Comments:

Date:		**Day 8: Reporting Accidents and Incidents**
Mentor Signature:	SSE Signature:	Report all incidents and injuries, regardless of their severity, immediately to your supervisor. • Report damage to or defects of operational systems such as pipelines, and valves to your supervisor. • Report any damage to vehicles and equipment regardless of the extent of damage immediately to your supervision. • All employees will be held accountable for filling out an Incident Investigation and Witness Statements Form immediately after an injury occurs, even if medical treatment is not required. • Notice must be made at or near the time of the injury and on the same day of the injury. Employees must report the injury to their supervisor/leadman/foreman/superintendent, etc. A casual mentioning of the injury will not be sufficient. Employees must let their supervisor know: • How they think they hurt themselves and what they were doing at the time. • Who they were working with at the time? • When and where it happened. • Other pertinent information that will aid in the investigation of the incident. • Failure to report an injury immediately (meaning at or near the time of the injury and on the same day of the injury) is a violation of the Safety Policy, and that may result in immediate termination in accordance with company policy
		Comments:

Date:		**Day 9: Eye and Facial Protection**
Mentor Signature:	SSE Signature:	• Only safety glasses with permanent side shields that meet the ANSI Z87.1 requirements are permissible. • Persons who wear prescription eyeglasses must have approved type eyeglasses or wear goggles over their eyeglasses. • Clear safety glasses/goggles are required indoors, at night or other circumstances where tinted lens may impair vision. • Monogoggles must be worn when performing work activities where dust or other particles may enter the eyes. Examples are the following: sweeping, demolition work, and sanding overhead. • Monogoggles and a face shield must be worn while performing any work operation of equipment or tools that may create flying particles or objects. Examples are the following: grinders, drills, electric saws, and impact wrenches.
		Comments:
Date:		**Day 10: Motor Vehicles**
Mentor Signature:	SSE Signature:	Motor vehicles (cars, trucks, vans) must be inspected daily by the operator each day before use. The inspection must be recorded on the EXCEL "Monthly Vehicle Inspection Sheet". • EXCEL requires all personnel who operate licensed vehicles to have a valid driver's license. • Operator of vehicles is responsible for ensuring seat belts are in use when vehicle is in motion. • Only authorized persons may operate company owned/leased vehicles. • Company vehicles are to be used for official company business; personal use is prohibited. • Operators shall obey all speed limits and other regulatory signs. • Good housekeeping rules are applicable to motor vehicles.
		Comments:
Date:		**Day 11: Assured Grounding**
Mentor Signature:	SSE Signature:	• All electrical equipment shall be of the grounding type with the grounding conductor properly connected at each end. Extension cords shall be similarly grounded at each end. All receptacles shall be of the grounding type and their contacts shall be grounded by connection to the equipment grounding conductor of the circuit supplying that receptacle. • A visual inspection of cords, tools, for external defects must be done before use. • It is required that all GFCI receptacles be identified with colored tape to indicate the month and quarter the electrical integrity test was performed. • All defective tools and cords will be removed from service and tagged "Do Not Use" immediately. • A GFCI must be used when operating electrical tools on temporary electrical systems and when attached to electrical extension cords.
		Comments:

EXCEL

Date:		**Day 12: Personal Protective Equipment "PPE"**
Mentor Signature:	SSE Signature:	• A hard hat, safety glasses with permanently attached side shields, safety toe footwear, shirt with sleeves, long pants, high visibility reflective vest are required to be worn at all times except in office environments where there is no exposure to potential hazards. • A hard hat must be worn when welding. The use of soft caps or "pancakes" will not be allowed. • If a job task required a face shield, goggles or spoggles eye protection must also be worn. • Employees are required to have a pair of impact / cut / puncture resistant gloves and hearing protection on their person while in the field where work is being performed. • EXCEL will replace PPE safety equipment that is worn through normal wear and tear. • Abuse or alteration of PPE will not be tolerated.
		Comments:
Date:		**Day 13: Barricades**
Mentor Signature:	SSE Signature:	Barricades are intended to keep unnecessary people away from a potentially hazardous area. Each person must respect the presence of any type of barricade by staying outside the designated area. • Barricades must be 42 inches high, square and level. • Six feet back from the edge of excavation, holes, platforms, and roofs unless a protective barricade is used. • Erect the barricades before the work starts and extend them as the work progresses. • Tagged to identify who installed them: company name, date, contact person and nature of hazard. • All barricades must be visible after dark. • Barricade must be disposed of properly upon completion of work. • Typical examples requiring barricades include: overhead work, excavations, holes/openings through floors or decking and lifting operations.
		Comments:
Date:		**Day 14: Housekeeping**
Mentor Signature:	SSE Signature:	Good housekeeping is a key element in the prevention of accidents. Keep your work area clean and neat as your work progresses to avoid congestions. • Store tools and accessories out of the way when not in use. • Dispose of trash and debris in designated containers and areas. • Avoid tripping hazards by keeping hoses, cables, electrical cords off walking and working surfaces. • Store small items in boxes or some other type of containment.
		Comments:

EXCEL

Date:		**Day 15: Jewelry**
Mentor Signature:	SSE Signature:	Visible body piercing jewelry is not permitted. This includes nose rings, belly rings, earrings, tongue piercing devices, or any other article that pierces the body. Earrings may be worn in an office environment. • Necklaces, ankle bracelets, wrist bracelets (non- break away), rings and other such jewelry and body apparel are prohibited except in office environments where they are not exposed to moving machinery or rotating equipment or could be caught on an object. • Wristwatches are permitted if plastic bodied with nylon band. They also must be removed when working with or on moving or rotating equipment or machinery. • Jewelry is not permitted when it may cause physical harm to the body.
		Comments:

Date:		**Day 16: Scaffolds**
Mentor Signature:	SSE Signature:	• No scaffold shall be erected, moved, dismantled or altered except by trained competent personnel. • Persons who access scaffolds are required to take a "Scaffold Users" training class. • Scaffolds must be inspected by a competent person before their initial use each day and a tag attached to it near the access way. • Scaffold user must visually inspect the scaffold to verify no modification or damage has been done. • Do not climb on, or work from any handrail, midrail or brace member. • Personnel must wear fall protection and properly tie off on all scaffolds. EXCEL does not recognize any of the following scaffold tags (Green tag-complete, Yellow-incomplete, Red-do not use). • Good housekeeping on scaffold platforms shall be followed to help prevent knocking over tools/ materials over the side.
		Comments:

Date:		**Day 17: Rigging**
Mentor Signature:	SSE Signature:	• Only qualified riggers and persons who have been trained are permitted to perform rigging operations. • The user shall visually inspect rigging equipment for defects prior to use. • Slings, hooks, and other rigging equipment shall be used in accordance with their designed purpose and manufacturer specifications. • Do not stand or have any part of your body below a suspended load. • Taglines shall be used to control loads while being raised or lowered. • Never loop your hand in a rope, chain, cable or any object to get a better grip. • Do not wrap the load chain around the load to be lifted, use a sling or choker. • Each sling shall be accompanied with a "Sling Rating Tag".
		Comments:

Date:		**Day 18: Grinders**
Mentor Signature:	SSE Signature:	• Only authorized persons who have been trained are permitted to use hand grinders. • Employees involved in grinder activities are required to use the minimum PPE: face-shield, goggles, impact / cut / puncture resistant gloves, proper hearing protection, and a long-sleeved shirt should be worn. • Grinders should be visually inspected for defects before each use. • Grinders, as will all power tools, must be unplugged when adjusting or changing discs/wheels, etc. • Always use the handles provided. • All guards must be in place and in proper adjustment. • Maintain a body position that is not in the line of fire in the event the grinder hangs up and kicks back. • Do not leave grinders plugged in while not in use or unattended.
		Comments:
Date:		**Day 19: Excavations & Trenching**
Mentor Signature:	SSE Signature:	• Excavations must be sloped, stepped, shored or shielded and have proper access/egress within 25 feet when deeper than 4 feet unless otherwise designated by a competent person. • Each excavation shall be inspected by a competent person daily before work begins and when conditions change such as the weather or soil conditions. • The excavation area must be barricaded. Check Excel Standard to see what type of barricade is required for the task. • Spoil dirt must not be steeper than one-foot rise to each one-half foot horizontal from the edge of any excavation. • An excavation permit is required for all excavations and trenching operations that are to be performed by hand or mechanical equipment. • Heavy equipment must be at least 4 feet away from the edge of an excavation. • Personnel are not permitted in any excavation while machinery is being operated to excavate materials.
		Comments:
Date:		**Day 20: Mobile Equipment**
Mentor Signature:	SSE Signature:	• Only qualified persons who have an Excel Operator License are permitted to operate any mobile equipment • Operator must wear their PPE unless they are in an enclosed cab. • Prior to use each day, the operator shall conduct a visual and partial functional inspection of equipment. • Seatbelts must be used when provided. • Never leave any equipment unattended when the engine is running. • The parking brake must be set whenever the vehicle is parked.
		Comments:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

Date:		**Day 21: Hazard Communication**
Mentor Signature:	SSE Signature:	• Employee must be qualified to handle and use hazardous substances and chemicals. • Read the labels and follow the directions on pre-packaged containers. • Do not remove the labels on containers. If you find a container and the contents are unknown, contact your supervisor. • Safety Data Sheets (S.D.S.) are available upon employees' request. • Only approved type containers may be used to storage a liquid. • Employee shall be informed of hazardous substances they may be exposed to or come in contact with.
		Comments:
Date:		**Day 22: Fire Watch Duties**
Mentor Signature:	SSE Signature:	The primary responsibility of a "Fire Watch'" is to monitor for potential fire hazards and the presence of fire during operations such as welding and cutting. • Fire watch personnel shall not have secondary duties assigned to them that interfere with their primary duties. • Fire watch personnel are required to remain at the work site for at least 30 minutes after hot wok operations have ceased to ensure potential fire conditions do not exist. • Personnel who are assigned to perform fire watch duties shall be trained to perform such duties. • The fire watch is responsible for extinguishing fires when they occur if possible. • A 20-pound dry chemical fire extinguisher must be in the immediate work area during welding, cutting and other open flame work.
		Comments:
Date:		**Day 23: Forklifts**
Mentor Signature:	SSE Signature:	Only qualified personnel who have an EXCEL Equipment Operator License are permitted to operate forklifts. Specific requirements must be meet. • Only qualified riggers who have received training and the forklift operator are permitted to adjust the forks of a forklift. • Each forklift operator shall inspect the forklift before each shift and document the inspection on a "Daily Forklift Inspection" form. • Seatbelts must be used when provided. • PPE is required to be worn while operating forklifts. • A flag person must be used when the travel direction is obscured. • When a forklift is left unattended, forks must be lowered level to the ground, ignition off, and parking brake set.
		Comments:

Date:		**Day 24: Elevated Work**
Mentor Signature:	SSE Signature:	Working in locations above ground or above grade poses a potential problem for both you and your fellow workers. • Do not store tools/materials on beam flanges, lighting fixtures, girts or other similar elevated locations. • Tools/Materials must be secured in a tool bucket, tool belt or a bolt bag. • Never throw anything off an elevated workstation. Use proper means to lower objects to ground. • For emergency purposes, have adequate means of access/egress within 25 feet of work area. • Secure tool with tool lanyards and other implements when working at elevated heights. • If the nature of the work so requires, erect barricades around the area to keep out unnecessary people. • When required, use fall protection and tool tethers.
		Comments:

Date:		**Day 25: Hearing Protection**
Mentor Signature:	SSE Signature:	Excessive noise from any source may cause permanent hearing loss. Observe and obey all hearing protective signs. • Inspect your hearing protection prior to each use to ensure they are in good condition. • When using disposable hearing protection keep them clean. Replace as needed. • Ensure hearing protection is inserted properly or worn correctly. • A rule of thumb- if you have to raise your voice to be heard, you need hearing protection.
		Comments:

Date:		**Day 26: First Aid & Medical Treatment**
Mentor Signature:	SSE Signature:	• Personnel who provide first-aid services shall have current certification from recognized agencies. • Persons who are injured or become ill at work are required to be examined by a medical professional regardless of the severity of the incident. • A person designated by Excel must accompany any person who is transported to a medical or other facility for examination or treatment. • Report any medical condition to your immediate supervisor that you believe could affect your ability to work safe. • Employees who are taking over-the-counter or prescription medications must report such usage to their immediate supervisor and project safety representative. • Employees who are injured or become ill at home during non-work hours must provide the company with a written medical release without restrictions upon returning to work. •
		Comments:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Date:		**Day 27: Safety Orientation / Good Catch Program**
Mentor Signature:	SSE Signature:	EXCEL has a Safety Observation and Recognition process. The purpose is to promote employee and management participation. • The Safety Observation and Good Catch process applies project wide and will encompass all shop, field, and administrative employees. • It will require active involvement by management, front line supervisors, and craft personnel as well as data tracking in order to communicate the results. • Introduce yourself - When your observation begins, introduce yourself and explain what you are doing. Ask them to continue with their work and they will be told what was observed after the observation is complete. • Consult your supervisor for more information or participation.
		Comments:
Date:		**Day 28: JSA (Job Safety Analysis)**
Mentor Signature:	SSE Signature:	JSA is a method to define the tasks or sequence of work steps, potential risk associated with the work steps, the actions that could result in an accident, and the methods to eliminate or control the risk. • Foreman or crew leader are responsible for completing a JSA for work to be performed under their direction. • JSA are to be reviewed and signed off by Supervision and Safety Representative. • Supervisors are responsible for reviewing the JSA with their employees before job begins and when new employees arrive to the crew. • If the work scope changes, JSA must be updated, and changes communicated to employees. Any changes must be reviewed with employees. • A copy of the JSA must be kept at the work location and be reviewed daily by the supervisor and employees to ensure they include applicable information for task being performed.
		Comments:
Date:		**Day 29: Personal Health & Hygiene/Water Coolers**
Mentor Signature:	SSE Signature:	The control and spreading of germs and disease is a concern for everyone. The transmission or spreading of germs, body fluids, communicable diseases and other health risks can be reduced with good personal hygiene practices. • Wash hands with soap and water before eating or drinking and after using sanitary facilities. • Avoid using community drinking or eating utensils. • Report any unsanitary conditions to your supervisor. • Bottled water is provided on many job sites. The ice and ice chests used to chill bottled water is to be checked daily, at a minimum, by a designated person. • Personnel who handle coolers must follow proper hygiene practices. • Lid must be sealed to prevent contamination from dirt, debris, etc. • Do not store personal food, or other personal items, in ice chests. • Ice chests shall be placed on a clean surface. Trash bags or a trashcan with lid must be provided for each location of ice chest.
		Comments:

Date:		**Day 30: Empowerment for Safety – Stop Work Obligation**
Mentor Signature:	SSE Signature:	As an EXCEL Employee, you are responsible for the safety and well-being of yourself and your coworkers. You have been given the authority, without fear of reprimand or retaliation: • To immediately stop any work activities that presents a danger to you, your coworkers, or the public. • To question, rectify, and report any unsafe conditions or acts to your supervisor that do not comply with our safety and health policies.
		Comments:

Congratulations, you have now completed the 30-day EXCEL Short Service Employee – Daily EXCEL Safety Standard Guide.

Your next step in the Short Service Employee Program is to study these materials and take the EXCEL Short Service Employee Exam within 2 working days of completing the Daily EXCEL Safety Standard Guide.

You must successfully complete the 50-question multiple choice and "True / False" exam with a passing score of 100%. Failure to pass the exam with a score of 100% OR failure to take the exam within 2 working days of completing the Daily EXCEL Safety Standard Guide will require you to complete another 30-day EXCEL Short Service Employee – Daily EXCEL Safety Standard Guide and retake the exam again.

Please contact your Supervisor and Safety Department Representative for scheduling of testing or any other questions.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

CONTRACTOR SHORT-SERVICE EMPLOYEE FORM AND VARIANCE

A supervisor must complete and submit this form to work owner supervision for approval prior to arrival on location. The work owner supervision must approve the individual SSE before he/she arrives on location.

I. SSE Information			
Contractor Company Name		Request Date	
SSE Name		Date of Employment	
Current Job Title			
Years Related Experience		Experience in Current Position	Years Months
Is this worker in compliance with your Substance Abuse Policy?			☐ Yes ☐ No
Have the site owner, contractor, and HES policies (including Stop Work Authority) been reviewed with SSE?			☐ Yes ☐ No
Who has been assigned as the SSE's mentor?			
Mentor's experience			Years Months
List all training provided to the SSE		List any previous special training	
SSE(s) identified by: ☐ Hard Hat-High Visibility ☐ Vest-High Visibility ☐ Other: Color:			

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CONTRACTOR SHORT-SERVICE EMPLOYEE FORM & VARIANCE (PAGE 2 OF 3)

II. SSE Crew Composition Requirements		
Choose one of the crew types below. If any of the stated limitations are exceeded, proceed to the variance form on the next page.		
☐ Single person crew-cannot be an SSE (Variance Required)		
☐ 02-4-person crew-no more than one SSE		
☐ 5 or more-person crew-no more than 20% SSE(s) per crew		
☐ Exceeding 20% SSE per crew (Variance Required)		
III. SSE Review and Approval		
☐ Contractor Supervising Manager	Date	
☐ CPL Work Location Supervisor	Date	
☐ Work Owner	Date	
IV. Contractor SSE Form Repository		
☐ CSM Data Base	Date	
☐ CPL Work Location	Date	
☐ Work Owner File	Date	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CONTRACTOR SHORT-SERVICE EMPLOYEE FORM & VARIANCE (PAGE 3 OF 3)

This form is to be filled out whenever the conditions on this form or any other element of the Short Service Employee Policy cannot be met.

IV. SSE Variance	
Variance Justification (What are the current circumstances, and what will be done to ensure an acceptable level of risk?)	
Alternatives to Variance (If the variance is denied, what are the alternatives to completing the scope of the work? Briefly detail the cost and operational impact of the alternatives.)	
List the steps to be taken to manage/mitigate the SSE risk to an acceptable level:	
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

V. Variance Review and Approvals			
Variance Expiration Date			
Contractor Manager/Supervisor			❑ Approves ❑ Denies
Signed		Date	
Work Owner's Onsite Representative			❑Approves ❑ Denies
Signed		Date	
Note: For large jobs, please use a separate sheet to list all SSEs on the crew by name and job title.			

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SAFETY GUIDELINES FOR WAREHOUSE STORAGE

WAREHOUSE FLOOR STORAGE AREA

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Aisles and passageways must be kept clear for free and safe movement of material handling equipment.
- Materials must not be placed within six feet (6) of hoistway of floor openings nor within 10 feet of exterior walls that do not extend above the top of the material stored.
- Non-compatible materials must be separated in storage.
- The exit must not be obstructed and must be designated with exit signs.
- Aisle space must be provided to accommodate the widest vehicle that may be used inside the building for firefighting purposes.
- The following clearance must be maintained:
    - 36 inches from sprinkler deflectors
    - 36 inches from fire door openings
    - 24 inches around the path or travel of fire doors

GUIDELINES FOR OVERHEAD STORAGE

- Maximum safe load limits in pounds per square foot must be posted in all storage areas within the buildings and structures except floor or slab.
- Standard rails must be installed to provide perimeter protection.
- Ladder or stairways must be provided for safe access and egress.

INDOOR STORAGE

- Exits must not be obstructed.
- Non-combustible materials must be separated by a barrier having a one-hour (1hr.) fire-resistive rating.
- Aisle space must be provided to accommodate the widest vehicle that may be used inside the building for firefighting purposes.
- The following clearances must be maintained:
    - 36 inches from sprinkler deflectors
    - 36 inches from fire door openings
    - 24 inches around the path or travel of fire doors

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SAFETY GUIDELINES FOR SHOP AREAS

GENERAL RULES

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Employees must be properly trained before they can operate any machinery or equipment.
- Ear protection must be worn in high-noise areas when the noise level cannot be reduced.
- Eye and face protection is necessary when operations present eye and face hazards. Safety glasses with side shields are required in all shop areas.
- Work areas, passageways, etc., must be kept free of debris and scrap.
- Containers must be provided for the collection of trash, and they must be emptied regularly.
- All solvents, waste, oily rags, and flammable liquids will be kept in fire-resistant containers with self-closing lids. These containers must be emptied daily.
- Hand tools in unsafe condition must be tagged defective and repaired before reuse.
- Periodic tests must be made on extension cords and power tools.
- All exposed reciprocating, rotating, or moving parts must be guarded.
- Non-current carrying metal parts of portable and plug-connected equipment must be grounded.
- Extension cords must be the three-wire type.
- Light bulb guards are needed except where the bulb is recessed.
- Heavy-duty electric cords must be provided, and temporary lights will not be suspended by their cords unless designed. Splices shall have insulation equal to that of the cable.
- Cable passing through a work area must be covered or elevated.
- Worn or frayed electric cables must be removed from the area until repaired.
- Portable hand lamps must be of the molded composition or other approved type and be equipped with a handle and guard over the bulb.
- Extension cords must not be fastened with staples, hung from nails, or suspended by wire.
- Each electrical disconnect means must be marked to indicate its purpose unless located and arranged so the purpose is evident.
- Disconnects must be located or shielded so employees will not be injured.
- Boxes for disconnecting means shall be securely fastened and fitted with covers and be waterproof when installed in damp or wet locations.
- Transformers over 150 volts and below 12 feet from the ground must be provided with housing. Metallic enclosures must be grounded.
- Signs indicating danger and prohibiting unauthorized access are needed around transformers. For electrical disconnects, signs are needed indicating "DANGER HIGH VOLTAGE" and the amount of voltage.
- Fans less than 7' above the floor or work area must be provided with guards, and openings must not be larger than 1/2".
- Fire extinguishers, 20 ABC, shall be conspicuously located and marked. Clear access to extinguishers shall be maintained at all times.
- Pneumatic power-operated tools must be secured to the hose with positive means.
- Chemical data sheets (SDS) must be available on all fuels, solvents, paints, thinners, and other hazardous materials used on the projects.
- All containers must be labeled and contain proper warnings in accordance with THE COMPANY Hazard Communication Program.
- First aid equipment shall be made available at all times.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

MACHINERY RECOMMENDATIONS

- Machines need a disconnect switch that can be locked in the off position
- The frames and all exposed, non-current-carrying metal parts of machinery should be grounded.
- A power cut-off is needed at the operators' stations.
- Controls should be easy to reach at the operator's stations.
- Machines should be anchored to prevent walking or moving.
- Keep all knives and cutting heads sharp, properly adjusted, and firmly secured.
- Maintain cleanliness around workstations.
- Push sticks are needed at the operator's stations.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

OFFICE SAFETY RULES

SCOPE

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The following are good office practices that all office workers shall observe to ensure their safety and the safety of their co-workers.

RULES AND RECOMMENDATIONS

- Wherever possible, filing cabinets should be arranged side-by-side and bolted together to prevent a cabinet from toppling forward when one of the high drawers is opened.
- Where possible, anchor single file cabinets to the wall.
- Where there is a single filing cabinet, great care must be taken to prevent toppling when a higher drawer is opened. If practicable, arrange the files so that the lower drawers bear the heaviest load.
- Always close a drawer before opening another in the same cabinet.
- Never leave a drawer pulled out from a piece of furniture or equipment.
- Keep items such as paper clips, thumbtacks, rubber bands, pencils, etc., off the floor where there is a slipping hazard.
- Always stand on an approved ladder or stool to get articles out of reach from the floor. Never use a swivel chair or other makeshift device to reach high places.
- Use a stapler, paper cutter, pencil, knife, and scissors with care; they can produce severe cuts or puncture wounds. Paper cutters should be left in a closed position.
- A paper edge is capable of inflicting a painful cut. Avoid cuts by picking up an individual sheet of paper at the corner, not at the side.
- Handle a sharpened pencil as carefully as you would an open knife or an ice pick. Do not place sharpened pencils or other pointed objects upright in a container or upright in a pocket of clothing.
- Never throw glass, cans with rough edges, or similar objects in a waste paper basket. Never use a waste paper basket as an ashtray.
- Distorted metal waste paper baskets, sharp burrs on metal furniture, and splintered edges on wooden furniture should be eliminated by repair or replacement.
- Keep electric and telephone or radio cords off floors and out of aisles. Cords that are worn or have exposed wires shall be replaced.
- Furniture should always be arranged to avoid contact with heaters.
- Remove any spilled liquid from the floor immediately.
- Observe these precautions with doors:
    - Open doors into offices and hallways carefully; something or someone may be on the other side—approach blind corners with caution.
    - Approach doors that open toward you from the side so that you will not be in the path of the door's swing if it should be opened unexpectedly.
    - Never stand in front of a door that opens toward you.
- It is a good safety practice to equip doors that are opened frequently with glass windows.
- Tack down loose carpeting or flooring without delay.
- Broken glass tops on desks must be removed as soon as possible.
- All flammable materials must be kept in approved containers with contents labeled for identification. Containers must not be left uncapped.
- Glass, thinner, or other flammable materials should not be stored in the office. Appropriate outside storage should be provided.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- When office building floors are waxed, a non-skid wax should be used.
- Placing the feet on a desk or table while sitting in a chair can cause a painful and severe falling injury, particularly if the chair has coasters.
- If you must lick envelopes, beware of mouth cuts from the paper. To avoid cuts and germs, use a moistener.
- High heels and/or hard heels are unsafe to wear in the office.
- Pass the scissors handle first, the blades together, and keep them where they cannot fall.
- Use handrails when climbing or descending stairs.
- In case of fire:
    - Know the locations and methods of operation of all firefighting equipment in the building.
    - Know which type of extinguisher is effective on wood, oil, grease, and/or electrical fires.
    - Know how to report a fire.
    - Have escape routes planned in case of a fire. Remember to avoid elevators.
    - Be familiar with survival techniques in case a fire traps you.
- Electrical outlets must not be overloaded. Keep this in mind when using portable electric heaters.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

WAREHOUSE SAFETY

PURPOSE

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Because of hazards that may exist or be created during the receipt and storage of materials, the following basic warehouse safety procedures shall be complied with.

BASIC SAFETY PROCEDURES

- Gasoline and any other volatile material shall not be stored in the warehouse or tool room. Appropriate outside storage shall be provided.
- Paint and thinners in large quantities shall be stored outdoors or in approved lockers.
- In the event flammable material, such as paint, thinners, etc., must be stored inside for a short duration, they shall be stored in a designated protection area.
- If feasible, floor traffic areas shall be marked, noting such walking and/or vehicle traffic areas.
- Allowable floor and platform loadings shall be determined by authorized professional personnel, with such floors and platforms being marked with allowable loading ratings. Such marked load ratings shall not be violated.
- A non-skid surface shall be provided on ramps and walkways where there is a danger of slipping.
- During the design and layout stages, consideration shall be given to the amount, weight, and height of material to be stored. Bins and storage facilities shall be constructed accordingly.
- If heavy fittings are placed in bins, strips should be placed across the lower part of the bins to keep such fittings from falling out when one is removed.
- Heavier material should be stored in the lower sections of bins, with the lighter toward the top.
- Proper provisions shall be made so employees can reach material on higher shelves.
- Shelving and bins should be inspected regularly to ensure their safety.
- Adequate fire protection equipment shall be positioned within the warehouse.
- Where vehicle access is provided, clearance signs shall be posted to warn of clearance limits. Vehicles shall additionally be required to sound a horn prior to entering or exiting such warehouses.

  Illumination provided for warehouses shall be at an intensity of five-foot (5) candles. Lighting fixtures shall be protected from breakage.
- Exits shall be adequately marked.
- Warehouses and other storage areas shall be kept free from accumulation of materials that constitute hazards from tripping, slipping, fire, explosion, or pest harborage. Aisles, stairways, walkways, and loading platforms shall also be kept free of such material.
- “NO SMOKING” signs shall be posted as necessary.
- Smoke pens or smoking areas shall be clearly labeled. Butt cans and a fire extinguisher shall be provided.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CARPENTERS SHOP

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Equipment positioning in the shop shall be in such a manner as not to hamper the operation of other equipment.

TABLE OR BENCH SAWS

- Operating table saws and surrounding areas shall be kept clean and clear of debris.
- Blade guards complete with splinter and non-kickback attachments shall be in place.
- Operators shall wear adequate eye and face protection, and a kick-back apron should be provided.
- A pusher stick shall be required when ripping short stock.

RADIAL ARM SAW

- An automatic return device shall be provided, or the table shall be positioned so the saw returns to the rear of the table when released.
- A limit chain or other stopping device shall be provided to prevent the saw from swinging beyond the edge of the table.
- Guards shall be provided.
- Operators shall wear adequate eye and face protection.
- Scrap lumber shall be removed and stored properly.
- Fire extinguishers shall be conspicuously located and marked.
- Dust respirators shall be provided for employees.

BAND SAW

- The saw blade shall be guarded except for the working portion of the blade.
- Wheels shall be fully encased.
- Operators must wear adequate eye and face protection.
- A tension control device to indicate proper tension must be provided.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PIPE SHOP

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Shop layout should be made where access to bays will not be hampered by or hamper roadway traffic.
- Aisle ways should be marked to designate walk spaces.
- Ventilation should be ample enough to eliminate the buildup of smoke or fumes.
- All monorails and other overhead hoisting equipment must be marked to designate the load limit.
- All bench-mounted grinders or buffers are to have:
    - Guard
    - Face shield at the location with warning signs
    - Work rests kept at no more than 1/8” from the wheel
- All hookups (electrical, welding, oxygen, and fuel) shall be located overhead or in designated locations under the fab table.
- Welding shields or screens shall be provided for employee protection against flash burns and foreign bodies from grinding.
- Abrasive pipe-cutting machines shall be located in an out-of-the-way location.
- A scrap bin shall be provided for scrap material and shall be labeled.
- Aerosol paint cans shall be stored in approved metal boxes.
- Fire extinguishers shall be conspicuously located and marked.
- Compressed gas cylinders shall be secured in an upright position at all times. When not in use, the protective caps should be in place.
- When a firewall is in use, the protective distance of bulk oxygen storage does not apply.
- Make sure electrical welding machines are properly grounded.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

STRUCTURAL IRON SHOP

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The shop should be laid out in such a manner as not to hamper or be hampered by roadway traffic.
- If possible (depending on the floor), aisleways should be marked as designated walk spaces.
- All trolley hoists shall be marked as to load capacity and must have stops provided on rails.
- All welding cables, torch hoses, and electrical cords shall be elevated to prevent damage.
- Bench-mounted grinders or buffers shall be secured in place, have a guard and tool rest, and shall be kept at a distance no further than 1/8” from the wheel.
    - A face shield and warning sign shall be posted.
- Welding screens, shields, and respiratory protection shall be provided for employee protection.
- Punch or drill machines shall be located in an out-of-the-way location.
    - Warning signs and face shields shall be provided at each location.
- Area housekeeping shall be constant, and material shall not be stacked or stored in such a manner as to cause injury to employees.
- All aerosol cans shall be stored in a cabinet away from heat.
- Fire extinguishers shall be conspicuously located and marked.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

MECHANICS SHOP

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Shop layout should be made where access to bays will not be hampered by or hamper roadway traffic.
- Bays should be designed in such a manner (deep enough and high enough) that most types of equipment can enter without a problem.
- Workbench and tool cabinets should be marked to designate walk spaces.
- Aisle ways and bays should be marked to designate walk spaces.
- Ventilation should be ample enough to eliminate any carbon monoxide problems.
- All trolley hoists are to be marked, have designated load limits, and must have stops.
- All bench-mounted grinders or buffers are to have:
    - Guard
    - Face shield at location with a warning sign in place
    - Work rests are kept at a minimum of 1/8” from a wheel
- Employee protection rack should be in a suitable location for the inflating of tires.
- Parts cleaning vat:
    - Located in an area away from heat to prevent fire hazards
    - Must have a fusible link on the lid
    - Must have apron, gloves, and goggles at location
    - Chemical data sheets must be available for solvents and other hazardous materials in the shop area.
- Jacks:
    - The rated load capacity shall not be exceeded
    - Once the load has been raised, it shall be cribbed or blocked
- Formal jack inspection shall be at least every six (6) months. Routine inspection must be conducted prior to each use.
- Fire extinguishers shall be posted in conspicuous locations.
- Electrical cords shall be run overhead and operated off of automatic roll-up devices.
- A constant housekeeping program shall be in effect at all times.
- A clean-up area shall be provided for the employees.
- An emergency eye wash station shall be provided in a conspicuous location.

BATTERY CHARGING

- Storage batteries are used for many purposes, and their safety is often taken for granted. A complete knowledge of proper rules for charging, handling, and maintaining batteries will help you prevent damage to the battery and injury to yourself. Follow these basic, common-sense suggestions:
    - Wear a rubber apron, gloves, boots, and goggles when handling, checking, filling, charging, or repairing batteries. This will protect you against spills of electrolytes (a mixture of sulfuric acid and water).
    - Keep open flames, lighted cigarettes, and matches away from storage batteries. Use an explosion-proof flashlight when you need to look down at a battery.
    - Never lay metal tools, such as wrenches, on top of batteries.
    - Make sure that charging plugs and receptacles are properly locked, and all other connections are tight to prevent arcing.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Shut off the power when changing or repairing plugs or receptacles that are connected to the charging equipment.
- Wear protective clothing when mixing acid and water. Always add the acid to the water and stir constantly to mix well. If water is added to acid, a violent reaction can occur.
- Have water and eye wash apparatus readily available in case of electrolytes accidentally spill on your skin or clothing. Flush with LOTS of water immediately and call for medical help.
- Apply strong alkalis, such as baking soda, when acid is spilled on the floor. This will neutralize the acid and allow safe clean-up.
- Always lift batteries with the proper equipment.
- When batteries are scrapped at the end of their useful life, always drain the electrolyte out and flush it out with water.
- Any battery or battery acid storage area must have acid-resistant flooring, good ventilation, and “NO SMOKING” signs posted.

BATTERY STORAGE AND CHARGING FACILITIES

- Non-seal-type batteries are to be stored in a well-ventilated room.
- Racks shall be acid-proof.
- Floors shall be acid-proof.
- A face shield, apron, and rubber gloves shall be provided.
- A safety shower with eye wash shall be provided within 25’ of the battery charging area.
- Charging operations shall be located in a designated area.
  - Vent caps are to be in place during charging.
  - “NO SMOKING” signs are to be in place at the charging locations.
- Explosive-proof lights and receptacles are required in battery charging facilities.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PAINT YARD

GENERAL SPECIFICATIONS

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The area should be out of the way to prevent any problems with sandblasting.
- Air receivers:
    - Air receivers shall be marked as to certification, and a copy of the certification shall be kept on file for reference.
    - Maximum pressure shall be marked on the vessel.

  Air compressors:
    - Shall be a breathing-type compressor
    - Shall be of sufficient capacity
    - Shall be equipped with an alarm to indicate high temperature, carbon monoxide, and compressor failure
    - Exhaust shall be elevated enough not to allow carbon monoxide to be drawn into the air intake.

- Respirators:
    - All respirators shall be NIOSH/MSA approved.
    - Air purifying respirators shall be inspected weekly, and a record of the inspections shall be kept on file.
    - Chemical cartridge respirators:
        - They shall be changed when the wearer detects odor or at the start of each day.
        - Respirators shall be marked as to the employee and shall be kept in a clean place for storage.
    - Employees will be respiratory certified.
- Flammable liquid storage:
    - Flammable liquids shall be stored in approved buildings with the proper fire protection equipment.
    - Dispensing drums shall be grounded and vented, and bond cables shall be installed for use during dispensing.
    - A self-closing spigot shall be in place for dispensing.
    - A drip or catch pan shall be in place to catch any leaking liquid.
    - Fire extinguishers shall be positioned within 50’ of the flammable liquid storage or dispensing.
- Employee protection:
    - Employees entering the work area during sandblast operations shall be required to wear dust-type respirators when entering the area and during operation.
    - Employees using sandblasting equipment shall also be required to wear approved hearing protection during the sandblasting operation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ABRASIVE BLASTING

GENERAL GUIDELINES

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Machines and hoses must be inspected frequently.
- Nozzles must be externally attached to the hose by a fitting, which will prevent accidental disengagement.
- A “dead man” control valve must be used.
- A support must be provided on which the nozzle may be mounted when it is not in use.
- Pressure blast vessels must be manufactured in accordance with the current edition of the ASME Boiler and Pressure Vessel Code, Section VIII.
- Operators must be equipped with heavy canvas or leather gloves and aprons. Safety shoes should also be worn.
- Eye, face, and respiratory protection must be supplied to all personnel working in the vicinity of abrasive blasting operations.
- Precautions must be taken to protect personnel in the blasting zone, including the blasting operator, from excessive noise exposure by supplying earplugs or muffs.
- A change shed or some facility should be available in a dust-free area for blasters to take breaks, eat lunch, etc.
- As much of the blasting as possible should be done in a specified location. A blasting zone (where dust is visible) should be established and marked off with signs around the perimeter of the area, such as:

CAUTION:
ABRASIVE BLASTING AREA
EYE AND EAR PROTECTION AND RESPIRATORS
MUST BE WORN IN THIS AREA

- Another way to isolate the blasting is to do it on an “off shift” when a few other employees are working.
- Blasting should not be done when wind direction and velocity carry visible dust to people unprotected by proper respirators.
- All persons in the blasting zone should wear NIOSH/MESA-approved disposable respirators. (All persons within twenty feet of blasting nozzles for more than five minutes per hour should wear an air-supplied hood.)
- Whenever hazardous substances such as dust, fumes, mists, vapors, or gases exist or are produced in the course of construction work, their concentration shall not exceed the limits specified in 1926.55(a). When ventilation is used as an engineering control method, the system shall be installed and operated according to the requirements of this section.
- Respirators must be cleaned and inspected regularly. Maintenance records must be maintained.
- Hoods should be kept and hung in an upright position to prevent sand from spilling inside.
- If possible, air should be supplied from a separate compressor or fresh air blower rather than from plant airlines.
- If plant air or oil-lubricated compressor is used:
    - A pressure-reducing diaphragm or valve is installed to reduce pressure.
    - An automatic control is provided to either sound an alarm or shut off the compressor in case of overheating.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - The air from the compressor must be frequently tested for carbon monoxide.
  - Verify that inert gas is not used as a backup for plant air.
- Lines and fittings to supply respirable air should not be interchangeable with other services.
- In case of hose failure, a safety device at the source of supply or branch line to reduce the pressure must be present.
- Organic abrasives that are combustible shall be used only in automatic systems. Where flammable or explosive dust mixtures may be present, the construction of the equipment, including the exhaust system and all electric wiring, shall conform to the requirements of American National Standard Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, Z33.1-1961(NFPA 91-1961), and Subpart S of this part. The blast nozzle shall be bonded and grounded to prevent the buildup of static charges. Where flammable or explosive dust mixtures may be present, the abrasive blasting enclosure, the ducts, and the dust collector shall be constructed with loose panels or explosion venting areas located on sides away from any occupied area to provide for pressure relief in case of explosion, following the principles set forth in the National Fire Protection Association Explosion venting guide. NFPA 68-1954.
- Air for abrasive blasting respirators must be free from harmful quantities of dust, mists, or noxious gases and must meet the requirements for supplied air quality and use specified in 29 CFR 1910.134(i).
- Dust shall not be permitted to accumulate on ledges outside of an abrasive blasting enclosure, and dust spills shall be cleaned up promptly. Aisles and walkways shall be kept clear of steel shot or similar abrasive, which may create a slipping hazard.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SAFE WORK PRACTICES

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- This procedure outlines the type, location, and use of containers for trash, scrap metal, and similar materials.
- All receptacles shall be constructed of metal or other suitable type containers of non-flammable materials.
- Paper or pasteboard cartons, wooden boxes, crates, and similar containers shall not be used for the collection of combustible trash.
- Receptacles intended for waste and rags saturated with oil, grease, turpentine, or other flammables subject to spontaneous ignition shall be of the self-closing lid type approved for this purpose. They must also be marked for this purpose “only.”

LOCATION

- Planning must include the location of receptacles at fieldwork sites. Consider potential points of trash accumulation: cut dispensers, etc.
- Receptacles located inside buildings shall be kept at least 18 inches away from combustible walls and partitions.
- Receptacles for combustible trash located outside of buildings shall be located at least 15 feet from the building or combustible material.

USE

- Employees shall be instructed to use trash barrels for the disposal of paper, lunch remnants, and all small scraps of a combustible nature.
- Cigarette and cigar butts, matches, etc., should never be thrown into trash receptacles.
- Glass (broken, empty jars, etc.), scrap metal, and similar materials should never be placed in trash containers.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FATIGUE MANAGEMENT

POLICY

- EXCEL Companies has adopted this policy to inform employees of the Fatigue Management Plan. This ensures the safety and health of the employees.

RESPONSIBILITIES

- Fatigue Management is a shared responsibility between the Company and its employees.
- Employer Responsibilities
  - Ensuring all employees are physically fit and capable of performing the job duties assigned
  - Training personnel to recognize and manage fatigue
  - Responding quickly to eliminate workplace hazards
  - Providing adequate rest breaks
  - Ensuring employees follow safe job procedures
  - Reviewing job hazard analysis whenever there is a significant change to any element of the job or there has been an injury or illness.
  - Conduct periodic assessments of the fatigue management plan's effectiveness and incorporate a continuous improvement plan created to close any gaps.
- Supervisor Responsibilities
  - Establishing and maintaining safe and healthful working conditions
  - Monitoring employee fatigue
  - Ensuring employees are not impaired by illness or medication use
  - Setting good examples, instructing their employees, making sure they fully understand and follow safe procedures
- Employee Responsibilities
  - Notifying their supervisors if they are fatigued to the point of not being able to perform their duties safely
  - Ensure they are physically and mentally fit to perform their job functions safely; they must take responsibility for their safety as well.
  - Notifying their supervisor if they are taking prescription or over-the-counter medications
  - No employee is expected to undertake a job until they have received instructions on how to do it properly and safely and is authorized to perform the job
  - No employee will undertake a job that appears to be unsafe
  - Employees are to report to a superior or designated individual all unsafe conditions encountered during work
  - Personal protective equipment must be used when and where required and properly maintained

TRAINING

- EXCEL Companies will provide initial and annual training on how to:
  - Recognize fatigue
  - Control fatigue through appropriate work and personal habits
  - Reporting of fatigue to supervision

WORKER FATIGUE

- EXCEL Companies will analyze work tasks and/or schedules that affect workers' amount, timing, and quality of sleep each day, amount of time since the last sleep period, time of day, workload, and time on task.
- Causes of Fatigue
  - Poor quality or interrupted sleep over a period of time
  - Long work hours and extended or irregular shifts

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Demanding workload

PREVENTION

- In an effort to prevent fatigue, EXCEL Companies will analyze any work tasks or schedules that may affect the amount and quality of sleep it has on the employee. EXCEL Companies will set work hour limitations for the amount of work and control job rotation schedules accordingly.
- EXCEL Companies shall follow a 13/1 limitation to consecutive work shifts. Employees will not work more than 13 consecutive shifts without 24 hours off work before the employee's next work shift. Client requirements may supersede this requirement.
- EXCEL Companies will perform periodic assessments on its effectiveness and continue to improve its plan to control fatigue.
- To help prevent fatigue, EXCEL Companies will provide equipment such as:
  - Anti-fatigue mats for standing
  - Lift assist devices for repetitive lifting and other ergonomic devices as deemed appropriate.
  - Chairs to sit in periodically

REPORTING

- It is the policy of EXCEL Companies that all employees feeling fatigued or tired and it is preventing them from performing their duty safely must be reported to the supervisor immediately.
- EXCEL Companies will provide periodic rest breaks for personnel and will also periodically evaluate and improve work tasks to control fatigue.

OVER-THE-COUNTER AND PRESCRIPTION DRUGS

- EXCEL Companies will ensure that employees do not use over-the-counter or prescription drugs to increase mental alertness.
- All employees of EXCEL Companies are discouraged from taking any substance known to increase fatigue, including fatigue that sets in after the effects of the drug wear off.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

JOBSITE SECURITY

GENERAL

- EXCEL Companies is committed to the safety and health of our employees. Therefore, the following Jobsite Security provisions have been adopted.

RESPONSIBILITIES

- EXCEL Companies is committed to the prevention and/or reduction of security breaches/incidents. The Vice President of EHS is responsible for the implementation and enforcement of the following safety rules. Disciplinary procedures will be enforced.

TRAINING

- The Vice President of EHS will ensure that all employees are trained in job site security procedures upon hire and retrained as frequently as needed after that.

SAFE PRACTICES

- In order to maintain adequate job site security, EXCEL Companies will enact the following safe practices at the job site:
    - Assess the risk of security incidents. A general Risk Assessment will be performed at the company level to address common risks across job sites. Security will also be addressed at each job site during pre-job meetings/toolbox talks/hazard assessments (JSAs). Affected employees will be provided an opportunity to participate in risk assessments.
    - Implement control measures to reduce or eliminate security incidents. This may include but is not limited to, posted signage, restricted access to work areas, locked doors, keycards, security cameras, alarms, fencing, lighting, personal protective devices, security guards, background checks, time-lock safes, and other robbery prevention measures.
    - Ensure security breaches/incidents are reported immediately. If the incident occurred at a client site, the client host will be notified immediately.
    - Ensure an incident investigation will be completed when a job site security incident occurs. The goal of the investigation is to identify root causes and take corrective action to reduce the potential for future incidents.
    - Ensure employees are trained on policies, procedures, and workplace arrangements to prevent security incidents, the appropriate response (including how to obtain assistance), and procedures for reporting, investigating, and documenting security incidents. Retraining will be provided any time these policies or procedures are changed or updated.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HEAT ILLNESS PREVENTION

GENERAL

- EXCEL Companies has implemented this plan to ensure no employees are exposed to Heat Stress Illnesses (HRI) in the workplace and will evaluate if heat could be a problem on a particular day based on temperature and humidity levels. If required, EXCEL Companies will implement adequate controls, methods, or procedures to reduce the risk of HRI and prevent heat illness in outdoor places of employment.

EMPLOYER RESPONSIBILITIES

- Adjust work practices as necessary when laborers complain of heat stress
- First, try to control exposure through engineering controls
- Oversee heat stress training and acclimatization for new labor and for labor who have been off the job for a while
- Provide worker education and training, including periodic safety meetings on heat stress during hot weather or work in hot environments
- Monitor the workplace to determine when hot conditions arise
- Determine whether laborers are drinking enough water
- Determine a proper work/rest regimen for labor
- Arrange first aid training for labor
- When working in a manufacturing plant, for instance, a contractor may wish to adopt the plant's heat stress program if one exists.

SAFETY COMMITTEE RESPONSIBILITIES

- Assist in ensuring heat stress management is followed when necessary
- Assist in training employees to recognize and control workplace hazards
- Monitor the workplace for hazards
- Encourage employees to report hazards
- Implement appropriate controls
- Ensure corrective action is taken promptly

EMPLOYEE RESPONSIBILITIES

- Follow instructions and training for controlling heat stress
- Be alert to symptoms in yourself and others
- Avoid consumption of alcohol, illegal drugs, and excessive caffeine
- Check if prescription medications can increase heat stress
- Get adequate rest and sleep
- Drink small amounts of water regularly (up to 4 cups per hour) to maintain fluid levels and avoid dehydration.

TRAINING

- According to the National Institute of Occupational Safety and Health (NIOSH), heat stress training will cover the following components:
    - Knowledge of heat stress hazards
    - Recognition of risk factors, danger signs, and symptoms
    - Awareness of first-aid procedures for, and potential health effects of, heat stroke
    - Employee responsibilities in avoiding heat stress

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Dangers of using alcohol and/or drugs (including prescription drugs) in hot work environments

EMPLOYEE TRAINING

- Training in the following topics will be provided to all supervisory and non-supervisory labor:
  - Environmental and personal risk factors for heat illness
  - Procedures for identifying, evaluating, and controlling exposures to the environmental and personal risk factors for heat illness
  - Importance of frequent consumption of water (up to 4 cups per hour)
  - The importance of acclimatization
  - Different types of heat illness and common signs and symptoms of heat illness
  - The importance of immediately reporting to the employer or designee symptoms or signs of heat illness
  - Procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided will they become necessary
  - Procedures for contacting emergency medical services and, if necessary, for transporting labor to a point where they can be reached by medical service personnel
  - How to provide clear and precise directions to the work site

SUPERVISOR TRAINING

- Prior to assignment to supervision of labor working in the heat, training on the following topics will occur:
  - The information provided for employee training
  - Procedures the supervisor will follow to implement controls as determined by the employer
  - Emergency response procedures the supervisor will follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.
  - How to prevent employee heat-related illnesses

PROCEDURES

- The risks of working in hot construction environments can be reduced if labor and management cooperate to help control heat stress.

MANAGEMENT PROCEDURES

- Monitor work conditions and ensure that the program and procedures are documented and implemented throughout the day.
- Give labor frequent breaks in a cool, shaded area away from heat (cooling period no less than 5 minutes). The area will not be so cool that it causes cold shock — around 75° F is ideal.
- Increase air movement by using fans where possible. This encourages body cooling through the evaporation of sweat.
- Provide unlimited amounts of conveniently located cool (50°-60°F) potable drinking water.
- Allow sufficient time for labor to become acclimated. A properly designed and applied acclimatization program decreases the risk of heat-related illnesses. Such a program exposes labor to work in a hot environment for progressively longer periods. NIOSH recommends that for laborers who have had previous experience in hot jobs, the regimen will be: 50% exposure on day one, 60% on day two, 80% on day three, 100% on day four
- For new labor in a hot environment, the regimen will be 20% on day one, with a 20% increase in exposure each additional day.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Make allowances for laborers who must wear personal protective clothing and equipment that retains heat and restricts the evaporation of sweat.
- Schedule hot jobs for the cooler part of the day; schedule routine maintenance and repair work in hot areas for the cooler seasons of the year.
- Consider the use of cooling vests containing ice packs or ice water to help rid bodies of excess heat.

EMPLOYEE PROCEDURES

- Wear light, loose clothing that permits the evaporation of sweat
- Drink plenty of water or sports beverages to keep hydrated. Do not wait until you are thirsty. Drink approximately one cup of water per hour
- Avoid beverages such as tea, coffee, or beer that make you pass urine more frequently
- Where personal PPE must be worn:
    - Use the lightest weight clothing and respirators available
    - Wear light-colored garments that absorb less heat from the sun
    - Use PPE that allows sweat to evaporate
    - Avoid eating hot, heavy meals. They tend to increase internal body temperature by redirecting blood flow away from the skin to the digestive system.
    - Do not take salt tablets unless a physician prescribes them. A typical diet easily replaces natural body salts lost through sweating.

EMERGENCY MEDICAL RESPONSE

- EXCEL Companies will have a written plan to provide emergency medical services
- EXCEL Companies will ensure the availability of a suitable number of appropriately trained persons to render first aid. EXCEL Companies will inform all laborers of the procedure to follow in case of injury or illness
- When there is any sign of a heat-related illness, proper first aid will be provided to the affected employee.
    - Taking the affected employee to a shady or air-conditioned area
    - Lay the employee down and elevate the legs and feet slightly
    - Remove tight or heavy clothing
    - Provide them with a drink of something cool that does not contain caffeine or alcohol.
    - Monitor closely and contact emergency medical response if needed.

EMERGENCY TRANSPORTATION

- Before labor is sent to a work site, EXCEL Companies will ensure that arrangements are in place to transport injured or ill labor from the work site to the nearest health care facility. If ambulance service is not readily available to the work site or travel conditions are not normal, EXCEL Companies will provide proper equipment for the prompt transportation of the injured or ill person to a physician or hospital where emergency care is provided. EXCEL Companies will ensure that other transportation is available that:
    - Is suitable, considering the distance to be traveled and the types of acute illnesses or injuries that may occur at the work site
    - Protects occupants from the weather
    - Have systems that allow the occupants to communicate with the healthcare facility to which the injured or ill worker is being taken
    - Can accommodate a stretcher and an accompanying person if required to

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EMERGENCY COMMUNICATION

- EXCEL Companies will provide an effective communication system for contacting hospitals or other emergency medical facilities, physicians, ambulances, or fire services. In the case of remote job sites, provisions for CB-type, 2-way radio communications will be implemented. The telephone numbers of the following emergency services in the area will be posted near the job telephone or otherwise made available to the labor where no job site telephone exists:
    - A physician and at least one alternate, if available
    - Hospitals
    - Ambulance services
    - Fire-protection services

RESPONSE TIME OF EMS

- EXCEL Companies regards it as important that from the time an accident happens, how many minutes it would take trained medical personnel to reach an injured worker.
- Things EXCEL Companies will consider include:
    - How long would it take our labor to reach a phone to call 911? Are phones conveniently located in the work area, or would they have to go to an office to call?
    - How far are the emergency medical services from our work site?
    - How would emergency medical services get to our work site? They may only be 100 feet away, but if it is across a limited access road, they may have to go five miles in one direction to turn around and come back.
      How bad is the traffic? Are back-ups common in the area at certain times?
    - How available are emergency medical services? If there is only one ambulance and one medical team, they may be out on another emergency. It could take a long time for someone to respond to our call.
    - How large and complex is our work site? How difficult would it be for emergency services to find the place where the injured worker is? We may need to arrange for the emergency service to go to a central location (such as a reception area) and receive directions from there.
    - EXCEL Companies will contact the local emergency medical service within the proximity of the work site to verify their response to the above inquiries and adjust our plan accordingly
    - Our work site supervisor is responsible for inspecting and maintaining first-aid kits.
    - New or temporary laborers will be trained in these elements of EXCEL Companies' Emergency Medical Response Plan as part of their safety orientation before they start work.

RECOGNIZING AND AVOIDING HEAT STRESS IN CONSTRUCTION

- Construction operations involving heavy physical work in hot, humid environments can put considerable heat stress on labor. Hot and humid conditions can occur either indoors or outdoors.
- Asbestos removal, work with hazardous wastes, and other operations that require labor to wear semi-permeable or impermeable protective clothing can contribute significantly to heat stress. Heat stress causes the body's core temperature to rise.

WHEN THE BODY'S CORE TEMPERATURE RISES

- The human body functions best within a narrow range of internal temperature. This "core" temperature varies from 96.8° F to 100.4° F. A construction worker performing heavy work in a hot environment builds up body heat. To get rid of excess heat and keep internal temperature below 100.4° F, the body uses two cooling mechanisms:
- The heart rate increases to move blood — and heat — from the heart, lungs, and other vital organs to the skin.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Sweating increases to help cool blood and the body. Evaporation of sweat is the most important way the body gets rid of excess heat.
- When the body's cooling mechanisms work well, core temperature drops or stabilizes at a safe level (around 98.6° F). But when too much sweat is lost through heavy labor or working under hot, humid conditions, the body does not have enough water left to cool itself. The result is dehydration. Core temperature rises above 100.4° F. A series of heat-related illnesses, or heat stress disorders, can then develop.

RECOGNIZING HEAT STRESS DISORDERS

- **Heat Rash** — also known as prickly heat — is the most common problem in hot work environments. Symptoms include red blotches and extreme itchiness in areas persistently damp with sweat and a prickling sensation on the skin where sweating occurs.
    - Treatment - Cool shaded environment, cool shower, thorough drying. In most cases, heat rashes disappear a few days after heat exposure ceases. If the skin is not cleaned frequently enough, the rash may become infected.
- **Heat Cramps** - Under extreme conditions, such as removing asbestos from hot water pipes for several hours in heavy protective gear, the body may lose salt through excessive sweating. Heat cramps can result. These are spasms in larger muscles — usually the back, leg, and arm. Cramping creates hard, painful lumps within the muscles.
    - Treatment - Shade, stretch, and massage muscles; replace salt by drinking commercially available carbohydrate/electrolyte replacement fluids.
- **Heat Exhaustion** - Heat exhaustion occurs when the body can no longer keep blood flowing to supply vital organs and send blood to the skin to reduce body temperature at the same time. Signs and symptoms of heat exhaustion include:
    - Weakness
    - Difficulty continuing work
    - Headache
    - Breathlessness
    - Nausea or vomiting
    - Feeling faint or actually fainting
    - Labor fainting from heat exhaustion while operating machinery, vehicles, or equipment can injure themselves and others.
    - Treatment - Heat exhaustion casualties respond quickly to prompt first aid. If not treated promptly, however, heat exhaustion can lead to heat stroke—a medical emergency.
        - Call 911
        - Help the casualty cool off by resting in a cool, shaded place
        - Drinking cool water
        - Removing unnecessary clothing
        - Loosening clothing
        - Showering or sponging with cool water takes at least 30 minutes to cool the body down once a worker becomes overheated and suffers heat exhaustion.
- **Heat Stroke** - Heat stroke occurs when the body can no longer cool itself, and body temperature rises to critical levels. WARNING: Heat stroke requires immediate medical attention. The primary signs and symptoms of heat stroke are:
    - Confusion
    - Irrational behavior
    - Loss of consciousness
    - Convulsions
    - Lack of sweating
    - Hot, dry skin
    - Abnormally high body temperature — for example, 104° F

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Treatment - For any worker showing signs or symptoms of heat stroke, Call 911.
  - Provide immediate, aggressive, general cooling in a shaded area.
  - Immerse casualty in a tub of cool water or
  - Place in a cool shower or
  - Spray with cool water from a hose
  - Wrap the injured person in cool, wet sheets and fan rapidly
  - Transport casualty to hospital
  - Do not give anything by mouth to an unconscious casualty
  - WARNING: Heat stroke can be fatal even after first aid is administered. Anyone suspected of suffering from heat stroke will not be sent home or left unattended unless a physician has approved that action. If in doubt as to what type of heat-related disorder the worker is suffering from, call for medical assistance.

HEAT STRESS RISK ASSESSMENT FACTORS

- Factors that will be considered in assessing heat stress include:
  - Personal Risk Factors
  - Environmental Factors
  - Job Factors

PERSONAL RISK FACTORS

- It is difficult to predict just who will be affected by heat stress and when because individual susceptibility varies. There are, however, certain physical conditions that can reduce the body's natural ability to withstand high temperatures:
- EXCEL Companies will ensure that prior to assigning a task where heat-related illness may occur, supervisors will consider the following most common personal factors that contribute to heat-related illness.
- Weight: Laborers who are overweight are less efficient at losing heat.
- Poor physical condition: Being physically fit aids your ability to cope with the increased demands that heat places on your body.
- Previous heat illnesses: Labor are more sensitive to heat if they have experienced a previous heat-related illness.
- Age: As the body ages, its sweat glands become less efficient. Laborers over the age of 40 may, therefore, have trouble with hot environments. Acclimatization to the heat and physical fitness can offset some age-related problems.
- Heart disease or high blood pressure: In order to pump blood to the skin and cool the body, the heart rate increases. This can cause stress on the heart.
- Recent illness: Labor with recent illnesses involving diarrhea, vomiting, or fever have an increased risk of dehydration and heat stress because their bodies have lost salt and water.
- Alcohol consumption: Alcohol consumption during the previous 24 hours leads to dehydration and increased risk of heat stress.
- Medication: Certain drugs may cause heat intolerance by reducing sweating or increasing urination. People who work in a hot environment will consult their physician or pharmacist before taking medications.
- Lack of acclimatization: When exposed to heat for a few days, the body will adapt and become more efficient in dealing with raised environmental temperatures. This process is called acclimatization. Acclimatization usually takes 6 to 7 days.
- Benefits include:
  - Lower pulse rate and more stable blood pressure
  - More efficient sweating (causing better evaporative cooling)
  - Improved ability to maintain normal body temperatures

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Acclimatization may be lost in as little as three days away from work. People returning to work after a holiday or long weekend — and their supervisors — will understand this. Employees will be allowed to gradually re-acclimatize to work conditions.

ENVIRONMENTAL FACTORS

- Environmental factors such as ambient air temperature, air movement, and relative humidity can all affect an individual's response to heat. The body exchanges heat with its surroundings mainly through radiation and sweat evaporation. The rate of evaporation is influenced by humidity and air movement.
- **Radiant Heat** - Radiation is the transfer of heat from hot objects through air to the body. Working around heat sources such as kilns or furnaces will increase heat stress. Additionally, working in direct sunlight can substantially increase heat stress. A worker is far more comfortable working at 80° F under cloudy skies than working at 80° F under sunny skies.
- **Humidity** - Humidity is the amount of moisture in the air. Heat loss by evaporation is hindered by high humidity but helped by low humidity. As humidity rises, sweat tends to evaporate less. As a result, body cooling decreases, and body temperature increases.

JOB FACTORS

- **Clothing and Personal Protective Equipment (PPE)** - Heat stress can be caused or aggravated by wearing PPE, such as fire- or chemical-retardant clothing. Coated and non-woven materials used in protective garments block the evaporation of sweat and can lead to substantial heat stress. The more clothing worn or the heavier the clothing, the longer it takes evaporation to cool the skin. Remember that darker clothing absorbs more radiant heat than lighter-colored clothing.
- **Workload** - The body generates more heat during heavy physical work. For example, construction labor shoveling sand or laying bricks in hot weather generates a tremendous amount of heat, and they are at risk of developing heat stress without proper precautions. Heavy physical work requires careful evaluation, even at temperatures as low as 75° F, to prevent heat disorders. This is especially true for laborers who are not acclimated to the heat.

CONTROLLING HEAT STRESS

- Heat stress can be controlled through education, engineering, and work procedures. Controls will:
    - Protect Health: Illness can be prevented or treated while symptoms are still mild
    - Improve Safety: Labor is less liable to develop a heat-related illness and have an accident. Heat stress often creeps up without warning. Many heat-induced accidents are caused by sudden loss of consciousness
    - Increase Productivity: Labor feel more comfortable and are likely to be more productive as a result
- Engineering controls are the most effective means of preventing heat stress disorders and will be the first method of control. Engineering controls seek to provide a more comfortable workplace by using:
    - Reflective shields to reduce radiant heat
    - Fans and other means to increase airflow in work areas
    - Mechanical devices to reduce the amount of physical work
- Given the constantly changing nature of construction sites, engineering controls are not usually feasible. Proper work procedures are therefore required to prevent heat stress disorders.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HOUSEKEEPING AND MATERIAL HANDLING

HOUSEKEEPING

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Common sense and cleanliness can prevent most accidents. It does not matter whether you are working on high steel structures or high steel structures or below the ground; the time taken to prepare for work and to apply all safety precautions can save time and reduce the possibility of injuries. Simple habits, such as keeping work areas clean, could prevent hundreds of accidents involving deaths, lost work time, and material damage.
    - Keep air hoses, welding leads, and extension cords out of doorways and off the floor to prevent tripping.
    - Each person is responsible for keeping their immediate work area free of trash, excess scrap material, and tools not in use.
    - Clean up all spilled liquids immediately to prevent the possibility of someone slipping or falling.
    - Stack materials and supplies in a safe manner and keep them out of walkways.
    - Never pile trash or materials in areas where they block exits or fire doors, fire extinguishers, electrical disconnect, or safety showers.
    - To stack or pile safely, always start with a safe base. Uneven surfaces of the floor or yard should be leveled. Make sure the pile will not shift. Barrels or other round objects that may roll should be choked.
    - Pile to a safe height determined by floor load limit, by types of materials and strength of containers, or by requirements of fire protection. Cross-tie (interlock) pile if necessary. There must be a space of at least 18 inches between the top of the pile and any sprinkler heads. More space must be allowed if materials can burn easily. Never store items close to open light bulbs or hot pipes.

MANUAL MATERIAL HANDLING AND LIFTING

- Inspect the object that is to be lifted to estimate its size and weight and see if there are nails, splinters, or other items that may cause injury.
- Procedures to follow when lifting:
    - Crouch as close to the object as practical
    - Get a good grip
    - Keep feet apart and bend knees
    - Lift slowly by straightening your legs. (Keep back relatively straight; leg muscles, not back, should do the work.)
- Avoid awkward lifting positions. Shift the body until a straight lift can be made.
- If the object must be lifted more than waist high, first, lift the load waist high, then rest it on a support, if available, while changing grip. Next, bend the knees again to give added leg muscle power for the final lift.
- When carrying an object, do not try to change its position or adjust grip while in motion. Stop and rest the object against a support while making the change.
- When changing the direction of travel, do not twist. Instead, turn the entire body, including the feet.
- To set the load down, bend the legs, not back. Following the lifting procedure in reverse order. Always set one corner of the load down first, then slide hands out so they will not get pinched.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Get help before handling a large or heavy object. When two or more carry a load, how it is to be handled should be decided beforehand. Routes and clearances should be checked, and one man should act as the leader. Leaders should position themselves so they can watch and coach the others. Persons carrying a long object should be on the same side of the object and remain in step with each other.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SMALL TOOLS AND EQUIPMENT

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Many of the accidents that occur each year can be attributed to improper or unsafe use of tools or to the use of tools that are in bad condition. The few extra seconds required to examine tools and to use them properly can reduce the number of injuries. The following pages give safety tips and recommendations for the safe use of hand tools and power tools.

GENERAL PRECAUTIONS

- Never remove or interfere with the operation of any tool guard or safety features.
- Always use the right tool for the right job.
- Keep tools clean and check their condition before using. Whether furnished by the employer or the employee, the tools shall be maintained in a safe condition. If heads of striking tools become mushroomed or burred, have them dressed. If handles of tools are splintered, broken, or loose, have them replaced.
- Tools must always be returned to their proper storage place and not left where they create a hazard.
- Carrying tools in pockets is dangerous, especially if tools are sharp or pointed.
- Do not use excessive pressure or force on any hand tool.
- Metal measuring tapes, tapes having metal strands woven into fabric, brass bound rules, wire or metal bound hose, or rope with wire core shall not be used when working on or near energized electrical circuits or equipment.
- Tools should neither be dropped nor thrown from place to place nor from person to person.
- Tools that must be raised and lowered from one elevation to another shall be placed in an approved tool bucket or firmly attached to the hand line.

HAND TOOLS

- Screwdrivers
    - Use the right size and type of screwdriver for the job.
    - Do not hold the screwdriver work in the palm of your hand. The screwdriver may slip, causing injury.
    - Screwdrivers should be appropriately filed to prevent slipping.
- Hammers
    - Hammers must have a clear path for the backswing, and the target area must be free from obstruction.
    - Hammers with “mushroomed” heads should never be used as they might glance off the target, or the damaged head may splinter and send metal fragments flying.
    - Never hold with your hand any object to be struck with a hammer by another worker. Hold the object with pliers or another tong-type device.

  Files
    - Do not use a file for a pry or hammer, as it is brittle and breaks easily.
    - Files shall be fitted with wooden handles to protect workers from the pointed file end.

  Pry Bars
    - Be sure the bite of the bar is secure under load by first applying a slight pressure.
    - Check your balance before exerting full force.
    - A cheater bar shall not be used on pry bars.
- Wrenches

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Wrenches should be pushed away from the body, if possible, to reduce the chance of the wrench slipping and striking the user in the face or body.
  - Adjustable (crescent) and combination wrenches should be snug on bolts and nuts to avoid slipping.
  - Never use a wrench as a hammer or a hammer on a wrench that is not designed to be used as such.
  - Never use a cheater bar on a wrench or “double wrench” a nut. Use a hammer wrench or impact instead.
- Chisels and Punches
  - Unsafe defects: Mushroomed heads, chipped points, and over-tempered surfaces
  - Don’t use it as a pry bar, strike with a hardened hammer, use one too short for hand safety, chip toward yourself or others, or use without proper eye protection.
- Drill bits
  - Unsafe defects: Worn or battered heads, over-tempered, and dull cutting edges
  - Don’t: Use a drill as a reamer (get a larger bit), use a bit sharpened for drilling steel on brass or copper without removing the lip, or change bits without unplugging the cord.
- Knives
  - Unsafe defects: Dull or nicked edges or points, no finger guard, loose or broken handle.
- Shovels, Pickaxes and Axes
  - Unsafe defects: Rough, loose, cracked, or split handles, dull or nicked edges, over tempered surfaces.
  - Don’t use it as a wedge, pry bar, or hammer.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PNEUMATIC TOOLS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- When the air source is furnished by gas or diesel compressors, keep them outside or vent them to the outside to prevent carbon monoxide poisoning.
    - If you are using a permanent source of air, make sure it is not oxygen. Oxygen mixed with the oil in your air hose and tool will cause an instant explosion and fire.
- Air hoses and connections should be checked daily for defects.
- Air hoses should be protected from vehicle traffic, pedestrians, and sharp objects.
- Both pins and whip checks shall secure all connections. Both pins and whip checks shall be used simultaneously at all times.
- Disconnect the source and bleed the hose before breaking the connection on any air tool. Never crimp hoses to stop air.
- Do not let your hoses create tripping hazards.
- Never point a pneumatic hammer at anyone. There is always the chance that the retainer might fail.
    - The bit should be in contact with the work surface before pulling the trigger.
- Governors require strict maintenance to prevent the dangerous over-speeding of grinders, drills, wrenches, etc.
- Always wear eye protection when using air tools.
- Air used for cleaning machines shall be regulated to 30 PSI or less.
- Metatarsal guards must be worn for complete foot protection when using:
    - Ground tampers that leave the ground, such as “pogo sticks”
    - Pavement breakers or jackhammers
- Extreme care shall be taken when working with compressed air. It should never be blown against clothing or any part of the body.
- Storage and cleaning are very important with any tool. Keep tools clean and stored where they belong.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

POWDER ACTUATED TOOLS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Hilti and Ramset are just two names of powder-actuated tools. They should all be used with the same respect as a firearm. Remember the following general safety items.
- **NO ONE IS PERMITTED TO USE ANY POWDER-ACTUATED TOOL UNLESS THEY HAVE A CURRENT OPERATOR LICENSE ISSUED BY A LICENSED INSTRUCTOR.**

GENERAL SAFETY

- Only properly trained and qualified operators may use powder-actuated tools.
- The operator must have his operator's card in his possession at all times while using the tool.
- Use only approved tools with built-in safety features, including shields or guards that cannot be removed without making the tool inoperative.
- Tools must be tested to ensure the safety devices are working properly. Defective tools must be removed from service immediately.

RULES FOR SAFE OPERATION

- Hold tools firmly against and perpendicular to the surface of the material.
- Wear safety goggles and a face shield when using the tool.
- Do not store or use tools and cartridges in explosive or flammable atmospheres.
- Take precautions for the safety of persons in the immediate vicinity. Do not fire the tool until you are sure there is no one behind the surface you are working on in case of accidental penetration.
- Never point a loaded or unloaded tool at another person, and always keep hands clear of the open end of the barrel.
- Always leave tools unloaded until ready for actual use. Keep cartridges in the carrying case provided with the tool, and do not allow them to be carried loose in the operator's pockets.
- In case of a misfire, hold the tool in the operating position for at least thirty (30) seconds. Remove the cartridge before lifting the guard from the work surface.
- Use only the cartridge and load strength recommended by the manufacturer to control penetration.
- Post warning signs in areas where the tool is being used. The sign shall read: "POWDER ACTUATED TOOL IN USE IN THIS AREA."
- Use caution when driving fasteners or pins into soft material.
- Drive fasteners at a safe distance from the edge of the material and in accordance with the manufacturer's instructions.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PEDESTAL, BENCH AND PORTABLE GRINDERS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Each employee is responsible for the inspection of the grinder he is using.
- Wheel rating shall not exceed the maximum potential RPM of the grinder on which it is mounted.
- No special adapters, arbors, or other improvements are permitted, nor may more than one wheel be mounted between a single set of flanges.
- All abrasive wheels shall be mounted between flanges that are at least 1/3 the diameter of the wheel.
- On all portable tools, the control switch shall be instant-pressure controlled without a locking pin.
- Wheels should be stored in a cool, dry place with a constant temperature above freezing and protected from physical damage, which could cause cracking.
- Guards must be installed and maintained.
- Proper respiratory protection shall be used in the event dust hazards exist.
- Proper eye/face and hand protection shall be used.
- Guards, work rests, eye shields, and other permanent protection devices must not be removed from any grinding or buffing wheels.

PEDESTAL AND BENCH GRINDERS

- The Electrical Department shall perform initial inspection and subsequent maintenance of all grinders. Inspections will be made on an established schedule, and the Electrical Department will maintain records.
- The user shall be responsible for installing all wheels and determining that they are designed for the speed of the grinder.
- The user is responsible for maintaining the maximum distance between the work rest and the wheel - 1/8” and the tongue guard 1/4”.
- Grinding is not to be performed on the side of the wheel.

PORTABLE GRINDERS

- Grinders must be inspected prior to initial use and periodically after that (each grinder must have a good speed tag, or the speed is embossed into the body of the grinder).
- Persons using portable grinders will change wheels when necessary. Only wheels of RPM rating above that of the grinders are to be used.
- The user shall ensure that grinders are inspected when required. The Electrical Department shall maintain records of inspections.
- WARNING: All shirts must be tucked into trousers when using grinders.

USING THE WHEEL

- The operator should stand aside and allow the wheel to run idle for a full minute before starting to grind.
- Dress the wheel if it is out of true.
- Grinding must not be forced.

USING THE WIRE BRUSH WHEEL

- The workpiece should be held at the horizontal center of the brush.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- The wire tips should do the work. Forcing work into the brush results in:
    - No increase in cutting action
    - An increase in wire breakage
    - A tendency for work to become snagged
- Small pieces being brushed should be held in a simple jig or fixture, which will prevent the operator's hand from contacting the surface of the brush.
- A straight, heavy steel rod or bar should be used to clean the wheels.
- When cleaning small brushes, the operator should use a work rest.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

MATERIAL HANDLING AND TRANSPORTING

GENERAL REQUIREMENTS

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- All drivers must show proof of a valid driver's license.
- Generally, no employee will ride in the back of a truck, pickup, or dump truck transporting material. In cases where employees must ride loaded vehicles, the foreman of the craft involved will approve his men riding and that it is, in his opinion, safe for them to ride. Personal inspection of the loaded vehicle is necessary to determine the possibility of the load rolling, shifting, or tipping.
- Employees must be seated with all parts of the body within the confines of the truck. Vehicles regularly used to transport personnel must be equipped with seats and a safe means of mounting from the bed. Employees may mount or dismount vehicles only when the vehicle is fully stopped.
- No power equipment will be ridden unless provided with personnel platforms or seats (i.e., no riding on deck of Drott carry deck cranes or on fenders of backhoes, cherry picker storage boxes, etc.). Only two employees are allowed on an approved personnel platform on cherry pickers.
- Personnel will vacate all vehicles being loaded or unloaded by a crane, backhoe, power shovel, etc. The superintendent will make exceptions.
- All loads being transported must be boomed or secured to prevent rolling, sliding, tipping, etc. All loads extending beyond the bed of the truck are to be flagged with red materials. In addition, extended loads (side or back) must be identified at night by means of a red lantern or red reflector lights.
- Softeners should be used between surfaces where steel rides on steel, such as steel beams on steel beds of trailers.
- Only two people may ride in the cab of a trucks and only three in the cab of a pickup. Typically, eight persons is the limit for pickup beds.
- Drivers are responsible for their vehicles and passengers. Drivers must be familiar with and comply with state and project traffic regulations. Drivers shall not operate the vehicle unless all safety regulations are complied with.
- All vehicles used on "off the plant" roads shall be equipped with:
    - A non-glare rearview mirror
    - A left-hand outside rearview mirror
    - Seat belts to accommodate all passengers
    - Turn signals and horn
    - Emergency flashers
    - Two windshield wipers
    - Backup lights
    - Current inspection sticker and license plate
- When cranes travel with loads, it is important to:
    - Inspect the route to ensure there are no overhead obstructions (i.e., power lines, pipe racks, etc.)
    - Ensure the load is securely tied to the rig to prevent swinging.
- Always know the weight of the load and the capacity of your rigging hardware and crane.
- No person is allowed to ride a suspended load, and do not swing or travel suspended loads over personnel.
- "Shock loading" is prohibited. Check the load balance while it is only a few inches off the ground.
    - Stand clear of loads about to be lifted.
    - Lower loads slowly and keep hands and feet clear.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- When unloading materials off trucks, remember to attach rigging first, then get off the truck before giving the go-ahead signals.
- Report any defective rigging or equipment immediately, and do not use it!

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Mobile Equipment Spotter and Escort Policy

The following policy applies to the movement of all mobile equipment, including but not limited to pickup trucks, aerial lifts, and cranes. Failure to follow these procedures could result in disciplinary actions up to and including termination.

PLANT ROADWAY MOVEMENT

1. Be present at all times while the mobile equipment is in operation to ensure all clearances are maintained and to prevent personnel injury and property damage.

2. Ensure that the mobile equipment has been inspected for defects and is capable of performing the job intended.

3. Have and understand the signals and communication with the operator.

4. Ensure that the work area (ground level and lift platform) is free of obstruction and debris.

5. Make sure that other personnel are not working underneath or inside a barricaded area.

6. Maintain and keep up barricaded area and barricade equipment.

7. Signal operator for direction when moving, especially in or around tight corners.

8. Make the operator aware of hazards not visible to him.

9. Maintain visual contact with the operator at all times.

10. Before moving cones and barricades, the operator must be made aware.

11. The escort/spotter must know and be able to properly operate the ground controls of any mobile equipment equipped as such.

12. Be able to quickly locate and use emergency fire equipment (fire extinguisher).

13. The spotter shall have the final determination about when it is safe to move or relocate the mobile equipment along roadways.

14. Traffic cones and barricade tape shall be used to isolate the mobile equipment once it is in place and prior to the beginning of elevated work. A perimeter shall be established by the use of 4 traffic cones (minimum), with barricade tape surrounding the equipment, using the cones as the barricade support.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

MATERIAL HANDLING AND STORAGE

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Maximum safe load limits in pounds per square foot must be posted in all storage areas within buildings and structures except floor or slab.
- Aisle and passageways must be kept clear for free and safe movement of material handling equipment and employees.
- Materials must not be placed within six feet of the hoistway of floor openings or within 10 feet of exterior walls which do not extend above the top of the material stored.
- Non-compatible materials must be separated in storage.
- Bagged materials must be stacked by stepping back the layers and cross-laying the bags at least every ten bags high.
- Materials must not be stored on scaffolds or runways in excess of supplies needed for immediate operations.
- Brick stacks must be a maximum of seven feet high. When loose brick stacks reach a height of four feet, they will be tapered back two inches in every foot above the four-foot level.
- When masonry blocks are stacked higher than six feet, the stack shall be tapered back one-half block per tier above the six-foot level.
- Structural steel, poles, pipe, and other cylindrical materials, unless racked, will be stacked and blocked.
- Lumber piles must not exceed 20 feet in height or 16 feet when lumber is to be handled manually.

INDOOR STORAGE

- Exits must not be obstructed.
- Non-combustible material must be separated by a barrier having a one-hour fire-resistive rating.
- Aisle space must be provided to accommodate the widest vehicle that may be used inside the building for firefighting purposes.
- The following clearances must be maintained:
    - 36 inches from sprinkler deflectors
    - 36 inches from fire door openings
    - 24 inches around the path or travel of fire doors

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CONCRETE WORK

GENERAL

- This procedure provides guidelines for the safe placement and work associated with concrete work.
- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

REQUIREMENTS

- All equipment and materials used in concrete construction and masonry work shall meet the applicable requirements for design, construction, inspection, testing, maintenance, and operations.
- Employees working more than five (5) feet above any adjacent working surfaces placing and tying reinforcing steel in walls, piers, columns, etc., shall be provided with a safety harness or equivalent device.
    - Large throat-opening snap hooks (rebar or ladder hooks) are for positioning only and must be used with a regular lanyard and snap hook for fall protection. Using both while climbing is required for complete protection.
- Employees shall not be permitted to work above vertically protruding reinforcing steel unless it has been protected to eliminate the hazard of impalement.
- Wire and mesh rolls shall be secured at each end to prevent dangerous recoiling action.
- Handles of bull floats, used where they may contact energized electrical conductors, shall be constructed of non-conductive material or insulated with a non-conductive sheath whose electrical and mechanical characteristics provide the equivalent protection of a handle constructed of non-conductive material.
- Powered and rotating type concrete troweling machines that are manually guided shall be equipped with a control switch that will automatically shut off the power whenever the operator removes his hands from the equipment handles (dead man switch).
- When using a handheld concrete saw, employees shall wear the same PPE used when cutting with Metabo.
- Riding of concrete buckets for any purpose shall be prohibited, and vibrator crews shall be kept out from under concrete buckets suspended from cranes or cableways.
- When discharging on a slope, the wheels of ready-mix trucks shall be blocked, and the brakes set to prevent movement.
- All shoring equipment shall be inspected prior to erection. Any found to be damaged shall not be used for shoring.
- Erected shoring equipment shall be inspected immediately prior to use, during, and immediately after the placement of concrete. Any shoring equipment that is found to be damaged or weakened shall be immediately reinforced or re-shored.
- Stripped forms and shoring shall be removed and stockpiled promptly after stripping in all areas in which persons are required to work or pass. Protruding nails, wire, ties, and other form accessories not necessary to subsequent work shall be pulled, cut, or other means taken to eliminate the hazard.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CHECKLIST FOR SPOTTERS

- Safe paths of travel must be established by the supervisor prior to moving any equipment on the project.
- Two spotters are responsible for walking the equipment into the unit. They must assist the operator in setting up in a safe zone or area and ensure that the equipment departs the area safely.
- In congested areas, spotters have to be alert for any hazards in any direction the equipment may turn or travel (360 degrees).
- The operator and the spotter will perform a 360-degree inspection of the load and its location prior to lifting and transporting.
- Make sure you are visible to approaching traffic as well as the equipment operator, not standing where the sun is impeding visibility, or shadow, or dimly lit areas.
- Light plants may be required for moving equipment during early morning activity. All equipment being moved during these times shall be equipped with operating lights.
- The primary spotter's proper position should be in front of the equipment, positioned to the right of the path of travel. They shall maintain visual contact with the operator where he/she can see the hazards and send information to the operator. The secondary spotter shall be positioned at the back of the equipment. They should be able to communicate with the primary spotter but be outside of the swing radius or pinch points.
- Be alert and remain STANDING with the equipment at all times.
- For your safety, while flagging or spotting, NEVER turn your back on or stand in the path of moving traffic, equipment, or beneath a suspended load. Always position yourself in areas where you have a means of escape.
- Operators must listen to their spotters. Move only when spotters tell them to move. They may see something that the operator does not.
- If a spotter is distracted, STOP! The operator should immediately stop moving until the spotter's attention is again focused solely on the equipment.
- Get your game plan together before moving and establish a safe path of travel.
- A 3-foot buffer zone or a hard barricade should be maintained when staging material in any process area to prevent contact with process equipment.
- Good communication between the spotter and the operator is a must.
- Make sure that the operator understands and can see the spotters' signals.
- Maintain eye contact with the operator, never assume they can see you, and remember that if you can't see the operator, they can't see you.
- Spotters must have a reflective vest and flag for good visibility.
- Remember, your job as a spotter is one of the most important ones on the crew. The lives of individuals in the workplace may depend on YOU!

_____
Print Name

_____
Signature

_____
Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HYDROSTATIC LEAK TESTING

GENERAL

- This procedure describes the specific requirements for the performance of Hydrostatic Pressure Leak Testing of piping systems within the scope of ASME 831.3, 831.1, ASME Section 1, and ASME Section VII Division 1.
- A Hydrostatic Pressure Leak Test, as relates to this procedure, is defined as a pressure test in which the components being tested are filled with water. Pressure is then applied to the water for the required time, and the outside of the components is examined for leaks.
- The acceptance of piping systems under this procedure is for pressure tightness only.

RESPONSIBILITIES

- The Site Superintendent is responsible for the safe performance of the hydrostatic leak test. Only personnel aware of these procedural steps shall be used to conduct the test.
- The site Quality Control Representative is responsible for witnessing and documenting the results of the hydrostatic test and assuring that it is performed safely and in accordance with this procedure.

PREPARATION

- Review this procedure in its entirety.
- Review the client specifications for hydrostatic pressure leak testing for any additional requirements not included in this procedure.
- Review the test package or piping circuit to be tested for any specific details not included in this procedure.

PREREQUISITES TO HYDROTESTING

- Review the piping system test package for the following:
    - Location of isolation points
    - Items in the Test Package that are "not" to be included in the hydrotest
    - Hydrostatic test pressure to be applied
    - Has the piping system been visually inspected, and the pre-hydro portion of the piping installation and inspection report been properly completed and signed off?
- Prepare a blind list.
- Secure proper permits and install isolation blinds.
- The Site Supervisor and the Site QC shall inspect the Hydro Test Tree for approval prior to applying hydrostatic test pressure. The approval of the Hydro Test Tree shall require a signature and date from the Site Supervisor and the Site QC. Specifications of the hydro test tree are exhibit # 1 and # 2 of this procedure.
- **CAUTION: Check all isolation blinds for proper rating. (Refer to Blind Rating Chart in Exhibit 1)**

TEST FLUID

- For all piping except austenitic stainless steel, the test fluid shall be clean and fresh water unless otherwise approved by the client.
- For piping systems containing austenitic stainless steel components, the test fluid shall be clean potable water unless otherwise approved by the client.

TEST FLUID TEMPERATURE:

- Piping systems shall not be pressure tested at metal temperatures below 35°F without specific written approval by the client.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Ideally, the temperature of the test fluid should not be less than 60°F or more than 100°F. When the test fluid temperature is outside this range, and testing must be done, approval shall be obtained from the client.
- CAUTION: Drain any test systems filled with water when temperatures are expected to fall below 35°F.

HYDROSTATIC TEST PRESSURE

- The hydrostatic test pressure at any point in the piping system shall be as follows:
  - In accordance with the Project Specification if so provided.
  - Not less than 1 ½ times the design pressure.
  - Calculated in accordance with the applicable code.

8.0 PRE-HYDROSTATIC TEST DETAILS

- Temporary test components, such as blinds, threaded plugs, bolting, block and bleed valves, test hoses, test pump, test tree, etc. shall be visually checked and deemed safe to use for the test pressure of the system by EXCEL Quality Control, Safety, or Supervision.
- CAUTION: All temporary test components shall be rated for at least 1 ½ times the test pressure.
- Welded connections made to temporary test closures shall be visually inspected by EXCEL Quality Control for minimum safe weld sizes prior to pressurizing the test system.
- If the safety of a temporary welded closure is in question, Q/C shall check the integrity of the weld prior to pressurizing a test system.
- Venting:
  - Connect all fill and vent connections as necessary to get all air out of the test system.
  - Open vents shall be located at all high points of the test system during fill-up.
  - The system shall be filled with the test medium until all air pockets have been expelled. The vent valves shall be closed when it is determined that the venting is complete.
- Test Gauges:
  - An indicating gauge shall be connected directly to the piping system. If the indicating gauge is not readily visible to the pressure testing pump operator controlling the pressure applied, an additional indicating gauge shall be provided where it will be visible to the operator throughout the test.
  - When practical, two gauges shall always be used so that readings can be compared during the test to ensure there is no gauge malfunction.
  - Pressure gauges used in testing shall be graduated over a range of about double the intended maximum pressure, but in no case shall the gauge range be less than 1 1/2 times more than test pressure and no more than 4 times greater than test pressure.
  - All gauges shall be calibrated against a standard deadweight tester or a calibrated master gauge. Gauges shall be recalibrated at any time there is reason to suspect they may be in error.
  - The test equipment shall be examined to see that it is tight and that all low-pressure filling lines and other appurtenances that should not be subjected to the test pressure have been either disconnected or safely blocked out of the test.

APPLICATION OF HYDROSTATIC TEST PRESSURE:

- The operator of the hydrostatic test pump shall have a clear view of the test pressure gauge so they will be aware of the test pressure at all times.
- The test pump operator will be stationed away from the immediate vicinity of the test system as deemed necessary to provide for their safety.
- During the application of pressure to the test system until the conclusion of the hydrostatic test, the pump operator shall not leave his or her station for any purpose unless relieved by an individual competent in the performance of this operation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- The pressure shall be gradually increased until a gauge pressure, which is the lesser of ½ the test pressure or 25 psi, is attained, at which time a preliminary leak check will be made. After that, the pressure shall be gradually increased in steps until the test pressure is reached, holding the pressure at each step long enough to equalize any strains to the piping system.
    - The test pressure and the time held will be as per the project specification.
    - If tested in accordance with ANSI B31.3, the test pressure will then be reduced to the design pressure and maintained for at least 10 minutes while a leak check is made.
    - CAUTION: No fittings will be tightened during the application of pressure or while the system is under pressure, except as clarified in 9.5.A & 9.5.B below.
- Leak Repairs
    - If a leak is detected anywhere in the test circuit while under pressure, other than the test tree and its associated connections, the pressure shall be drained down to 150 psi prior to tightening or making any repairs.
    - If a leak is detected between the test pump and the test tree connection to the test circuit, the test circuit shall be blocked in, and the pressure on the test pump shall be lowered to 0 psi prior to making any repairs.
- Minor leakage of temporary closures installed for the purpose of conducting the hydrostatic test, which will be replaced later, may be permitted unless the leakage exceeds the ability to maintain the test pressure for the required amount of time or interferes with the evaluation of the test results. If leak repairs to temporary closures are required, then refer to Leak Repairs for further guidance.

POST-HYDROSTATIC TEST DETAILS:

- Upon completion of the hydrostatic test, the pressure will be drained down to 0 psi, and care will be taken to ensure that all vents are open prior to draining to protect against the collapse of the piping system by vacuum.
- After the piping system has been drained, all temporary closures used to isolate the piping system shall be removed, flange faces and threads inspected for damage, and flange joints reassembled using new gaskets.

TEST RECORDS

- Test results will be recorded on the hydrostatic test portion of the piping installation and inspection report or other documentation as may be specified by the client.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Exhibit 1

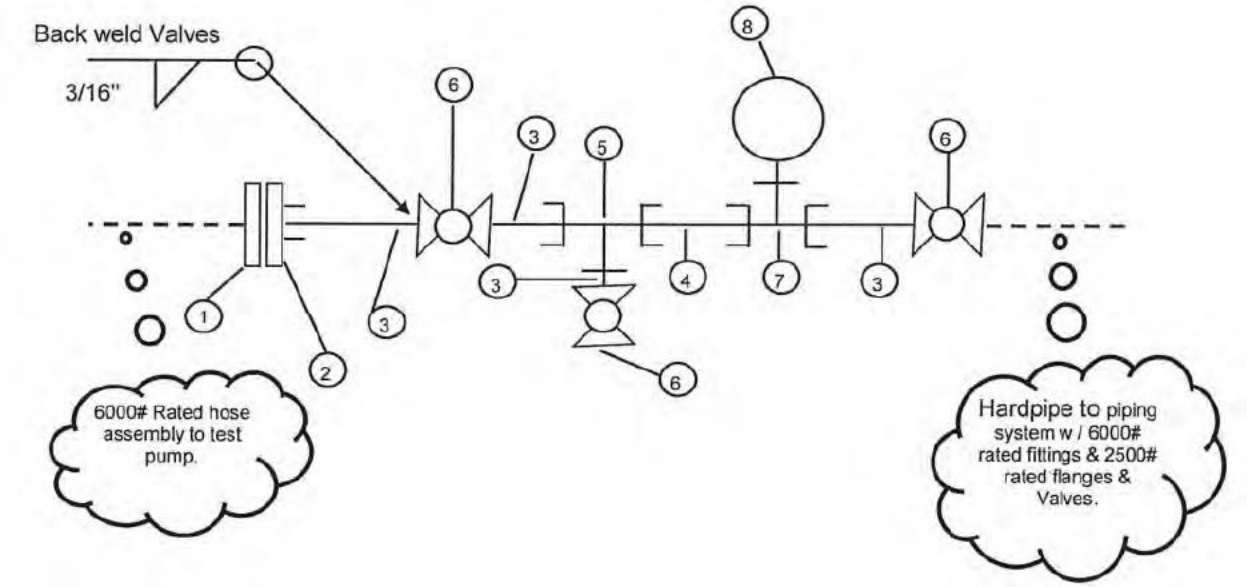
Temporary Pancake Blind Rating Chart

	Thickness Required For Designated Rating					
Pipe Size	**150#**	**300#**	**600#**	**900#**	**1500#**	**2500#**
2	3/16"	5/16"	3/8"	1/2"	5/8"	7/8"
3	1/4"	3/8"	5/8"	5/8"	7/8"	7/8"
4	5/16"	1/2"	3/4"	7/8"	1 1/8"	1 3/8"
6	3/8"	5/8"	1"	1 1/8"	1 1/2"	
8	1/2"	7/8"	1 1/8"	1 1/2"		
10	5/8"	1"	1 3/8"	1 5/8"		
12	3/4"	1 1/4"	1 1/2"	1 3/4"		
14	3/4"	1 1/4"				
16	7/8"	1 1/2"				
18	1"	1 5/8"				
20	1 1/8"	1 7/8"				
24	1 1/4"	2 1/8"				

Notes: **1. This table contains no allowance for corrosion.**
2. Blind material - ASTM 516, Gr. 70

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

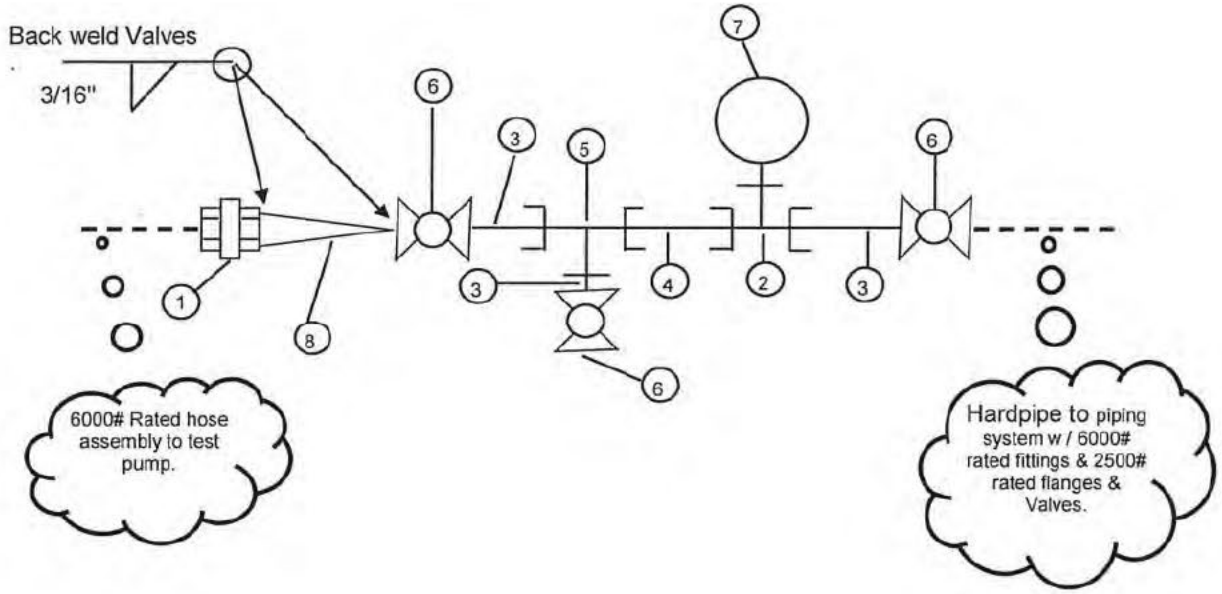
Exhibit 2 – 0-4000 # HYDROTEST TREE



Item	Quantity	Rating	Size	Description
1	1	2500#	3/4"	R.F. Thr'd Flg. A-105
2	1	2500#	3/4"	R.F.S.W. Flg. S/160 / A-105
3	4	S/160	3/4"x 3"	Nipple TOE X POE A-106 Gr. B Smis
4	1	S/160	3/4"x 3"	Nipple PBE A-105 Gr. B Smis
5	1	6000#	3/4"	SW Tee A-105
6	3	2500#	3/4"	Thr'd Ball Valve
7	1	6000#	3/4"x 1/2"	SW X Thr'd Reducing Tee A-105
8	1	As Req.	1/2"	Test Gauge

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Exhibit 3 – 0-4000 # HYDROTEST TREE



Item	Quantity	Rating	Size	Description
1	1	6000#	1"	Thr"d Boltex hammer union color code orange
2	1	6000#	3/4"x 1/2"	SW X Thr'd Reducing Tee A-105
3	3	S/160	3/4"x 3"	Nipple TOE X POE A-106 Gr. B Smls
4	1	S/160	3/4"x 3"	Nipple PBE A-105 Gr. B Smls
5	1	6000#	3/4"	SW Tee A-105
6	3	10000#	3/4"	RP&C Thr'd Globe Valve model # 60-104-01
7	1	As Req.	1/2"	Test Gauge
8	1	S/160	Vx 3/4"	TBE Conc. Swg. A - 234 WPB

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

WORK PERMITS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Much of the work accomplished by EXCEL is within existing operating facilities. Most clients have established procedures at their operating plants to ensure that all safety precautions have been taken prior to initiating work. Safe work permits are issued by local operating personnel to control the work in operating areas and ensure that maintenance/construction personnel are aware of safe work practices. Contract employees shall not perform hot work until a hot work permit is obtained from the employer. The permit shall document that provisions of CFR 1910.252(a) have been met. Safe and/or hot work permits are usually mandatory for the following operations:
    - Line breaking
    - Pump repairs
    - Making tie-ins to existing equipment
    - Working in hazardous areas
    - Work on equipment used for corrosives
    - Hydroblasting
    - Excavation
    - Tank entry and/or lock-out
    - Vehicle entry into a hazardous area
    - Flame or electric welding (hot work permit)
    - Electric power tools or motors (hot work permit)
    - Open flame devices (hot work permit)

RESPONSIBILITIES

- The EXCEL Site Supervisor shall become thoroughly familiar with the client's requirements and procedures for obtaining work permits.
- EXCEL Site Supervisor shall ensure that all company site personnel are familiar with the requirements for work permits.
- EXCEL Site Supervisor shall coordinate all work with the client's representative, ensuring that:
    - A work permit is issued
    - The hazards and limitations at that site are considered
    - A joint inspection of the area and a positive definition of the work to be accomplished
    - All precautions are taken, and safe practices are followed
- It is the responsibility of all personnel entering operating areas to obtain the proper authorization and appropriate work permit.
- Upon issuance of the proper work permit by the operations representative, the supervisor shall sign the work permit, verifying that they have reviewed the permit and understood the limitations.
- Upon receiving the permit, the supervisor is responsible for reviewing the permit with his employees and explaining the precautions and limitations of the proposed task. The employees shall also be notified that should any change in conditions take place, the work shall stop.
- The supervisor shall ensure that the employees understand the terms that may be used, which include inert, hole watch, toxic, etc.

PERMITS

- Because of the uncertainty of the atmosphere within confined spaces, confined space entry shall be issued anytime EXCEL employees are required to enter a confined space, as defined in Section 6.6.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- The confined space (even if vessels, pipes, etc., are clean and have never had product introduced to it) shall be tested for the existence of combustible gases and inadequate oxygen content (19.5% minimum).
- The confined space entry permit shall be issued on a daily basis.
- Only employees who have reached the status of lead tech or greater are qualified to receive work permits.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Safe Plan of Action/Job Procedure/Permit

Equipment #: _____ Sequence: _____ Area: _____

Competent Person: _____ Date: _____

# of Locks/Tags: _____ Locked Out By: _____

Mark (√) for Satisfactory (X) for Unsatisfactory (N/A) for Not Applicable

Work Permit

( ) Safe Work Permit
( ) Sign In / Out Book
( ) Low Energy
( ) Hot Work
( ) Confined Space Entry
( ) Hole Watch / Fire Watch
( ) Verbal Permit
( ) Joint Jobsite Visit w/ Operations

Work Area Hazards

( ) Moving Equipment
( ) Sharp Objects
( ) Blind Spots
( ) Pressurized Lines
( ) Slippery Surfaces
( ) Power Line Proximity
( ) High Voltage (Live)
( ) Chemicals
( ) Noisy Area
( ) Poor Lighting
( ) Hot / Cold Surfaces
( ) High-Temperature Area

Personal Protective Equipment (PPE)

( ) Hard Hat
( ) Rubber Boots
( ) Respiratory Protection
( ) Monogoggles
( ) Face Shields
( ) Gloves: Leather / Rubber
( ) Electrical Protective Clothing
( ) Ear Plugs
( ) Safety Glasses
( ) Fall Protection
( ) FRC / Nomex
( ) Back Support
( ) Rain Suit
( ) Escape Respirator

Lock-out / Tagout Procedure

( ) Contractor's Lock
( ) Operations Lock
( ) Contractor's Tag
( ) Operations Tag
( ) Isolation Log Signed
( ) MCC Sub. Lock-out Log Signed
( ) Hazardous Energy Log Signed
( ) Breaker Racked Out

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Equipment Checklist

What equipment will be required for this job? _____

_____

How often will this equipment be checked for proper operation? _____

Who is responsible for checking this equipment? _____

Will any special permits be required for this job? If so, list. _____

_____

Procedures Upon Job Completion

Tag Master Signed Off
Locks or Tags Removed
Appropriate Personnel Notified
All Permits Turned In
Physical / Visual Check Before Re-energizing
Job Isolation Log Signed Off

Safe Plan of Action

Method by which this job will proceed: _____

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Signature of all workers involved: _____

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZARD WARNINGS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Hazard warnings may come in several different forms, including signs, tags, permits, barricades, etc. Words, pictures, symbols, or combinations thereof can be used. The primary factor with any hazard warning is that all employees (including subcontractors, visitors, etc.) shall be educated as to the types of warnings and their definitions. The following are suggested hazard warnings that should be utilized.

BARRICADE TAPE

- Yellow - Black (2”)
  - Shall designate an area of “caution” (hot work overhead, excavation, etc.)
  - Employees shall be allowed to move through an area marked with caution marking but only with knowledge of why the area is marked and with the approval of whoever erected the barricade.
  - Designed to alert the employee to exposure to a hazard
- Red (2”)
  - Shall designate an area of “DANGER” (swing radius, work overhead, high noise, sandblasting, hydro-testing, etc.)
  - Only authorized personnel shall enter a designated “DANGER” area. All others shall go around.
  - Denotes a high hazard or “DANGER” area.
- Magenta - Yellow (2”)
  - Shall designate a radiation area along with the required signals.
  - Employees shall not be allowed to enter this particular controlled area unless authorized by the radiographic personnel.
- Work Markings
  - Barricade tape with a wording label may be used, but the color code should still apply.
- Evaluation
  - The project shall be evaluated periodically for proper signs and usage.

TAGS

- Various tags/permits may be utilized during a project, with some being:
  - Electrical lockout
  - Danger
  - Defective equipment
  - Scaffold inspection
- Electrical lockout
  - Designates electrical equipment that has been taken out of service
  - Shall only be removed by the person who installed the tag or his designee
- Danger
  - Designates a hazard (valve open, etc.)
  - Shall only be removed by the employee who installed the tag or his designee
- Defective equipment
  - Designates unsafe material or equipment (tools, scaffolds, ladders, etc.)
  - May be removed by the person repairing the defective tool or equipment

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Scaffold Inspection
  - Designates that a scaffold is completed for use
  - Alterations to the scaffold after initial construction require the placement of a new tag
  - Absence of the tag indicates that the scaffold shall not be used
  - The tag may also be used to designate scaffold ownership in the event that no designated scaffold crew is used

REMOVAL

- The most important factor of all hazard warnings is that when the hazard no longer exists, the warning signal, sign, tag, or barricade tape shall be removed.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZARD COMMUNICATION

STATEMENT

- It is the intent and policy of EXCEL to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), 1910.1200, and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926. It is the further intent and policy of EXCEL to provide information and undertake actions that are appropriate to mitigate any hazards faced by its employees and to train and educate its employees on any potential hazards they may encounter while performing their assigned duties.
- At a minimum, EXCEL's Hazard Communication Program will be administered to all personnel onsite. Documentation of such training will be kept on file at the work site. In some instances, it will also be necessary to train employees for owner/site-specific hazard communication programs. Should the owner/site-specific hazard communication program meet OSHA and Company standards, it will be acceptable to train employees using only the owner/site-specific program.
- Major changes to the Hazard Communication Standard:
    - **Hazard classification**: Provides specific criteria for the classification of health and physical hazards, as well as the classification of mixtures.
    - **Labels**: Chemical manufacturers and importers will be required to provide a label that includes a harmonized signal word, pictogram, and hazard statement for each hazard class and category. Precautionary statements must also be provided.
    - **Safety Data Sheets**: Will now have a specified 16-section format.
    - **Information and Training**: Employers are required to train workers by December 1, 2013, on the new label elements and safety data sheet format to facilitate recognition and understanding.

Effective Completion Date	Requirement(s)	Who
December 1, 2013	Train employees on the new label elements and SDS format.	Employers
June 1, 2015* December 1, 2015	Comply with all modified provisions of this final rule, except: Distributors may ship products labeled by manufacturers under the old system until December 1, 2015.	Chemical manufacturers, importers, distributors and employers
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.	Employers
Transition Period	Comply with either 29 CFR 1910.1200 (this final standard), or the current standard, or both.	All chemical manufacturers, importers, distributors and employers

INTRODUCTION

- It is the policy of EXCEL that the first consideration in the performance of work shall be the protection of the safety and health of all employees. EXCEL has developed this Hazard Communication Program to ensure that all employees receive adequate information relevant to the possible hazards that may be involved with the various hazardous substances used in EXCEL's and/or Client/Owner's operations and processes. The following program outlines how we will accomplish this objective.

SCOPE

- This policy covers all potential workplace exposure involving hazardous substances as defined by Federal, State, and local regulations.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZARD DETERMINATION

- EXCEL does not intend to evaluate any of the hazardous substances purchased from suppliers and/or manufacturers but has chosen to rely upon the evaluation performed by the suppliers or by the manufacturers of the substances to satisfy the requirements for hazard determination.

CONTAINER LABELING

- No container or hazardous substance will be released for use unless the container is correctly labeled and the label is legible.
- All chemicals in bags, drums, barrels, bottles, boxes, cans, cylinders, reaction vessels, storage tanks, or the like will be checked by the receiving department to ensure the manufacturer's label is intact, is legible, and has not been damaged in any manner during shipment. Any containers found to have damaged labels will be quarantined until a new label has been installed.
- The label must contain:
    a) the chemical name of the contents,
    b) he appropriate hazard warnings and
    c) the name and address of the manufacturer, and any other information required.
- All secondary containers shall be labeled. The information must include details of all chemicals that are in the referenced container.
- Labels shall be legible in English. However, for any non-English speaking employees, information may be presented in their language as well.

SAFETY DATA SHEETS (SDS)

- Each location must maintain a master SDS file as well as a department-specific file. These Safety Data Sheets are available to all employees at all times upon request.
- The Safety Committee or a designee will be responsible for reviewing all incoming SDSs for new and significant health/safety information (EXCEL will ensure that any new information is passed on to the employees involved).
- The Safety Representative or designee will review all incoming SDSs for completeness. If any SDS is missing or obviously incomplete, a new SDS will be requested from the manufacturer or distributor. OSHA is to be notified if the manufacturer or distributor will not supply the SDS or if it is not received after 30 days from request. Any new information will be passed on to the employees involved.
- New materials will not be introduced into the work area until an SDS has been received.
- The purchasing department will make it an ongoing part of their function to obtain SDSs for all new materials when they are first ordered.
- The safety coordinator or his/her designee shall coordinate with appropriate departments to make sure all SDSs are obtained, distributed, and communicated.

LIST OF HAZARDOUS SUBSTANCES

- Each facility shall compile, annually review, and update, as necessary, a complete inventory of all substances present in that facility. Applicable Federal and State standards define the names of those materials determined to be hazardous.

EMPLOYEE INFORMATION AND TRAINING

- All employees will attend an orientation meeting for information and training on the following items prior to starting work with hazardous substances (Training Checklist is to be completed and kept on file):
    - An overview of the requirements of the Hazard Communication Standard, including their rights under this regulation

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Information on where hazardous substances are present in their work areas.
  - Information regarding the use of hazardous substances in their specific work areas.
  - The location and availability of the written hazard communication program. A copy of the program will be given to all employees during the orientation meeting. Subsequent to this, the program will be available to managers and also from the Human Resources Department.
  - The physical and health aspects of the substances in use
  - Methods and observation techniques used to determine the presence or release of hazardous substances in the work area.
  - The controls, work practices, and personal protective equipment are available for protection against possible exposure.
  - Emergency and first aid procedures to follow if employees are exposed to hazardous substances.
  - How to read labels and Safety Data Sheets to obtain the appropriate hazard information
  - Refresher training shall be conducted annually.
- It is most important that all of our employees understand the information given in the orientation meetings. Questions regarding this information should be directed to the Human Resources Department.
- When new substances are introduced into the workplace, the Department manager will review the above items as they are related to the new materials.
- The department manager will relay all the above information to new employees who will be working with hazardous substances prior to their starting work.
- An acknowledgment statement is to be completed by each employee receiving this information and training. These are to be kept on file in the Human Resources Department.

NON-ROUTINE TASKS

- Infrequently, employees may be required to perform non-routine tasks which involve the use of hazardous substances. Prior to starting work on such projects, each involved employee will be given information by his/her supervisor about hazards to which they may be exposed during such an activity.
- This information will include:
  - The specific hazards
  - Protective/safety measures must be utilized
  - The measures EXCEL has taken to lessen the hazards include special ventilation, respirators, the presence of another employee, air sample readings, and emergency procedures.

INFORMING CONTRACTORS

- To ensure that outside contractors will work safely in the plants and to ensure the safety of the contractor's employees, it will be the responsibility of management to provide contractors with the following information:
  - The hazardous substance to which they may be exposed while working in the plant
  - The precautions the contractor's employees must take to lessen the possibility of exposure by using the appropriate measures
  - Rules and regulations regarding the protection of employee safety relevant to fire and ignition sources around flammable materials will be followed. The rules regarding smoking, welding, and grinding will also be followed.
- The purchasing agent via the safety coordinator will be responsible for obtaining from outside contractors the name of any hazardous substance the contractor's employees may be bringing into the facility for use in their work. The contractor should also supply a copy of the material safety data sheet relevant to these materials.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PLAN ADMINISTRATION

- The Human Resource Department and Site Safety Representative will monitor this Hazard Communication program.
- Questions regarding this program should be directed to the Human Resources Department.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZARD COMMUNICATION PROGRAM SDS CHECKLIST

OSHA rules outline the content, but not the exact form, of every material safety data sheet. Here is what OSHA requires each data sheet to contain:

- IDENTITY: The data sheet must contain the name of the chemical found on the label. In addition, subject to the deletion of legitimate trade secrets, it must give the chemical and common name of the substance. If the substance is a mixture and has not been tested as such, the data sheet must give the name of each hazardous constituent.

- CHARACTERISTICS: The data sheet must recite the physical and chemical characteristics of the chemical, such as vapor pressure, flash point, etc.

- PHYSICAL HAZARDS: Any potential for fire, explosion, or reaction must be included in the datasheet.

- HEALTH HAZARDS: Signs and symptoms of exposure must be entered, as must all medical conditions that are likely to be aggravated by exposure.

- ROUTES OF ENTRY: The data sheet must specify whether the chemical typically enters the system by ingestion, inhalation, dermal exposure, or some other route.

- EXPOSURE LIMITS: If OSHA has established an exposure limit for the chemical, or if a Threshold Limit Value has been established by the American Conference of Government Industrial Hygienists, these must be entered on the datasheet, as must any exposure limit used by the authority preparing the datasheet.

- CARCINOGENS: The data sheet must indicate whether the chemical is listed as a carcinogen by the National Toxicology Program, by OSHA, or by the International Agency for Research in Cancer.

- USE AND HANDLING: The data sheet must recite any generally applicable precautions for safe handling and use that are known to the Firm preparing the data sheet, including hygiene practices, protective measures during repair and maintenance of contaminated equipment, and procedures for clean-up of spills and leaks. Industrial chemical consumers might often add site-specific procedures to the more general information offered by the chemical manufacturer.

- EXPOSURE CONTROLS: The data sheet must include a description of special procedures to be employed in emergencies, as well as a description of appropriate first aid.

- DATES: The sheet must bear the date of its preparation or its latest revision.

- INFORMATION SOURCE: Finally, the sheet must recite the name, address, and telephone number of the person who prepared the data sheet or of some other person who can provide additional information relating to the chemical, such as citations to scientific literature or specialized emergency procedures.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Manager Training of Employee Checklist

Has the employee been informed and trained in the following:

		Yes	No
1.	Information: Has the employee been informed of the following		
	a. The requirements of this section.	_____	_____
	b. Any operation in the work area where hazardous substances are present.	_____	_____
	c. The location of the written Hazard Communication Policy.	_____	_____
	d. availability of the written program.	_____	_____
	e. location and availability of hazardous substances list(s).	_____	_____
	f. location and availability of Safety Data Sheets.	_____	_____
2.	Training: Has the employee been trained in the following:		
	a. Methods and observations that may be used to detect the presence or release of hazardous substances in the work areas.	_____	_____
	b. The physical and health hazards of the substances in the work areas.	_____	_____
	c. How employees can protect themselves from these hazards.	_____	_____
	d. Procedures the employer has implemented for employee protection.	_____	_____
	e. Appropriate work practices.	_____	_____
	f. Emergency procedures.	_____	_____
	g. Personal protective equipment to be used.	_____	_____
	h. Explanation of labeling systems.	_____	_____
	i. Explanation of Safety Data Sheets.	_____	_____
	j. How employees can obtain and use appropriate hazard information.	_____	_____
	k. Personal hygiene when working with substances.	_____	_____
	l. General first aid for contact with hazardous substances.	_____	_____

Employee Signature

Manager Signature

Date

Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Hazard Communication Program
Training Acknowledgment

I have received information on the Hazard Communication Standard 29 CFR 1910.1200 or the appropriate safety standard and understand how to interpret and use the labeling systems and Safety Data Sheets (SDSs) that are in use and accessible to me in my work area. I agree to observe and follow the safe work practices as presented to me in the training sessions I attended on _____ at _____.

_____ _____

Employee Signature Date

The employee named earlier has been informed and instructed by _____ work practices, chemical hazards recognition, interpretation and use of chemical labels, SDSs, the 29 CFR 1910.1200(e) or appropriate state standard, and the location at which these items are accessible to the employee.

_____ _____

Supervisor Signature Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SAFETY DATASHEETS

The SDS is obtained from the manufacturer or supplier of hazardous substances. You should become familiar with the information on this sheet to avoid injury to yourself and fellow employees. Following is a description of the SDS's principle sections. Not all sections are relevant to your safety, but brief descriptions will be provided.

SECTION I - IDENTIFICATION OF PRODUCT

- This identifies the chemical name, trade name or synonym, manufacturer's name, chemical formula, and emergency phone number for more detailed information.

SECTION II - HAZARDOUS INGREDIENTS

- Hazardous ingredients are those substances that have been defined as hazardous due either to flammability characteristics or to their potential to have adverse health effects on the worker. The percentage of each hazardous ingredient in the product is provided, as well as the Threshold Limit Value.

SECTION III - PHYSICAL DATA

- This is primarily technical data providing little help to you unless you are a chemist. This data is used by chemists and industrial hygienists when doing calculations to determine the safe use parameters of the substance.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

- In this section, data is provided which describes the ability of the substance to burn or explode. The method for extinguishing a fire involving the substance is also provided. Pertinent information in this section is:
    - Flash Point - This is the lowest temperature at which the liquid gives off sufficient vapor to form an ignitable mixture with air and produce a flame when an ignition source is brought near the surface of the liquid.
    - Extinguishing Media - The type of fire extinguishing material to be used when a particular substance is burning is provided here.
    - Special Fire Fighting Procedures - These procedures describe the fire fighting equipment needed if the substance is involved in a fire. Some substances can give off toxic gases when burning; therefore, a special piece of personal protective equipment would be worn by persons fighting the fire. Talk to your supervisor regarding your actions in the event of a fire involving a hazardous substance.
    - Unusual Fire and Explosion Hazards - This section provides information on substance incompatibility or its ability to react with other substances to create a flammable atmosphere.
- Remember: Not all hazardous substances are flammable or explosive.

SECTION V - HEALTH HAZARD DATA

- The data included in this section is very important to you. This information will help you recognize the effects of overexposure to a particular hazardous substance and the emergency and first-aid procedures to take in the event of overexposure.
- Terms and their definitions found in this section follow:
    - Threshold Limit Value - The value printed on the SDS expresses the airborne concentration of material to which nearly all persons can be exposed day after day without adverse health effects. Threshold Limit Values (TLV) may be expressed in three ways: as a Time Weighted (TWA), as a Short Term Exposure Limit (STEL), and/or as the Ceiling Exposure Limit (C). Engineers and industrial hygienists use the TLV as a guide in the control of health hazards.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Effects of Overexposure - Describes what physical effects might be felt (dizziness, headaches, skin irritation, dermatitis, etc.).
- Emergency First-Aid Procedures - Explains the procedures to follow should it become necessary to provide first-aid treatment to a person whom a hazardous substance may overcome. The procedures may address exposures that occur through inhalation of the substance, contact with the skin, or ingestion (swallowing).

SECTION VI - REACTIVITY DATA

- This section presents information on reactive substances. Reactive substances are materials that, under certain environmental or induced conditions, enter into violent reactions with spontaneous generation of large quantities of heat, light, gases (flammable and non-flammable), or toxicants that can be destructive to life and property. Reactions occur often when incompatible materials are mixed.
- Some loosely categorized types of reactive chemicals are:
  - Explosives - (i.e., nitroglycerin) react to friction, heat, or shock
  - Acids - Don't mix with sensitives
  - Oxidizers - Don't mix with reducers
  - Water Sensitives - Should not be mixed with water
  - Pyrophors - Those substances that generate sparks or heat when friction is applied - like a red-tip match head
- When reviewing a particular datasheet, note the conditions to avoid and incompatibility (materials to avoid). In general, isolate the substance from other potentially reactive substances. Use appropriate personal protection gear that is recommended in Section VIII - Special Protection Information.

SECTION VII - SPILL OR LEAK PROCEDURES

- This section directs persons to take certain actions in the event of a hazardous substance spill or leak. Do not attempt to contain a spill or leak by yourself! Get help from your supervisor!

SECTION VIII - SPECIAL PROTECTION INFORMATION

- This section specifies the proper personal protection devices for specific situations. Types of recommended equipment will include respirators, goggles, face shields and safety glasses, gloves, protective aprons, footwear, etc.
- Ventilation equipment will not necessarily be applicable. These requirements are based on the amount used, the container the substance is stored in, conditions use occurs in, etc.

SECTION IX - SPECIAL PRECAUTIONS

- Describes proper storage and handling procedures. This section is important and provides many of the do's and don'ts associated with the substance. It will also alert you to situations to avoid when handling or storing the substance.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXPLANATION OF TERMS USED ON SAFETY DATA SHEETS

SECTION I

- Chemical Name and Synonyms: The product identification, the chemical or generic name of single elements and compounds or for compounded products and mixtures
- Trade Names and Synonyms: The name under which the product is marketed and the common commercial name of the product
- Chemical Family: S grouping of chemicals that behave and react with other chemicals similarly
- Formula: The chemical formula or single elements of compounds
- CAS Number: The Chemical Abstracts Service number, if applicable.
- EPA: The code number assigned by the Environmental Protection Agency, if applicable.
- DOT Classification: The appropriate classification is determined by the regulations of the Office of Hazardous Material, Department of Transportation.

SECTION II

- Hazardous Ingredients: The major components, as well as any minor one(s) having potential for harm, are considered when evaluating the product.
- TLV: Threshold Limit Value (TLV) indicates the permissible exposure concentration, a limit established by a governmental regulatory agency, or an estimate if none has been established.

SECTION III

- Boiling Point (°F): The temperature in degrees F at which the substance will boil.
- Vapor Pressure: The pressure of saturated vapor above the liquid expressed in mm Hg at 20° C.
- Vapor Density: The relative density or weight of a vapor or gas (with no air present) compared with an equal volume of air at ambient temperature.
- Solubility in Water: The solubility of a material by weight in water at room temperature. The terms negligible, less than 0.1%, 0.1% to 1%, moderate 1% to 10%, applicable 10% or greater.
- Appearance and Odor: The general characterization of the material, i.e., powder, colorless liquid, aromatic odor, etc.
- Specific Gravity (H20 = 1): The ratio of the weight of a volume of the material to its weight of an equal volume of water.
- Percent, Volatile by Volume (%):The percent by volume of the material that is considered volatile. (The tendency or ability of a liquid to vaporize).
- Evaporation Rate: The ratio of the time required to evaporate a measured volume of a liquid to the time required to evaporate the same volume of a reference liquid (ethyl ether) under ideal test conditions. The higher the ratio, the slower the evaporation rate.

SECTION IV

- Flash Point (Method Used): The temperature in degrees F at which a liquid will give off enough flammable vapor to ignite in the presence of a source of ignition.
- Conditions to Avoid: Conditions which, if they exist with the substance present, could cause it to become unstable.
- Incompatibility (Materials to Avoid): Materials that will react with the substance.
- Hazardous Decomposition Products: Refers to that reaction which takes place at a rate which releases large amounts of energy. Indicates whether or not it may occur and under what storage conditions.

SECTION V

- Health Hazard Data: Possible health hazards as derived from human observations, animal studies, or from the result of studies with similar products.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Threshold Limit Value (TLV): The value for airborne toxic material which is to be used as guides in the control of health hazards and represent concentrations to which nearly all workers may be exposed, eight hours per day, over extended periods without adverse effects
- Effects of Overexposure: The effects on or to an individual who has been exposed beyond the specified limits.
- Emergency and First Aid Procedures: Gives first aid and emergency procedures in case of eye and/or skin contact, ingestion, and inhalation.

SECTION VI

- Stability: Whether the substance is stable or unstable, an unstable substance will vigorously polymerize, decompose, condense, or become self-reactive under conditions of shock, pressure, or temperature.

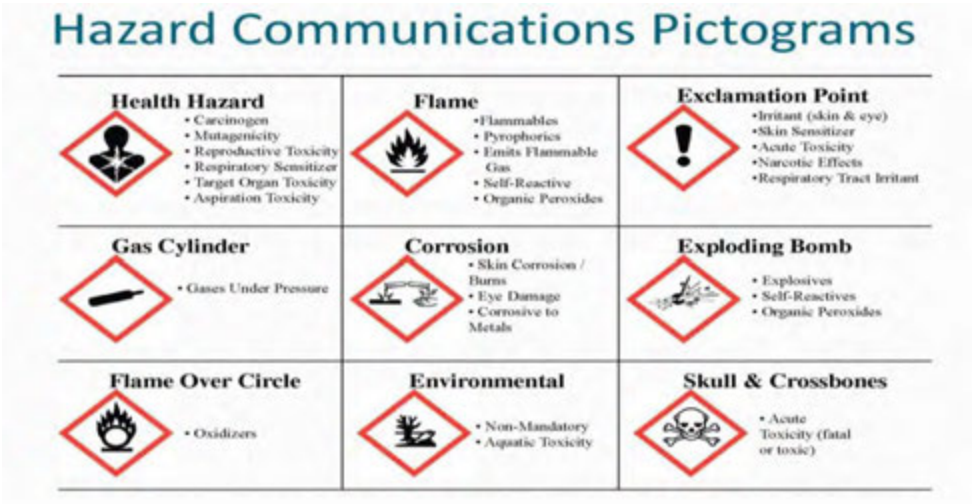
SECTION VII

- Spill or Leak Procedure: Steps to be taken in case material is released or spilled. Method and materials used to clean up or contain.
- Waste Disposal Method: Method and type of disposal site to use.

SECTION VIII

- Respiratory Protection: Specific type should be specified, i.e., dust mask, NIOSH-approved cartridge respirator with organic-vapor cartridge.
- Ventilation: Type of ventilation recommended, i.e., local exhaust, mechanical, etc.
- Protective Gloves: Refers to the glove that should be worn when handling the product, i.e., cotton rubber.
- Eye Protection: Refers to the type of eye protection that is to be worn when handling or around the product.
- Flammable Limits: The range of gas or vapor concentration (percent by volume in air) that will burn or explode if an ignition source is present. (Lel) means the lower explosive limits and (Uel) the upper explosive limits given in percent.
- Extinguishing Media: Specifies the firefighting agent(s) that should be used to extinguish fires.
- Special Fire Fighting Procedures/Unusual Fire and Explosion Hazards: Refer to special procedures required if unusual fire or explosion hazards are involved.
- OSHA has adopted new hazardous chemical labeling requirements as a part of its recent revision of the Hazard Communication Standard, 29 CFR 1910.1200 (HCS), bringing it into alignment with the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS). These changes will help ensure improved quality and consistency in the classification and labeling of all chemicals, and will also enhance worker comprehension. As a result, workers will have better information available on the safe handling and use of hazardous chemicals, thereby allowing them to avoid injuries and illnesses related to exposures to hazardous chemicals.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA



Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Request for Safety Data Sheets

DATE OF REQUEST: _____

DEPARTMENT: _____

TO: _____

FROM: _____

I hereby request that I be given the Safety Data Sheets on the following hazardous substance(s):

_____

_____

_____

_____

Date Received: _____

Acknowledge: _____ (Requesting Employee)

DEPARTMENT MANAGER: _____

DATE: _____

cc: Corporate Safety Department

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Hazard Communication
Notification of Hazardous Substances

1. The following hazardous substances will be introduced at the work site on _____.

2. The intended use for the hazardous substance is:
   _____
   _____
   _____

3. The SDSs for hazardous substances is
   [ ] Attached [ ] Forthcoming *

4. The quantity and container type of this hazardous substance is:
   _____

5. This hazardous substance will be received by:
   _____

Notification prepared by: _____

cc: Employees
Contractor
Owner
Subcontractor
Other _____

* Show request for SDS from manufacturer and date due.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Types of Materials that are Usually Hazardous

- Adhesives
- Aerosols
- Anodizing Chemicals
- Battery Fluids
- Catalysts
- Cleaning Agents (all types)
- Degreasing Agents
- Detergents
- Duplicating Machine Fluids
- Electrolytes
- Electroplating Chemicals
- Etching Baths
- Foaming Resins
- Foundry Mold Materials
- Fuels (all types)
- Industrial Oils
- Janitorial Supplies
- Lacquers
- Monomers
- Office Copier Chemicals
- Paints
- Pesticides
- Photographic Chemicals
- Photoresists
- Pickling Agents
- Printing Inks
- Process Chemicals
- Resin Ingredients
- Rubber Chemicals
- Shellacs
- Soaps
- Solvents
- Surfactants
- Varnishes
- Wastewater Treatment
- Water Treatment

Elements Whose Presence Signals Potential Hazards

- Aluminum
- Antimony
- Arsenic
- Barium
- Beryllium
- Bromine
- Cadmium
- Chlorine
- Chromium
- Cobalt
- Copper
- Fluorine
- Hafnium
- Indium
- Iodine
- Lead
- Manganese
- Mercury
- Molybdenum
- Nickel
- Platinum
- Rhodium
- Selenium
- Silicon
- Silver
- Tellurium
- Thallium
- Tin
- Tungsten
- Uranium
- Yttrium
- Zirconium

Words and Word Fragments that Signal Potential Hazards

- Acid
- Acryl
- Alcohol
- Aldehyde
- Allyl
- Amine
- Amino
- Anhydride
- Brom
- Caustic
- Chlor
- Chrom
- Cyan
- Epoxy
- Ether
- Glycol
- Hydroxide
- Isocyanate
- Ketone
- Mercaptan
- Nitrate
- Nitrile
- Nitrite
- Nitro
- Nitrous
- Perox
- Phenol
- Sulfide
- Thio
- Vinyl

Tables 2 and 3 point to materials on your inventory lists that should be considered hazard suspects. Not all hazardous materials will be located with the aid of these tables, but most will.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Potentially Hazardous Substances
Commonly Found on Construction Sites

Acetone
Acetylene Gas
Adhesives
Aluminum Etching Agent
Ammonia
Anti-freeze
Arsenic Compounds
Asbestos
Asphalt (Petroleum Fumes)
Benzene (and derivatives)
Bleaching Agents
Carbon Black
Carbon Monoxide (in cylinders)
Caulking, Sealing Agents
Caustic Soda (Sodium Hydroxide)
Chromate Salts
Chromium
Cleaners
Cleaning Agents
Coal Tar Pitch
Coatings
Cobalt
Concrete Curing Compounds
Creosol
Cutting Oil (Oil Mist)
De-Emulsifier for Oil
Diesel Gas, Diesel Oil
Drywall
Dusts (Brick, Cement Block)
Enamel
Etching Agents
Ethyl Alcohol
Fiberglass, Mineral Wool
Foam Insulation
Freon 20.R20 (and others)
Gasoline (Petrol Ethyl)
Glues
Graphite
Greases
Helium (in cylinders)
Hydraulic Brake Fluid
Hydrochloric Acid
Hydrogen (in cylinders)
Iron
Inks
Insulations
Kerosene
Lead
Lime (Calcium Oxide)
Limestone
Magnesium
Metals (Aluminum, Nickel, Copper, Zinc, etc.)
Methanol (Methyl Alcohol)
Methyl Ethyl Ketone (2-Butanone)
Motor Oil Additive
Muriatic Acid (Hydrochloric Acid)
Naphtha (Coal Tar)
Nitroglycerin
Oxalic Acid
Ozone
Paint Remover
Paint Stripper
Paints/Lacquers
Particle Board
Pentachlorophenol
Photographic Developers & Fixers
Photogravure Inc (Copy Machine)
Plastics
Polishes for Metal Floors
Propanol/Putty
Resins, Epoxy/Synthetics
Sealer
Shellac
Solder, Flux (Zinc Choride, Fluorides, etc.)
Solder, Soft (Lead, Tin)
Solvents
Sulfuric Acid
Thinner, Paint/Lacquer
Tin
Transite
Turpentine, Gum Spirit, Oil of Turpentine
Varnishes
Waterproofing Agents
Waxes
Wood Alcohol (Methanol)
Wood Preservatives
Xylene
Zinc

No representation is made that these are the only hazardous substances found on construction projects for which a contractor must have SDSs, initiate training, etc.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Medical Surveillance

The medical surveillance program is established in accordance with the Federal Occupational Safety and Health (OSHA) Hazardous Waste Operations and Emergency Response Standard 1910.120 to assure the continued health of employees assigned to hazardous waste operations. The program is administered to monitor the health of those employees whose work regularly poses the possibility of exposure to toxic materials and/or hazardous operations.

Participation: Participation in the medical surveillance program is mandatory for all personnel involved in hazardous waste site investigations who are exposed or potentially exposed to hazardous substances or health hazards at or above the established exposure levels for these substances or who wear respirators.

Other employees exposed to specific hazardous materials will be evaluated on a case-by-case study for inclusion in a medical monitoring program.

Baseline Examination: An initial or baseline exam is given to each participant prior to any work assignment involving potential exposure to hazardous materials. The exam is intended to determine that the employee will be able to perform their job without undue risk to themselves or others and to provide a baseline against which future examinations can be measured.

The exam consists of a complete medical examination designed to screen for evidence of adverse effects of occupational exposure to toxic substances or health hazards. It includes a medical and occupational history review, examination, basic blood and urine laboratory tests, and a physician's evaluation to determine the individual's fitness to perform the work. In addition, the exam shall assess the individual's ability to wear personal protective equipment. The results of the exam shall be reviewed by a physician qualified in the practice of occupational and industrial medicine to determine the individual's fitness to perform this type of work. The Human Resource Department may request to include additional tests as necessary for specific anticipated exposures as a result of discovery or during exposure assessment.

Annual Examinations: Each individual shall receive an interim medical review or periodic exam annually. These examinations are to be used for comparison with the baseline exam in order to detect any early indication of change in health status, whether work-related or of a non-occupational origin.

The interim medical review includes an interim questionnaire, updated Hazardous Materials Exposure Summary, and laboratory analysis to compare to the baseline exam. The physician may request approval from the Human Resource Department for special examination procedures for additional testing, if necessary. The interim medical review will be given the first year after the baseline exam and every other year after that.

The periodic medical exam includes a thorough examination similar to the baseline exam but does not include the EKG or chest x-ray, except where noted. The periodic medical exam will be given the second year after the baseline exam and every other year after that. For example:

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Baseline Exam (Initial)	Interim Medical Review	Periodic Medical Exam	Interim Medical Review	Periodic Medical Exam	Interim Medical Review

Baseline (Exit) Examination: Upon terminating employment or leaving the program, the employee must complete an exit examination whether or not the employee has completed any field work since their last examination.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The exit exam is identical to the initial exam except that it does not include the ability to wear a respirator test. The Human Resources Department may waive the exit exam requirement if the employee has completed a baseline or periodic medical exam within the preceding six (6) months.

If the employee refuses the baseline (exit) examination, it must be refused in writing.

Post-Exposure Examinations: Following an accidental exposure to hazardous materials, a post-exposure exam may be required. The exposed individual may request the exam, the project manager or the Manager of Human Resources. The nature of the exposure will determine the tests included in the post-exposure exam. It may include all tests performed in the baseline (initial) exam and additional tests, as necessary. In most cases, additional testing to monitor tissue damage after an exposure will be performed three or four months following the exposure. The post-exposure exam will be established on a case-by-case basis and reviewed by the medical consultant.

Notification of Examination Results: The physician shall notify the Human Resource Department of the individual's fitness to complete the work by completing the Physical Examination Summary.

The employee will be notified of the results of the examination by the medical clinic, which shall send a letter along with a copy of the laboratory test results to the employee at his/her home address. The Human Resources Department will notify the employee's supervisor of any work restrictions issued by the examining physician.

Medical Records: The original exams, x-rays, and laboratory results are kept in EXCEL's designated files in the examining physician's office. Physical examination summaries are kept in the Human Resources Department in the individual's Confidential Medical Surveillance File.

All medical records will be kept in accordance with OSHA's rule on Access to Employee Exposure and Medical Records (29 CFR 1910.20) for at least the duration of the individual's employment plus thirty years.

Medical Clinics: Medical clinics are established by the Human Resources Department. The Human Resources Department directs the clinic in medical protocol and administrative procedures. The Human Resources Department must authorize all medical protocols and administrative procedures.

Scheduling Medical Examinations: Upon notification of new employee hires and terminations, and in response to a physical examination follow-up system, a medical examination packet is sent to the employee by the Human Resource Department, instructing the employee to report to the clinic. The correct medical protocol is set up with the medical clinic beforehand by the Human Resources Department.

Hazardous Materials Exposure Report: The Human Resources Department distributes hazardous materials exposure reports to employees on a monthly basis. These reports provide an exposure record to aid in the coordination of medical monitoring.

Any injuries or potential or actual exposure are also listed in this report. In addition, the employee must complete the Employee Injury Form and submit it to the Human Resources Department.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Orientation Code of Federal Regulations 1910.20

Access to Employee Exposure and Medical Records

I. THIS REGULATION EXPLAINS THE FOLLOWING INFORMATION:
   A. To provide employees and their designated representatives the right of access to relevant exposure and medical records.

II. IT GOES ON TO GIVE DEFINITIONS OF TERMS SUCH AS:
   A. Employer
   B. Employee
   C. Designated Representative
   D. Time periods of recordkeeping
   E. Physician
   F. Employee exposure record
   G. Employee medical record
   H. Health Professional
   I. Record
   J. Specific chemical identity
   K. Specific written consent
   L. Toxic substance
   M. Trade secret
   N. Health Insurance
   O. First Aid Record
   P. Analyses using exposure or medical records
   Q. Requester
   R. Procedure
   S. OSHA access

III. THE REGULATION IS VERY COMPLEX.
   A. It is designed for your protection.
   B. Should you want to cover it in detail, I will be available to let you read and discuss the regulation.
   C. The regulation can be found in the EXCEL site office.

IV. THIS IS A BRIEFING OF THE HIGHLIGHTS.
   A. I will ask you to sign a form stating that you were made aware of the regulation and its major components.
   B. You will also be signing that you have been made aware of the location of the regulation and that you have had all questions answered to your satisfaction.

_____ _____
Employee Signature Date

_____ _____
Company Representative Signature Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Personal Air Monitoring

Objective

- This Standard Operating Procedure provides the minimum procedures to be followed when conducting personal monitoring at hazardous waste operations sites.

Applicability

- This procedure applies to all employees and onsite hazardous waste operations covered by the EXCEL Health and Safety Program.

References

- OSHA, Technical Manual, Volume V1. OSHA 3058, Chapter 1 - Personal Sampling for Air Contaminants, 1990 (provided on the following pages).

Responsibilities

- The Human Resource Department is responsible for auditing for adherence to procedures during field operations unless such authority is delegated.
- The Human Resource Department is responsible for ensuring that all onsite personnel are aware of such monitoring requirements and that all personnel have the knowledge to perform operations necessary to conduct such monitoring.
- The Human Resource Department shall implement this SOP onsite.
- The Human Resource Department is responsible for the performance of onsite personal monitoring and the reporting that accompanies it.

Procedure

- Personnel air monitoring shall be performed to identify and quantify airborne levels of hazardous substances in order to evaluate the appropriate level of employee protection needed onsite. It is also performed to determine if additional medical monitoring is needed and if a change in work practices or engineering controls is needed.
- Personal monitoring shall be conducted on job functions with the potential for exposure to hazardous atmospheres or, if monitoring data is available, when personnel may be exposed to airborne contaminants greater than 25% of the individual PEL.
- Personal monitoring shall focus on the potentially highest exposed employees in each job classification. Sampling shall be representative of that job classification.
- Sampling shall be sufficient to determine a time-weighted value in accordance with the appropriate OSHA or NIOSH standard.
- The OSHA Technical Manual procedures shall be followed for personal air sampling. OSHA or NIOSH analytical methods shall be used.
- Employees shall be notified in writing within 5 days after receipt of the results of their monitoring, and copies shall be maintained with the employees' monthly exposure records. For any results above PELs, specific corrective action measures must be included and implemented onsite.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Exposure Assessment

		YES	NO
1.	Has the work area been clearly defined?	_____	_____
2.	Have permits been issued?	_____	_____
3.	Have all sampling test results been reviewed?	_____	_____
4.	Is adequate PPE in place?	_____	_____
5.	Are all persons trained for PPE use?	_____	_____
6.	Have all persons been trained for Hazardous Material Recognition?	_____	_____
7.	Are SDSs available and have they been reviewed?	_____	_____
8.	Has all necessary documentation been completed?	_____	_____

9. Which hazards exist?

_____

_____

_____

_____

10. Who will monitor exposure?
    - [ ] Client/Owner
    - [ ] contractor
    - [ ] Other: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RESPIRATORY PROTECTION PROGRAM

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The program will provide the procedure for proper selection, use, and care of the respiratory equipment. This program will provide maximum protection to the employee and will meet most respiratory protection requirements, as listed in Exhibit I – 29 CFR 1910.134 Respiratory Protection, found at the end of this section.
- This program shall not be used as a substitute for accepted engineering control measures against air contaminants.
- Respirators shall be worn at all times where work is necessary in contaminated or oxygen-deficient areas.
- Employees shall use the provided respiratory protection in accordance with the instructions received. Medical, respirators, and training will be provided free to the employee.
- Employees shall not be assigned to tasks requiring the use of respiratory equipment unless a qualified physician has determined that they are physically able to perform the work while using the equipment. Employees will complete the Medical Questionnaire for Respiratory Users found at the end of this section.
- Respirators certified by NIOSH/MSHA must be used to ensure the maximum amount of respiratory protection.
- Respirators shall be used only for the purpose for which they were originally intended and shall not be modified in any way.
- Air purifying respirators shall not be used for rescue work or for emergency work for the following reasons:
    - These respirators do not supply oxygen and do not protect against possible oxygen deficiencies.
    - Gas masks are for use with no more than 2% by volume of most toxic gases.
    - Chemical cartridge respirators are intended for use in a toxic gas range, having a maximum of 0.05% to 1%.
- Canisters and cartridges shall be specifically selected for gas and concentrations that may be encountered.

SELECTION OF A RESPIRATOR

- The following are to be considered:
    - Nature of hazard
    - Extent of the hazard
    - The contaminants present and concentrations
    - Characteristics and limitations of respirators
    - The expected activity of the worker
- For emergency entry into an immediately dangerous to life and health (IDLH) atmosphere, units rated for at least 30 minutes shall be used
  Only the following respiratory protective apparatus shall be used in oxygen-deficient atmospheres or when the contaminant is immediately dangerous to life:
    - Self-contained breathing apparatus (SCBA)
      A combination airline respirator and self-contained breathing apparatus
    - Hose mask with blower

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Self-contained breathing apparatus shall have a "remaining service life" indicator or warning for compressed breathing air.
- When the device is a combination of a self-contained breathing apparatus and an airline respirator, either a manual or automatic valve shall be provided to change to the self-contained air supply if the airline supply fails.
- Where a contaminant level may be higher than the designated level for an air-purifying respirator, an airline respirator will be provided.

RESPIRATOR USAGE

- An effective seal between the face and facepiece to prevent inward leakage must be obtained. Air-purifying respirators, along with demand-type respirators, operate under negative pressure when the wearer inhales, and some inward leakage may be possible.
- If temple bars of eyeglasses extend through the sealing edge of a full face mask, a proper seal cannot be made.
- The wearer's use of spectacles or goggles shall not interfere with a half-mask facepiece.
- A respirator equipped with a facepiece shall not be worn if facial hair comes between the sealing periphery of the facepiece and the face or if facial hair interferes with valve function. The wearer of a respirator equipped with a full facepiece, helmet, hood, or suit shall not wear contact lenses. If a spectacle, goggles, face shield, or welding helmet must be worn with a facepiece, it shall be worn so as not to affect the seal of the facepiece to the face adversely.
- Where respirators are required, some communication must be established.
- Anti-fog compounds should be used to coat the inside of the facepiece to help prevent fogging up in low temperatures.
- Hoses to supply air should be selected to resist chemicals.
- Pure oxygen shall not be used in supplied air respirators. Air must be grade B or better. The compressor is located in a "clean" atmosphere, with in-line purification, and is tagged to indicate date or changeout. Carbon monoxide monitors are in place and set to alarm at 10 PPM or monitored frequently. Fittings are incompatible for non-respirable gases and containers.
- Although self-contained breathing apparatus have no concentration limit, many toxic gases are flammable. Working in or near a flammable range of a gas or vapor is prohibited.
- Each respirator wearer shall be provided with a respirator fitted in accordance with procedures described on the Medical Questionnaire for Respirator Users. Each respirator wearer shall be required to check the seal of the respirator by appropriate means prior to entering a harmful atmosphere.

MAINTENANCE AND STORAGE

- A centralized maintenance, cleaning, and storage station is most desirable to care for respiratory protective equipment.
- Inspection shall be conducted and recorded on a weekly basis on all air-purifying respirators.
- Self-contained breathing apparatus shall be inspected and recorded monthly. This must be done before each use and during a period of storage.
- When replacing worn or deteriorated parts, only those made specifically for the device shall be used, and all maintenance and repair work shall be recorded.
- Air-purifying cartridges should be replaced according to the schedule for the job or at the first trace of contaminant odor in the respirator.
- Respirators issued for the exclusive use of one worker shall be cleaned after each day's use or more often if necessary. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.
- Respirators shall be stored in a convenient, clean, and sanitary location in a protective plastic bag.
- Special procedures for maintaining, cleaning, disinfecting, and storing respirators are as follows:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Self-contained breathing apparatus: Cylinder pressure should be checked at least monthly and brought to rated pressure, if necessary. SCBA shall be recharged after each use.
- Hose masks: Check the blower at least monthly for proper operation. Check hose wear and tear after each use and steam clean when necessary. Keep the hose capped when not in use to prevent entrance of contaminants.
- Airline respirators: The complete system should be checked after each use.
- Self-rescuers: Frequent inspection is the most important phase of the maintenance program with this type of equipment, for it must always be ready even though seldom used.
- Chemical cartridge respirators: Cartridges shall be changed when the wearer detects an odor or the irritating effect of the contaminant. In most cases, the wearer is responsible for discarding and replacing cartridges in his respirator. Respirators issued to individuals should be marked with the individual's name and/or badge number.
- Mechanical filter respirators: Filters of the "throw-away" type should be discarded when breathing resistance becomes bothersome to the wearer. Some mechanical filter respirators use re-cleanable filters, in which case the filters are cleaned at the same time the respirator is being serviced.

TRAINING AND RECORDKEEPING

- Training the worker in the proper use and limitations of any respirator shall be completed by a responsible person before an employee is required to use one. A record of this shall be kept on file.
- Initial training and annual training shall include discussions of (1) the respiratory hazards and what happens if the respirator is not used properly; (2) the engineering and administrative controls being used and the need for respirators to provide protection; (3) the reason for selecting a particular type of respirator; (4) the function, capabilities, and limitations of the selected respirator; (5) the method of donning the respirator and checking the fit and operation; (6) the proper wearing of the respirator; (7) respirator maintenance; and (8) recognizing and handling emergencies.
- The Safety department shall be the administrator of the program. The administrator shall be knowledgeable of the complexity of the program, conduct evaluations, and be properly trained.
- The program administrator must address appropriate surveillance and ensure the employees leave the area to wash or change cartridges if they detect break-through or resistance.
- To verify written program effectiveness, employees must be asked about fit, selection, use, maintenance, etc.

MEDICAL EXAMINATIONS

- Medical examinations for persons who use respirators must comply with Section 1910.134 (b) (10), which states that "persons should not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work and use the equipment." The local physician shall determine what health and physical conditions are pertinent. The respirator users' medical status should be reviewed periodically (for instance, annually).

AIR QUALITY

- Requirements for air supply and air compressors for air-supplied respirators:
  - Air supply shall be free of harmful quantities of contaminants.
  - Compressed oxygen shall not be used in supplied-air respirators or in open-circuit, self-contained breathing apparatuses that have previously used compressed air. Oxygen must never be used with airline respirators.
  - Breathing air may be supplied to respirators from cylinders or air compressors. Cylinders must have a sticker to indicate "Certified Breathing Air" and the date.
  - The compressor that is supplying the air shall be equipped with necessary safety and standby devices. A breathing air type compressor shall be situated so as to avoid entry of

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

contaminated air into the system. An alarm shall also be installed to indicate imminent compressor failure and/or overheating. If an oil-lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm to ensure that the air supply meets the specifications.
    - Air-purifying absorbent filters (water traps) shall be installed between the compressor and the user.
    - Carbon monoxide monitoring should be by in-line, continuous audio/visual alarm. However, if this is not possible, then manual CO testing (Drager Hand Pump, "Deadstop Detector," etc.) must be done at least twice daily -- once at the beginning of a job and also after a lunch break.
    - Users must be instructed to stop operations if they experience difficulty in breathing, smell any unusual odors, or experience an ill feeling such as a headache or upset stomach, etc.

AIR RECEIVERS GENERAL REQUIREMENTS

- All new air receivers installed shall be constructed in accordance with the current edition of the ASME Boiler and Pressure Vessel Code Section VIII.
- Installation and Equipment requirements:
    - Installation: Air receivers shall be installed so that all drains, handholes, and manholes therein are easily accessible. Air receivers should be supported with sufficient clearance to permit a complete external inspection and to avoid corrosion of external surfaces. Under no circumstances shall an air receiver be buried underground or located in an inaccessible place. The receiver should be located as close to the compressor or after-cooler as possible in order to keep the discharge pipe short.
    - Drains and trap: A drain pipe and valve shall be installed at the lowest point of every air receiver to provide for the removal of accumulated oil and water. Adequate automatic traps may be installed in addition to drain valves. The drain valve on the air receiver can be completely drained to prevent the accumulation of excessive amounts of liquid in the receiver.
    - Gauges and valves: Every air receiver shall be equipped with an indicating pressure gauge readily visible and with one or more spring-loaded safety valves. The total capacity of such safety valves shall be such as to prevent pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by no more than 10 percent.
- No valve of any type shall be placed between the air receiver and its safety valves.
- Safety appliances such as safety valves, indicating devices and control devices shall be constructed, located, and installed so that they cannot be readily rendered inoperative by any means, including the elements.
- All safety valves shall be tested frequently and at regular intervals to determine if they are in good operating condition.

WELDING OPERATIONS

- General welding, cutting, and heating involving unconfined spaces or metals that are not toxic can normally be performed without mechanical ventilation or respiratory protective equipment.
- General mechanical or local exhaust ventilation shall be provided whenever welding, cutting, or heating is performed in a confined space.
- Welding, cutting, or heating of metal of toxic significance:
    - Welding, cutting, or heating in any enclosed space involving the metals listed below will be performed with either general mechanical or local exhaust ventilation.
        - Zinc-bearing base or filler materials or metals coated with zinc-bearing materials
        - Cadmium-bearing filler materials
        - Chromium-bearing metals or metals coated with chromium-bearing metals

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Welding, cutting, or heating in any enclosed space involving the metals listed below will be performed with effective local exhaust ventilation, or employees shall be protected with airline respirators.
    - Metals containing lead other than as an impurity or metals coated with lead-bearing materials
    - Cadmium-bearing or cadmium-coated base metals
    - Metals coated with mercury-bearing metals
    - Beryllium containing base or filler metals (Note: Because of its high toxicity, both local exhaust and airline respirators are required when working with beryllium.)
- Welding, cutting, or heating of toxic metals (as described above) done in unconfined spaces (open air) can be performed using 3M #9920 filter-type respirators or any approved toxic fume and dust filter-type respirator.
- Inert gas metal arc welding shall not be performed within 200 feet of where any chlorinated solvent is being used.
- Zep safe/solv is a chlorinated solvent and will release toxic fumes and gases when exposed to ultraviolet radiation.
- In enclosed spaces, all surfaces covered with toxic preservative coatings shall be stripped a distance of at least four (4) inches from the area of heat application, or airline respirators shall be used.
    - In open air, filter-type respirators may be used.

SPRAY PAINTING OPERATIONS

- When health hazardous substances used in spray coatings are in a combination of particulate matter and gases or vapors, the respiratory protector shall contain both a mechanical filter and an absorbent.
    - All employees spray painting in areas where the contaminant concentrations are expected to be extremely high shall be provided with an airline respirator or a fresh air hood.
    - Any employee who enters or works in a spray painting area shall wear appropriate respiratory protection.
- Respirators shall be maintained in a sanitary condition. The filtering and the absorbent materials shall be changed as often as necessary to provide the wearer with adequate protection.
- Where spraying is done in room booths, in open shops, or the open, the employer should provide non-drying oil or barrier creams for the workers for the purpose of anointing exposed parts of the body during spraying operations.
- The health of persons doing spray coating may be jeopardized by inhaling such substances as lead, poisonous solvents, especially benzol, or finely divided siliceous material. To render complete protection to spray operators from these hazards, employees should be given a thorough physical examination to determine if this type of work would hamper their health or if they can or cannot wear respiratory equipment.
- Due to the "anesthetic" nature of most modern-day paints and thinners, all mixing and cleaning must be done in well-ventilated outdoor atmospheres.
    - If this is not possible, adequate respiratory protection is required.
    - At no time will paint mixing or parts cleaning be performed in confined spaces.
- All paint storage buildings must have explosion-proof lights.
- Adequate hand washing facilities must be provided with paint-removing products that will prevent the need to use thinner to wash skin.

SANDBLASTING OPERATIONS

- Sandblasting operations must only be attempted by experienced persons, and remember the following points:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Machines and hoses must be inspected daily and replaced immediately upon signs of excessive wear.
- Nozzles and hose joints must be connected with external metallic connectors, which will prevent accidental displacement.
- The blast nozzle shall be bonded and grounded to prevent the buildup of static charge.
- A remote control "dead man" valve must be provided on the nozzle and be functional at all times.
- Operators shall be provided with heavy canvas or leather gloves and aprons. Safety shoes should also be worn.
- The operator must wear earplugs under his hood, and vortex cooling tubes should be considered during hot weather.
- A change shack or other dust-free area should be provided for breaks and changing.
- Compressed air shall not be used for cleaning purposes except where it is reduced to less than 30 psi and only with effective chip guarding and personal protective equipment.
- Eye, face, respiratory, and hearing protection must be provided and used by all persons working in the sandblast area.
- The blasting should be done in a specified zone where dust is visible, and the area should be roped off with signs reading: "CAUTION - SANDBLASTING AREA - EYE, HEARING, AND RESPIRATORY PROTECTION REQUIRED BEFORE ENTERING."
- Where flammable or explosive dust mixtures may be present, the construction of the equipment, including the exhaust system and all electrical wiring, shall conform to the requirements of the American National Standard Installation of Blower and Exhausts Systems for Dust, Stock, and Vapor Removal.
- If a practical substitute with less health hazard than silica sand can be found, it should be used. However, substitute with caution.
  - Expensive silica sand substitutes are reused, and an accumulation of toxic dust from paints and coatings may present additional hazards.
- The sandblasting operator must be supplied with a fresh air hood designed for sandblasting operations and:
  - Be equipped with a vortex cooling tube
  - Have no visible dust leaks
  - The operator is required to wear hearing protection

SUGGESTED PROCEDURES FOR CARRYING OUT QUALITATIVE RESPIRATOR-FITTING TESTS

- Irritant Smoke Test
  - The irritant smoke test can be used for both air-purifying respirators and atmosphere-supplying respirators. When an air-purifying respirator is tested, it should be equipped with a high-efficiency filter. The irritant smoke is produced by air flowing through a commercially available smoke tube normally used to check the performance of ventilation systems. Ventilation should be provided when carrying out a test to prevent contaminating the room where the test is carried out with smoke. The respirator wearer should keep his eyes closed during the test, even if the respirator offers eye protection. If the respirator wearer detects the penetration of the smoke into the respirator during the test, the wearer should be permitted to readjust the seal of the respirator. The test operator operates the smoke tube to direct the smoke over the respirator, keeping the smoke tube about two feet from the respirator and watches the reactions of the respirator wearer. If the respirator wearer does not detect penetration of smoke into the respirator, the test operator moves the smoke tube closer to the respirator and observes the reactions of the respirator wearer. When the smoke tube has been moved to within six inches of the respirator, and the respirator wearer still has not detected penetration of smoke into the respirator, the smoke may be directed at potential points of leakage in the seal of the respirator to the wearer. If the respirator wearer still does not detect penetration of the smoke into the respirator, the wearer should

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

carry out a series of exercises such as deep breathing, turning the head from side to side, nodding the head up and down, and talking while smoke is directed at the respirator. If the respirator wearer is unable to detect the penetration of smoke into the respirator, the wearer has achieved a satisfactory fit with the respirator.

- Odorous Vapor Test
    - The odorous vapor test can be used for both air-purifying respirators and atmosphere, supplying respirators. When an air-purifying respirator is tested, it should be equipped with a cartridge or canister that removes the test vapor from the air. An odorous material commonly used in the test is isoamyl acetate. If isoamyl acetate is employed as the test agent, an air-purifying respirator should be equipped with an organic vapor cartridge or canister. The simplest means of carrying out the test is to saturate a piece of fabric or sponge with liquid isoamyl acetate or to fill a stencil brush with liquid isoamyl acetate and then move the fabric, sponge, or stencil brush around the respirator worn by a person. The fabric, sponge, or stencil brush should be passed close to the potential points of leakage in the seal of the respirator while the wearer carries out exercises such as normal breathing, deep breathing, turning head from side to side, nodding head up and down, and talking. If the respirator wearer detects the odor of isoamyl acetate vapor during the test, the wearer should be permitted to readjust the seal of the respirator. If the respirator wearer is unable to detect the odor of isoamyl acetate vapor, the wearer has achieved a satisfactory fit with the respirator.
    - An improved qualitative respirator-fitting test using isoamyl acetate vapor as the test agent may be carried out using a hood, chamber, or room containing a known concentration of isoamyl acetate in the air. The concentration of isoamyl acetate vapor in air commonly used is 100 parts per million by volume. The respirator wearer enters the enclosure containing the test atmosphere and carries out a series of exercises such as normal breathing, deep breathing, turning the head from side to side, nodding the head up and down, and talking. If the respirator wearer detects the odor of isoamyl acetate vapor during the test, the wearer should be permitted to readjust the seal of the respirator. If the respirator wearer is unable to detect the odor of isoamyl acetate vapor, the wearer has achieved a satisfactory fit with the respirator.
    - The use of isoamyl acetate vapor as a test agent has the following two major drawbacks: the odor threshold varies widely among persons, although most persons can detect by odor a concentration of isoamyl acetate vapor in the air as low as 0.1 parts per million by volume; and olfactory fatigue may cause a person to fail to detect the odor of a low concentration of isoamyl acetate vapor in the air. Since the odorous vapor test is subjective, the validity of the test result depends on honest indication by the respirator wearer as to whether or not an odor was detected during the test.

RECOMMENDED PROCEDURES FOR FIELD TESTING THE SEAL OF THE RESPIRATOR TO THE WEARER

- The seal of a respirator to a wearer can be tested in the field by procedures recommended by respirator manufacturers or by any of the following tests:
    - Irritant or Odorous Test Agent
        - The person wearing a respirator is exposed to an irritant smoke, odorous isoamyl acetate vapor, or other suitable test agent easily detectable by irritation, odor, or taste (an air-purifying respirator must be equipped with the appropriate air-purifying element). If the respirator wearer is unable to detect the penetration of the test agent into the respirator, it can be reasonably assured that the seal of the respirator to the wearer is satisfactory.
    - Negative-Pressure Sealing Test
        - A negative-pressure respirator sealing test can be used on air-purifying respirators equipped with tight-fitting respiratory-inlet coverings and on atmosphere-supplying

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

respirators equipped with tight-fitting respiratory-inlet coverings and breathing tubes which can be squeezed or blocked at the inlet to prevent the passage of air. This test may be difficult or impossible to carry out on valveless respirators. The inlet opening of the respirator's canister(s), cartridge(s), or filter(s)is closed off by covering with the palm of the hand(s), by replacing the inlet seal on canister(s), or by squeezing a breathing tube or blocking its inlet so that it will not allow the passage of air. Then, the wearer inhales gently and holds his breath for at least 10 seconds. If a facepiece collapses slightly and no inward leakage of air into the facepiece is detected, it can be reasonably assured that the fit of the respirator to the wearer is satisfactory. For a respirator equipped with a mouthpiece and nose clamp, if leakage of air into the nose or mouth cannot be detected, then it can be reasonably assured that the fit of the respirator to the wearer is satisfactory.

- Positive-Pressure Sealing Test
  - A positive-air-pressure test can be used on respirators equipped with tight-fitting respiratory-inlet coverings that contain both inhalation and exhalation valves. This test may be difficult or impossible to carry out on valveless respirators. The exhalation valve, breathing tube, or both is closed off and then the wearer exhales gently. The fit of a respirator equipped with a facepiece is considered to be satisfactory if a slight positive pressure can be built up inside the facepiece without the detection of any outward leakage of air between the sealing surface of the facepiece and the respirator wearer's face. The fit of a respirator equipped with a mouthpiece and nose clamp is considered satisfactory if the respirator wearer senses a buildup of positive pressure and is unable to detect any outward leakage of air through the nose and in the area between the mouth and the mouthpiece. For some respirators, this test method requires that the respirator wearer first remove an exhalation cover from the respirator and then replace it after the completion of the test. These tasks often are difficult to carry out without disturbing the fit of the respirator to the wearer.
- Warning Concerning Negative-Pressure and Positive-Pressure Sealing Tests
  - Care must be taken in carrying out a negative-pressure or positive-pressure sealing test; otherwise, the results of the sealing test may be unreliable. Thorough training in carrying out these tests should be given to respirator wearers.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Medical Questionnaire for Respirator Users

Name: _____ Social Security #: _____

Project: _____

Date: _____ Age: _____ Height: _____ Weight: _____

Have you ever worn a respirator before? _____ Yes _____ No

If YES, describe any apparent difficulties noted with respirator use:

_____

_____

_____

Have you had or do you now have any of the following:

		YES *	NO
1.	Lung disease		
2.	Persistent cough		
3.	Heart trouble		
4.	Shortness of breath		
5.	History of fainting or seizures		
6.	High blood pressure		
7.	Diabetes		
8.	Fear of tight or enclosed places		
9.	Sensation of smothering		
10.	Heat exhaustion or heat stroke		
11.	Ruptured eardrum		
12.	Defective vision		
13.	Defective hearing		
14.	Contact lenses or glasses		
15.	Other conditions that might interfere with respirator use or result in limited workability		
16	Are you taking any medications?		

* Please explain YES answers:

_____

_____

_____

_____

_____

Employee Signature

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Monthly Inspection Log of Respiratory Protective Equipment
OSHA Regulations 1910.134

Job No.: _____

DATE	EQUIPMENT INSPECTED	DISCREPANCIES	NO.	CORRECTIVE ACTION

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Supplied Air Respirators Suggested Daily Checklist

Employee: _____

Week of _____ to _____

	M	T	W	T	F	S	S
1. Correct type respirator							
2. Employee trained in use							
3. Respirator individually assigned							
4. Respirator checked for defective parts							
5. Respirator cleaned and disinfected							
6. Stored in an uncontaminated area							
7. Respirator checked for proper fit							
8. Airline couplings checked							
9. Rate of flow checked							
10. Uncontaminated air supply							
11. No contact lens permitted							

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BLOODBORNE PATHOGENS

SCOPE

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- This procedure applies to all occupational exposure to blood or other potentially infectious materials as defined within this procedure.

PURPOSE

- To establish as a standard those work practices considered necessary to safely handle blood and other materials that may have the presence of human pathogenic organisms.

DEFINITIONS

- Bloodborne Pathogens: Pathogenic (disease-causing) microorganisms that are present in blood and can cause disease in humans. These pathogens include, but are not limited to, Hepatitis A Virus (HAV), Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), and Human Immunodeficiency Virus (HIV).
- Contaminated: Presence or anticipated presence of blood or other potentially infectious material on an item or surface.
- Contaminated Sharps: Any contaminated object that can penetrate the skin. Some examples include needles, scalpels, and broken glass.
- Decontamination: The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on an item to the point where the item is rendered safe for handling, use, or disposal.
- Engineering Controls: Controls that isolate or remove the bloodborne pathogens hazard from the workplace. One example would be a sharps container.
- Exposure Incident: A specific eye, mouth, or mucous membrane or parenteral (piercing the skin or mucous membrane) contact with blood or potentially infectious materials resulting from the performance of an employee's duties.
- HAV: Hepatitis A Virus.
- HBV: Hepatitis B Virus.
- HCV: Hepatitis C Virus.
- HIV: Human Immunodeficiency Virus.
- Occupational Exposure: Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or potentially infectious materials that may result from the performance of an employee's duties. Examples would include medical personnel activities, First Responder activities at an accident, or safety staff working on site. This does not include employees who are not designated emergency responders but who might incidentally provide first aid in a Good Samaritan situation.
- Potentially Infectious Materials: The following human body fluids or materials potentially contaminated with the following body fluids: blood, semen, vaginal secretions, cerebrospinal fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, and any body fluid visibly contaminated with blood. This would not include nasal secretions, sputum, sweat, tears, saliva, urine, feces, or vomitus unless they contain visible blood.
- Universal Precautions: An approach to infection control in which all human blood and potentially infectious materials are treated as if known to be infectious for HBV, HCV, HIV, and other bloodborne pathogens.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Work Practice Controls: Alerting the manner in which a task is to be performed in order to reduce the likelihood of exposure (i.e., prohibiting the recapping of needles).

POLICY

- It is the policy of THE COMPANY to minimize, to the fullest extent possible, the occupational exposure of all THE COMPANY health care workers to Hepatitis A Virus (HAV), Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), and Human Immunodeficiency Virus (HIV) infections and other communicable bloodborne pathogens.

REGULATORY BACKGROUND

- Healthcare workers are at an increased risk of communicable bloodborne and other diseases, including Hepatitis A Virus (HAV), Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), and Human Immunodeficiency Virus (HIV) infections.
- The Federal Occupational Safety and Health Administration (OSHA) Final Rule Governing Occupational Exposure to Bloodborne Pathogens (29 CFR 1910.1030, Dec. 6, 1991) is addressed to healthcare facilities, including health units in the industry, as well as non-volunteer fire and rescue squads.
- The standard is designed to reduce occupational exposure to human blood and certain body fluids and tissues that are potentially infectious for HBV, HIV, and other bloodborne pathogens.
- Under the authority of Public Law 100-607, The Health Omnibus Programs Extension Act of 1988, Title II, Programs with Respect to Acquired Immune Deficiency Syndrome (AIDS Amendments of 1988), the Centers for Disease Control (CDC) has issued "Guidelines for Prevention and Transmission of Human Immunodeficiency Virus, Hepatitis B Virus and Hepatitis C Virus to Health Care and Public Safety Workers."

EXPOSURE DETERMINATION

- Employees who have designated occupational health care responsibilities are considered to have occupational exposure and shall be included in the Company's Bloodborne Pathogens Exposure Control Plan. Employees in this category include, but are not limited to, the following classifications:
  - Registered Nurse
  - Paramedics
  - EMT's
  - Laboratory Technicians
- Listed below are job classifications in which some employees may have occupational exposure:
  - Safety Manager
  - Safety Supervisor
  - First Responders
  - Occupational Health Services Administrator
- Personal protective equipment shall be provided by the company and worn by all employees who are considered at risk. However, exposure determination shall be made without regard to the use of personal protective equipment. The procedures that could result in potential exposure include:
  - Venipunctures
  - Administering parenteral medications or vaccines
  - Emergency management of injuries
  - Urine Sample Collection
  - Laboratory diagnostic screening procedures
  - Any other procedures involving exposure to blood or other body fluids
- The likely places of exposure to potentially infectious material include:
  - The occupational health services treatment area
  - Any injury emergency scene
  - First aid treatment areas on job sites
  - Diagnostic Screening Laboratories

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

UNIVERSAL PRECAUTIONS

- The Occupational Health Services staff and onsite first aid providers shall follow universal precautions as recommended by the CDC. A summary of Universal Precautions for all Patients by Procedure is listed at the end of Section 8.5.
- All human blood and other body fluids (including urine), possibly contaminated with blood, will be considered potentially infectious for HBV and HIV.

EDUCATION AND TRAINING

- The company shall provide training about bloodborne pathogens to all employees covered by the 1910.1030 standard at the time of employment. All training required by this standard shall be conducted at no cost to the employee and during working hours. This training shall include all of the elements listed in the Bloodborne Pathogens Training Outline found at the conclusion of Section 6.5.
- The company shall also conduct an annual in-service training for all covered employees concerning the prevention of communicable diseases, emphasizing bloodborne diseases. Topics to be discussed include clinical and epidemiological information about infectious disease, specific measures to reduce the risks of exposure, the OSHA Rule on Bloodborne Pathogens, and the Company's Bloodborne Pathogens Exposure Control Plan. This training shall also include an opportunity for interactive questions and answers with the instructor.
- A record of each training session, the date and contents of the session, the name of the persons who conducted the training, and names and Social Security numbers of employees who attended shall be kept for three (3) years.

HEPATITIS B SCREENING

- Persons considered at risk shall be offered the test for antibody to HBV surface antigen (HBsAg) using an accredited laboratory. When employees have received the training outlined in this document and within 10 working days of initial assignment, HBV vaccinations shall be offered to all employees occupationally exposed, as part of their job duties, to blood or other materials potentially infectious for HBV, unless the employee has had a previous HBV vaccination or unless antibody testing has revealed that the employee is immune or the vaccine is contraindicated for medical reasons. If the employee initially declines HBV vaccination but at a later date, while still covered under this document, decides to accept the HBV vaccine, it shall be provided at that time.
- Should a booster dose(s) be recommended at a future date, such booster dose(s) shall also be provided. If an employee declines to accept vaccination when offered, he will sign the statement of the Hepatitis Declination Form found at the end of Section 8.5.
  An employee who has not received an immunization series with HBV vaccine or who has no detectable antibody to HBsAg is considered susceptible to HBV infection. An HBV-susceptible employee shall be offered a company-provided Hepatitis B immunization series (HBV vaccine at zero, one, and six months) by a physician or health care provider chosen by the company.

HEPATITIS C PRECAUTIONS

- The following people are at increased risk for hepatitis C:
  - People with HIV infection
  - Current or former people who use injection drugs (PWID), including those who injected only once many years ago
  - People with selected medical conditions, including those who ever received maintenance hemodialysis
  - Prior recipients of transfusions or organ transplants, including people who received clotting factor concentrates produced before 1987, people who received a transfusion of blood or blood components before July 1992, people who received an organ transplant before July

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1992, and people who were notified that they received blood from a donor who later tested positive for HCV infection
    - Health care, emergency medical, and public safety personnel after needle sticks, sharps, or mucosal exposures to HCV-positive blood
    - Children born to mothers with HCV infection
- HCV is transmitted primarily through parenteral exposures to infectious blood or body fluids that contain blood. Possible exposures include:
    - Injection-drug use
    - Birth to an HCV-infected mother
- Although less frequent, HCV can also be spread through:
    - Sex with an HCV-infected person (an inefficient means of transmission, although HIV-infected men who have sex with men [MSM] have increased risk of sexual transmission)
    - Sharing personal items contaminated with infectious blood, such as razors or toothbrushes
    - Other healthcare procedures that involve invasive procedures, such as injections (usually recognized in the context of outbreaks)
    - Unregulated tattooing
    - Receipt of donated blood, blood products, and organs (rare in the United States since blood screening became available in 1992)
    - Needlestick injuries in healthcare settings
- Routine periodic testing is recommended for people with ongoing risk factors while risk factors persist, including those who currently inject drugs and share needles, syringes, or other drug preparation equipment, along with people who have certain medical conditions (e.g., people who ever received maintenance hemodialysis). Testing of people at risk should occur regardless of setting prevalence.

INCIDENT INVESTIGATION

- Exposure incidents must be reported immediately to the exposed employee's supervisor, who must then immediately report the exposure to the Safety Manager. The Safety Manager must contact the Safety Department and promptly conduct an exposure incident investigation that documents the following information:
    - The circumstances surrounding the exposure incident.
    - The likely route(s) of entry.
    - Engineering controls were in place at the time of the incident.
    - Work practice controls were in place at the time of the incident.
    - Personal protective equipment or clothing in use at the time of the incident.
    - Any failures of the above controls at the time of the incident.
    - Identification of the source individual.
    - The exposed employee's training and vaccination records.

POST-EXPOSURE EVALUATION

- If an employee has a parenteral or mucous membrane exposure to blood or another potentially infectious body fluid, the route and circumstances of exposure should be identified and, if possible, the source material should be tested for the presence of HIV antibody and HBsAg after obtaining any necessary informed consent, using an accredited laboratory. The employee shall be counseled by a licensed physician regarding the risk of HIV infection and shall be advised to report and seek medical evaluation of any acute exposure. All testing and counseling shall be undertaken with confidentiality and at no cost to the employee.
- If the exposure and source material is positive for HIV antibody or is not available for examination, the employee shall be re-tested six months and one year after the initial test. All testing and counseling shall be undertaken with confidentiality and at no cost to the employee.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- If the exposure source material is negative for HIV antibody, the employee may be re-tested three months after the initial test. All testing and counseling shall be undertaken with confidentiality and at no cost to the employee.

- Following a parenteral or mucous membrane exposure to blood or other potentially infectious body fluid, a Hepatitis B susceptible employee shall be referred to a licensed physician or health care provider chosen by the company to receive a Company provided Hepatitis B immunization series. The employee shall be evaluated clinically and counseled by the physician regarding the risk of infection. If the exposure source material is positive for HBsAg or is not available for examination, the employee shall also be provided HBV Immune Globulin if given within one week of the exposure. A summary of Hepatitis B Immunoprophylaxis measures is listed at the end of Section 8.5. All testing and counseling shall be undertaken with confidentiality and at no cost to the employee.
- Piercing mucous membranes or the skin barrier through such events as needlestick, humane bites, cuts, and abrasions.
- If the source material is positive for HBsAg or is not available for examination, a previously immunized employee shall be counseled by a licensed physician regarding the infection. The employee shall be evaluated clinically and tested for antibodies to HBsAg. If immunity is inadequate, the employee shall be offered one dose each of HBV vaccine and Immune Globulin by the company physician. All testing and counseling will be undertaken with confidentiality and at no cost to the employee.
- If the source material is negative for HBsAg, a previously immunized employee shall be counseled by a licensed physician regarding the risk of HBV infection and evaluated clinically.
- For each post-exposure evaluation, the company shall obtain and provide to the affected employee a written report concerning the physician's recommendations, including the employee's ability to receive the Hepatitis B vaccine and medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment, and specific findings and diagnosis. The company shall provide the employee with this report within fifteen (15) days of the completion of the physician's evaluation.
- Corporate Safety Management shall maintain a confidential medical record for each exposed employee. The record shall include the employee's name and Social Security number, a copy of the employee's HBV vaccination records, information concerning the employee's ability to receive the HBV vaccine, and information and data related to any HBV or HIV exposure. Also, the activity the worker was engaged in at the time of exposure, the extent to which appropriate work practices and protective equipment were used, and a description of the exposure source. This record shall be maintained for at least the duration of employment plus thirty (30) years.
- Corporate Safety Management shall ensure that all records required by this section shall be made available upon request of employees, the Assistant Secretary, and the Director for examination and copying. Medical records must have the written consent of the employee before being released. All requirements involving the transfer of records set forth in 29 CFR 1910.1020(h) shall be complied with.

OTHER IMMUNIZATIONS

- The company supports the immunization of healthcare employees for non-bloodborne infectious diseases potentially communicable in the workplace.
- The company shall encourage all healthcare employees to remain current on tetanus-diphtheria toxoid for the initial series and every 10 years for a booster.
- The company shall encourage appropriate immunizations for influenza, measles, and rubella for all healthcare employees.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PERSONAL PROTECTIVE EQUIPMENT

- The company shall be responsible for providing all necessary and appropriate personal protective equipment, including disposable latex gloves, protective clothing, and emergency ventilation equipment. It will ensure that such equipment is readily accessible. An employee who needs special equipment, e.g., hypoallergenic gloves, should make that need known to his or her supervisor so that such equipment can be made available.
- When there is a potential for exposure to blood or other potentially infectious body fluids, the employee shall use the appropriate protective equipment such as, but not limited to, gloves, gowns, laboratory coats, protective clothing, face shields, masks, eye protection, resuscitation bags, or other ventilatory devices to form a protective barrier.
- Masks and eye protection shall be worn whenever splashes, sprays, droplets, or aerosols of blood or other potentially infectious materials may be generated and there is a potential for eye, nose, or mouth contamination.
- Gloves shall be worn when the potential exists for the employee's hands to have direct skin contact with blood or other potentially infectious materials, mucous membranes, non-intact skin, and when handling items or surfaces soiled with blood or other potentially infectious materials.
- Disposable single-use gloves, such as surgical or examination gloves, shall be replaced as soon as possible when visibly soiled, torn, or punctured or when their ability to function as a barrier is compromised. Disposable gloves shall never be washed or disinfected for reuse.
- Utility gloves may be disinfected for reuse if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, discolored, torn, punctured, or exhibiting any sign of deterioration.
- Protective clothing may be either reusable or disposable as long as it effectively prevents the pass-through of potentially contaminated body fluids. The company shall arrange for the cleaning, laundering, or disposal of required company-provided personal protective equipment as needed. The company shall also repair or replace required personal protective equipment as needed.
- All contaminated personal protective equipment shall be removed immediately upon leaving the work area or as soon as possible and placed in an appropriately designated area for decontamination or disposal.

WORK PRACTICES

- Employees shall wash their hands immediately or as soon as possible after removal of gloves or other personal protective equipment and after hand contact with blood or other potentially infectious materials. If the provision of handwashing facilities is not feasible, an appropriate antiseptic hand cleaner in conjunction with cloth/paper towels or antiseptic towelettes shall be provided.
- Used needles or other sharps shall be disposed of intact into properly labeled and designated puncture-proof containers. Used needles shall not be removed from disposable syringes.
- Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in any work area where there is a potential for occupational exposure to blood or other potentially infectious materials. Food, drink, or personal items shall not be stored in refrigerators, freezers, or cabinets where blood or other potentially infectious materials are stored or in other areas of possible contamination.
- All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, and aerosolization of these substances.
- Mouth pipetting or suctioning is prohibited.
- Specimens of blood or other potentially infectious materials must be put in leakproof bags for handling, storage, and transport.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ENVIRONMENTAL CONTROLS AND HOUSEKEEPING

- All medical treatment areas shall undergo periodic cleaning and disinfection of surfaces to maintain a clean and sanitary worksite. Under the OSHA standard, even janitorial personnel who clean potentially contaminated work areas must undergo training, be offered vaccines, etc. It shall be company policy, therefore, that all properly trained medical personnel clean their worksites, thereby limiting the total number of employees possibly exposed. Utility gloves, not disposable gloves, shall be worn while cleaning work areas. These locations shall also maintain a written schedule documenting regular cleaning and methods of decontamination.
- An appropriate disinfectant, along with a 10% bleach solution in water, shall be used to clean and disinfect any environmental or working surface that has been contaminated with blood or other potentially infectious material.
- Protective coverings, such as plastic wrap, aluminum foil, or imperiously backed absorbent paper, may be used to cover equipment and environmental surfaces. These coverings shall be removed and replaced at the end of the work shift or when they become contaminated.
- Equipment that may become contaminated with blood or other potentially infectious materials shall be checked routinely and prior to servicing or shipping, and shall be decontaminated as necessary.
- All bins, pails, cans, and similar receptacles intended for reuse that have a potential for becoming infectious materials shall be inspected, cleaned, and disinfected periodically, and cleaned and disinfected immediately or as soon as possible upon visible contamination.
- Broken glassware that may be contaminated shall not be picked up directly with the hands but shall be picked up using mechanical means only.
- The company shall continue to fully implement the policy of safe handling of potentially infectious medical waste, including sharps and needles. Location-specific procedures for the disposal of medical waste shall be adopted as part of the Company's Bloodborne Infection Prevention Program. The generating company shall maintain a manifest of potentially infectious medical waste. Warning labels shall be affixed to all containers used to store or transport potentially infectious waste. The warning label shall include the BIOHAZARD legend. An approved medical waste disposal company shall properly dispose of all medical waste.
- Contaminated laundry shall be bagged at the location where it was used and shall not be handled in patient-care areas. A commercial laundry service shall provide services to launder all laboratory coats and non-disposable gowns. The laundry service shall be notified of potential contaminants.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Universal Precautions for All Patients by Procedure

PROCEDURE	WASH HANDS	USE GLOVES	PROTECTIVE CLOTHING	FACE GUARD	WEAR EYE PROTECTION
Talking to Patient	NO	NO	NO	NO	NO
Adjusting equipment	NO	NO	NO	NO	NO
Examining patient without touching blood, body fluids, mucous membranes	YES	NO	NO	NO	NO
Administering percutaneous vaccine	YES	NO	NO	NO	NO
Examining patient, including contact with blood, body fluids, mucous membranes	YES	YES	NO	NO	NO
Drawing blood	YES	YES*	NO	NO	NO
Urine sample collection	YES	YES	YES	NO	YES
Handling soiled materials	YES	YES	YES**	YES**	NO
Emergencies with trauma	YES	YES	NO	NO	YES
The potential of spurting blood	YES	YES	YES	YES	YES
Diagnostic laboratory screening	YES	YES	YES	NO	YES

* Gloves shall always be available and may always be used. Gloves shall always be used when the employee has cuts, scratches, or other breaks in his or her skin or when there is a high likelihood that hand contamination may occur, e.g., when the patient is uncooperative.

** Use protective clothing, mask, and eyewear if waste is very contaminated and splattering is likely.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Post-Exposure Hepatitis B Immunoprophylaxis by Source and Employee Hepatitis B Status

Employee Hepatitis B Status	Exposure Source	
	Positive or Unknown	**Negative**
Susceptible	HBV Vaccine Series IG (within 1 week of exposure)	HBV Vaccine Series
Immune	Test for antibodies to HBsAg to confirm immunity If not detected, one dose of HBV vaccine and one dose of IG.	

All employees shall be offered clinical evaluation and counseling following exposure.

HBV	=	Hepatitis B Virus
HBsAG	=	HBV Surface Antigen
IG	=	Immune Globulin

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Physician's Written Opinion After Exposure Incident

Name of Employee: _____ Date: _____

Location: _____ Date of Incident: _____

Brief description of exposure incident:

_____

_____

_____

_____

Date of medical evaluation: _____

The employee has been informed of the results of the medical evaluation.

[ ] Yes [ ] No

The employee has been told about any medical condition resulting from exposure to blood or other potentially infectious materials that require further evaluation or treatment.

[ ] Yes [ ] No

_____

Examining Physician's Signature

A copy of this written opinion should be given to the employee's supervisor, and a copy should be given to the employee. The original form should be placed in the employee's medical files.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Bloodborne Pathogen Exposure Control Plan Training Outline

The training program must contain at least the following elements:

1. Employees must be given access to a copy of the Bloodborne Pathogen Standard (1910.1030), and its contents must be explained to them.

2. There must be a general discussion of bloodborne diseases with special emphasis on the epidemiology, symptomatology, and modes of transmission of HIV and HBV.

3. There must be an explanation of THE COMPANY's Exposure Control Plan, and employees must be told how to obtain a copy of the written plan for their review.

4. An explanation of the methods of recognizing tasks and other activities that may involve exposure to blood or other potentially infectious materials

5. An explanation of engineering and work practice controls and PPE, how these preventative measures will reduce the risk of exposure, and the limitations of each of these methods to limit exposure

6. An explanation of engineering and work practice controls and PPE, how these preventative measures will reduce the risk of exposure, and the limitations of each of these methods to limit exposure

7. Information on the Hepatitis B vaccine, its effect, safety, method of administration, benefits, and that it will be offered free of charge to all employees that have occupational health care responsibilities.

8. Information on the appropriate actions to take, whom to contact in an emergency involving blood or other potentially infectious material

9. Appropriate actions to be taken in an exposure incident, including the method of reporting and the medical follow-up that will be available

10. Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident

11. An explanation of the BIOHAZARD labels and red bags

12. The instructor will provide an interactive question-and-answer period.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Hepatitis B Consent Form

IN ACCORDANCE WITH RECOMMENDATIONS BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, THE HEPATITIS B VACCINE IS OFFERED TO ALL COMPANY HEALTHCARE WORKERS.

Hepatitis B vaccine inoculation is recommended for all healthcare personnel who are or possibly will be at increased risk of infection with the Hepatitis B Virus. Hepatitis B Virus is indicated for immunization against infection caused by all known subtypes of Hepatitis B Virus. The vaccine will not prevent Hepatitis caused by other agents, such as Hepatitis A Virus, Non-A, Non-B Hepatitis Viruses, or other viruses known to infect the liver.

Hepatitis B vaccine inoculation is generally well tolerated. The manufacturer reported no serious adverse reactions attributable to vaccination during clinical trials. Adverse reactions are usually limited to some localized redness or soreness of the injection site. If you still have questions regarding the vaccine, please discuss your concerns with the Human Resources Department or your physician.

I have been given an opportunity to ask questions about the inoculation and the risks involved. All my questions have been answered to my satisfaction.

PLEASE CHECK THE BLANK INDICATING YOUR RESPONSE:

_____ I want to receive the Hepatitis B inoculation.

Employee Signature: _____ Date: _____

SS#: _____

I have received, read, and understand THE COMPANY Bloodborne Pathogen Exposure Control Plan.

Employee Signature: _____ Date: _____

Witness: _____

Distribution: Original in Medical Record; Copy to Employee; Copy to Human Resources Department

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Hepatitis B Declination
(Mandatory)

I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring the Hepatitis B Virus (HBV) infection. I have been given the opportunity to be vaccinated with the Hepatitis B vaccine at no charge to myself. However, I decline the Hepatitis B vaccine at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with the Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

I have been given an opportunity to ask questions about the inoculation and the risks involved. All my questions have been answered to my satisfaction.

I have received, read, and understand THE COMPANY Bloodborne Pathogen Exposure Control Plan.

Employee Signature: _____ Date: _____

SS#: _____

Witness: _____ Date: _____

Distribution: Original in Medical Record; Copy to Employee; Copy to Human Resources Department

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Hepatitis A Consent Form

IN ACCORDANCE WITH RECOMMENDATIONS BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, THE HEPATITIS A VACCINE IS OFFERED TO ALL COMPANY HEALTHCARE WORKERS.

Hepatitis A vaccine inoculation is recommended for all healthcare personnel who are or possibly will be at increased risk of infection with the Hepatitis A Virus. Hepatitis A Virus is indicated for immunization against infection caused by all known subtypes of Hepatitis A Virus. The vaccine will not prevent Hepatitis caused by other agents, such as Hepatitis B Virus, Non-A, Non-B Hepatitis Viruses, or other viruses known to infect the liver.

Hepatitis A vaccine inoculation is generally well tolerated. The manufacturer reported no serious adverse reactions attributable to vaccination during clinical trials. Adverse reactions are usually limited to some localized redness or soreness of the injection site. If you still have questions regarding the vaccine, please discuss your concerns with the Human Resources Department or your physician.

I have been given an opportunity to ask questions about the inoculation and the risks involved. All my questions have been answered to my satisfaction.

PLEASE CHECK THE BLANK INDICATING YOUR RESPONSE:

_____ I want to receive the Hepatitis A inoculation.

Employee Signature: _____ Date: _____

SS#: _____

I have received, read, and understand THE COMPANY Bloodborne Pathogen Exposure Control Plan.

Employee Signature: _____ Date: _____

Witness: _____

Distribution: Original in Medical Record; Copy to Employee; Copy to Human Resources Department

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Hepatitis A Declination
(Mandatory)

I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring the Hepatitis A Virus (HBV) infection. I have been given the opportunity to be vaccinated with the Hepatitis A vaccine at no charge to myself. However, I decline the Hepatitis A vaccine at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis A, a serious disease. If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with the Hepatitis A vaccine, I can receive the vaccination series at no charge to me.

I have been given an opportunity to ask questions about the inoculation and the risks involved. All my questions have been answered to my satisfaction.

I have received, read, and understand THE COMPANY Bloodborne Pathogen Exposure Control Plan.

Employee Signature: _____ Date: _____

SS#: _____

Witness: _____ Date: _____

Distribution: Original in Medical Record; Copy to Employee; Copy to Human Resources Department

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CONFINED SPACE ENTRY

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The purpose of this section is to ensure the safety and health of employees who enter or work in any enclosed space such as tanks, pipes, pits, vaults, or similar confined spaces where an oxygen-deficient or gaseous atmosphere may exist or such a space where emergency egress would be restricted.
- This procedure applies to all personnel who may be required to enter tanks and other enclosed spaces as defined.

RESPONSIBILITIES

- The Safety Department is responsible for reviewing the confined space program using the canceled permits within 1 year after each entry and revising the program as necessary to ensure that employees are protected. A single annual review may be performed covering all entries made during the past 12 months. If no entry is performed during 12 months, no review is necessary.
- Supervision is responsible for the following:
    - Adherence to all applicable federal, state, local, and customer/general contractor procedures and regulations
    - Compliance with this Confined Space Procedure and all other requirements of safety
    - Training of supervisors and employees is adequate to perform work or enter a confined space safely
    - Completing the "Confined Space Entry Permit," "Initial Test," and any other appropriate procedure or document. For example, certain clients will require the completion of their checklists. When all requirements have been met and it is safe to enter the space, then the entry (ies) will be permitted.
- Employees are responsible for the following:
    - Understanding what work is to be done and how entry(ies) into confined space will be safely accomplished
    - Conforming to all safety requirements
    - Actively participating in job briefings so items 1 and 2 above may transpire
    - Promptly reporting all unsafe conditions to supervisors

DESCRIPTION

- Personnel are at times required to enter enclosed spaces, hereafter called vessels, to clean, inspect, repair, and perform other duties associated with the equipment or the process of various testing activities. Enclosed spaces which are potentially hazardous include, but are not limited to:
    - Enclosures with limited access openings for personnel, such as closed storage tanks and process vessels
    - Tanks, pits, tubs, vaults, vessels, or other confined spaces
    - Confined spaces such as ventilation or exhaust ducts, sewers, underground utility tunnels, pipelines, or piping of any type

HAZARDS

- Toxic vapors in unhealthy or fatal concentrations may result from the residue of the last material in the tank by gradual release from sludge or scale, be introduced by leakage from interconnected systems, or be introduced by use of cleaning solvents, welding, cutting, etc.
- Flammable gases or dust have the potential for fire or explosion.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Lack of oxygen, causing asphyxiation, may result from chemicals absorbing or replacing oxygen in the tank or from inert gas used to exclude oxygen from a specific area of work. Air in clean tanks closed for an extended period may become deficient in oxygen because of oxidation of the metal of the tank. Improper or inadequate ventilation during tank work may also result in a lack of oxygen.
- Electric shock may result from portable lights, tools, or associated electrical equipment.
- Injury may result from mechanical equipment which may be defective or incorrectly locked out.
- Difficulty may be encountered in removing workers who are seriously injured or lose consciousness.
- Injury may result from direct contact with corrosives or dermatitis-producing chemicals.
- Physical hazards such as slipping, falling, or falling objects may exist.

GENERAL

- Supervision and all personnel who may be required to enter vessels and other enclosed spaces shall review this instruction to ensure compliance with all applicable paragraphs.
    - Personnel with respiratory problems shall not be permitted in tanks.
    - All personal protective apparel and respiratory equipment shall be worn when entering any hazardous enclosure, as required.
    - All personal protective apparel and respiratory equipment will be maintained in good condition, preferably stored in ventilated cabinets and cleaned or sanitized according to good housekeeping and hygiene standards.
    - Supervision over the area in which vessels to be entered are located, and supervision responsible for other work conducted in such areas shall coordinate and regulate operations of their organizations in a manner that reduces hazards to personnel entering such vessels.
    - The Excel Safety Management shall be consulted by supervisors contemplating entry of personnel into vessels. No deviations from the safety requirements specified in these instructions will be permitted without prior approval from EXCEL Safety Management.

PROCEDURES FOR TANK ENTRY

- The hazards inherent in vessel entry can be avoided or overcome if the following principles are applied properly every time a vessel is entered.
    - Preparation of Vessel
        - Cleaning: According to the nature of the contents, the vessel should be emptied and made clean and void of residue by hot or cold water flush, by steaming, by chemical neutralization, or by air purge with harmful vapors vented safely to the outdoors, where practicable.
        - Ventilation: The vessel should be thoroughly ventilated, preferably by some positive method of mechanical exhaust, to avoid recirculating contaminated air. All ventilation or air-moving equipment shall be grounded to the vessel to avoid static sparks. After the vessel is cleaned and ventilated, the mechanical exhaust system should be kept operating. Should decontamination involve flammable liquids, vapors, gases, or dust, all sources of ignition shall be eliminated.

ISOLATION

- The vessel should be completely isolated from all other systems and equipment. Positive and adequate measures must be taken to prevent harmful material - solids, liquids, or vapor from entering the vessel while workers are inside. In all cases where lines contain hazardous fluids or inert gas or where they contain fluids at high pressures or temperatures, the lines should be physically disconnected and isolated by placing a blind and tagged in the lines as close to the tank as practical. Drains or overflow lines should be disconnected or blanked if they extend into a sewer from which steam or fumes could be conducted back into the vessel or if they connect to other

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

equipment or extend to a remote location. All lines to be disconnected shall be blanked or capped and tagged to prevent flow from disconnected ends entering a vessel opening or draining onto assistants on the outside. All blanks shall be of sufficient thickness and tensile strength to withstand maximum pressures that may be imposed and of material that will withstand corrosion of chemicals to which they may be exposed.

LOCK-OUT

- Motor control center disconnect switches supplying power to any mechanical mixers, agitators, pumps, and cover or door actuators should be tagged and locked in the "OFF" position. It is not adequate to lock a local push-button station as it still may be possible to energize the circuit. The man in the vessel should keep the key, and he alone shall be authorized to unlock the switch and remove the tag upon completion of the job. Where more than one man is exposed, each should place his lock on the switch. In some instances, it may be advisable to have an electrician pull the line fuses in the electrical circuit in addition to lock and tag requirements.

TESTING OXYGEN AND GAS

- Allowable Contamination Levels:
    - Every confined space must be tested to determine that not less than 19.5% nor more than 21.4% oxygen (by volume) is present. An oxygen analyzer will not necessarily indicate the presence of a combustible or toxic gas. Remember, the normal oxygen content of air is approximately 20.9%. For this procedure, oxygen enrichment occurs at 21.4%.
    - Additional test instruments and sampling methods (air pumps and bulk sampling analysis) must be used to rule out the possibility that workers may be exposed to any other contaminants.
    - The concentration of air contaminants in the confined space and work areas where employees are must not be more than the acceptable limit for contaminants set by OSHA or various state regulatory agencies. It is also important to note that many companies often set standards that are stricter than OSHA standards. Under most circumstances, the stricter (safer) standard will be the rule to follow.
    - Example: The OSHA Standard for contaminant "X" states employees must not be exposed to more than five parts per million (5 PPM) of the contaminant per the eight-hour time-weighted average (8 hours TWA). The work site is on ABC Manufacturing Company's property. Their policy is not to exceed two PPM per eight-hour TWA. Since two PPM is a stricter (safer) standard, that would be the rule to follow.
    - Continuous monitoring of all confined space areas (ceiling, floor, sides, etc.) is usually the best method of determining the levels of contaminants.
    - Whenever there is a change in conditions, what was "safe" just a few minutes ago can become "unsafe." (This is exactly why continuous monitoring is the preferred method of contaminant level determination). A re-evaluation of an area, including additional air monitoring, would be required. Bulk sample analysis might be required as well. Examples of changing conditions are:
        - The addition of more workers into the area (will use more oxygen, and their work may fill the area with more contaminants quickly).
        - Agitation of tank products by workers
        - Change in work scope. Example: An area where no welding was done for several days was deemed "safe" per the air monitoring. Now that welding is done, the area is subject to the buildup of welding fumes. A re-evaluation of the area would be required.
        - Increase or decrease in ambient (surrounding air) temperature.
        - Increase, decrease, or change the direction of ventilation or wind.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Note: Special consideration must be given any time exotic metals are welded in a confined space, as the inert gases necessary to accomplish this task can rapidly displace the oxygen within.
- Use and Care of Test Instruments
  - All instruments used to sample the atmosphere in a confined space must first be tested for proper working operations before they are used. Periodic calibration of this test instrumentation, as recommended by the manufacturer of the instrument, is a mandatory requirement, and such calibrations must use equipment suitable for the air contaminants involved.
  - Every instrument has limitations. The correct instrument must be chosen for each particular application. One of the most important aspects to keep in mind is temperature. Most test instruments will begin to give false readings in temperatures around freezing (32 degrees F/0 degrees C). or in the low 90s (90 degrees F/0 degrees C). Many of these instruments will not work at freezing temperatures. An additional note: Keep in mind the "real" temperature resulting from wind chill. Highly specialized instruments designed to work accurately in extreme temperatures or where multiple contaminants are or may be present will have to be used!
  - Test instruments should not be carried by hand into confined spaces suspected to contain contaminated atmospheres. Samples should be brought to the instruments by means of sampling lines or containers, or the instrument may be admitted by removal means such as a sampling hose.
- Test Procedures
  - If doors or covers contain vents, make the pre-entry test with the doors or covers in place in order to test the conditions of the confined space before it has been disturbed. If the cover or door is not vented, open it only enough to admit the test hose or the instrument to be inserted.
  - When combustible gases are present or are suspected, the door or cover must be opened or removed very carefully in order not to create sparks. Note, however, that certain machines, such as turbine generators and synchronous condensers, have purging systems to remove hydrogen. In such cases, remove the covers in accordance with the purging procedure.
  - If the initial tests indicate the atmosphere is safe, the confined space should be force-ventilated for a minimum of 10 minutes before anyone enters the space. If the initial tests indicate insufficient oxygen or toxic air contaminants are in excess of safe concentrations, or explosive hazards are present in the confined space, the space must be purged along with forced ventilation until another test indicates that the air contaminant concentration is safe. Continue purging for an additional 10 minutes before anyone enters the space. Re-check immediately before entering.
  - Forced ventilation must be provided during the entire time while personnel are occupying the confined space unless tests prove that the atmosphere remains safe with natural ventilation. The discharge from the air supply should be located near the bottom of the confined space.
  - Ventilation with ambient air may be inappropriate when the introduction of dust or moisture in the air could cause equipment damage. Dry, repairable air from other sources, such as bottled compressed dry air, may be needed. Air from normal "plant air" service supplies is not of acceptable quality. Air from compressors must be purified via an air purification unit.
  - After the confined space has been entered and the air supply hose positioned, perform additional tests for gas by sampling in the areas of possible gas entrances and throughout the confined space. Such sampling must include the areas in which personnel are most likely to be working. Note that some contaminants may selectively contaminate ("layer effect") a confined space by rising (like hydrogen) or by settling toward the bottom (like

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

carbon dioxide). Nitrogen, on the other hand, may not move appreciably in either direction because its specific gravity is about the same as air. If the test results are satisfactory, the work may be started.

- If the preceding test result indicated an unsatisfactory atmosphere, personnel must immediately leave the confined space. The air supply must be operated for 10 additional minutes, and a second test must then be performed. The second test must be performed away from the direct discharge of the air supply into the confined space.
- If the second test indicates that the atmosphere is safe, the confined space may be entered. The air supply will then be operated during the entire time personnel are occupying the confined space. Additional tests will be made during the work to ensure that air acceptability is maintained. Whenever possible, continuous reading instruments will be used. Particular attention will be directed toward areas of possible gas entrance as well as throughout the confined space.
- If the confined space is still contaminated and cannot be cleared by additional ventilation and is determined by subsequent testing, the cause must be determined. If the area where the contaminant is entering can be purged, sealed, or capped to render it safe, only personnel wearing NIOSH/MSHA-certified respirators approved for the hazard shall be permitted to do such work. The area shall then be retested, continuously ventilated, and monitored.

CONFINED SPACE ATTENDANT

- The responsibilities of the confined space attendant are as follows:
  - Perform only their assigned task - ensure that conditions on the confined space permit are maintained
  - Maintain a log of entrants into confined space
  - Ensure the safety and well-being of employees within the confined space
  - Remain at their assigned post until relieved by another qualified attendant. Be aware of changes in the job and atmospheric conditions and be ready to take appropriate actions.
  - Monitor atmospheric conditions of confined space, as required
  - Attempt non-entry rescue and/or stand by to assist rescue personnel
  - Keep unauthorized personnel away from confined spaces
  - Ensure local exhaust from equipment will not affect personnel in confined spaces
  - Confined space attendant shall monitor (1) confined space. The attendant shall not monitor multiple confined spaces.

ISSUANCE OF VESSEL ENTRY AUTHORIZATION

- The Vessel Entry Authorization certifies and records approval for vessel entry. It serves as a method of formalizing agreed-upon procedures and also as a checklist to ensure that all existing hazards are considered and evaluated and correct protective measures are taken. No employee shall enter any vessel without reporting to and securing approval from the immediate supervisor and the Safety Representative. The supervisor shall discuss the project in detail with those entering the vessel. He should review the hazards of the product or other materials to which they may be exposed and document this training. The supervisors of all men involved shall then review and complete the authorization form jointly. Appropriate supervisors must ascertain by personal investigation immediately before vessel entry and before signing the authorization that the entry and incidental work will be safe. To ensure the continuation of safe conditions if a pause of appreciable duration occurs during the carrying out of a job, the site must be reinvestigated by the signers before the job can be allowed to resume. Commencement of a new shift will always require re-investigation and endorsement of a new authorization by new shift supervision. No authorization shall be valid except for the job, location, persons, and time specified.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PRECAUTIONS

- Tools and Equipment: Hand tools shall be clean and in good condition and shall be selected carefully according to the uses intended. Electrical tools and equipment, such as hand lamps and extension cords, must be on a 12-volt system or plugged into a working Ground Fault Circuit Interrupter (GFCI). For any Class I or Class II exposure (in dangerous flammable dust concentrations), use air-operated power tools. Ladders used in tanks should be lashed at the top and, if possible, at the bottom. Employees performing electrical welding in tanks shall be provided with and required to use personal protective equipment as may be required. Welding and cutting torches must not be taken into the tank until ready to be used and must be removed from the tank immediately after use. Cylinders of oxygen or other gas shall never be taken into tanks, and they should be turned off at the cylinder valve when not in use. Fire extinguishers must be readily available.
- Air power tools shall not be used in confined spaces if the client's air backup is nitrogen or other inert gases.
- Discharge of steam, high-pressure air, water, or oil into the confined space or against personnel working outside.
- Structural failure of the tank shell, roof, roof support members, single-line cables, or other tank members
- Tools or other objects dropping from overhead
- Falling objects from roofs, scaffolds, stairs, or ladders
- Tripping over hoses, pipes, tools, or equipment
- Slipping on wet, oily surfaces or colliding with objects in dimly lit interiors
- Insufficient or faulty personal protective equipment
- Insufficient or faulty operations, equipment, or tools
- Noise in excess of acceptable levels.
- Temperature extremes that require additional protection or shorter work periods

SIGNS

- Signs posted near the vessel help keep unnecessary people away, ensure that potentially harmful operations will not be started independently nearby, and help guide rescuers should they be necessary.
- Class I locations are those enclosed areas in which flammable, volatile liquids, gases, and vapors or mixtures are or may be present in quantities sufficient to produce explosive or ignitable mixtures.
- Class II locations are those enclosed areas that are hazardous because of the presence of combustible dust.

BARRICADES

- Open pits and hazardous vessel operations require barricading with substantial railing 42" high with toe boards or equivalent protection to prevent kicking objects laying on the floor or ground into the pit. Rope with streamers at the 42" level is recommended for closing aisles in adjacent areas. Flashing lights on barricades are necessary when pits are open at night or in dimly lit areas inside.

PERSONAL PROTECTIVE EQUIPMENT

- Proper protection may range from specially designed, complete coverage suits for protection against highly toxic chemicals harmful by absorption through the intact skin, chemical goggles, hard hats, gloves, and safety shoes normally worn to protect against routine hazards. Employees should never unduly expose the skin when working in vessels, and they should wear a full coverage of clothing at all times.
- An approved safety harness, safety belt, or wrist strap should normally be worn by anyone entering a confined space. Certain work situations may limit working space and may make the wearing of a

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

safety harness, safety belt, or wrist strap impractical for some workers. If a harness is not worn in the confined space, a suitable harness shall be kept ready at the confined space entry point for possible emergency use by the standby person or emergency rescue personnel.

- A quick-release catch shall attach a lifeline to the safety harness, and the other end will be securely anchored outside of the confined space entry point for possible use by the standby person.

RESPIRATORS

- Certified breathing air for self-contained units shall be supplied if the integrity of the atmosphere cannot be guaranteed and if there is any possibility of air contamination of a harmful nature or oxygen deficiency while employees are within a tank. Canister-type masks that operate on the principle of chemical absorption or mechanical filtration may not afford adequate protection and should not be used.
- For specially recommended protection from hazards of contaminating materials, refer to the EXCEL Safety Management.
- Respirators must be issued to use individuals who are responsible for their safe and sanitary keeping. Respirators shall be sanitized before they are reissued to other individuals.

EMERGENCY AND RESCUE

- Where potential exposure in the vessel is acute or requires an employee to wear respiratory protection or where rescue may be difficult, the employee must be provided with a body harness or safety belt with a lifeline attached. It is good practice to use a body harness for any vessel entry work. Such safety harnesses and lifelines should be used when the shape, size, and location of the vessel space prohibits the safe emergency removal of workers by standby personnel without requiring entry into the tank.
- When the shape, size, and location of the vessel do not meet this requirement, a specific procedure for the rescue of personnel must be developed in the pre-planning stage of the vessel entry work and made a specific part of the vessel entry permits. In some cases, it is advisable to have a block and tackle positioned on a tripod or otherwise fastened above the manhole. For obvious reasons, manholes large enough to accommodate the man and his safety gear should be provided, such as a 24" diameter for circular ones. Where existing manholes are smaller than 20" in the largest dimension, consideration shall be given for possible use of wrist harnesses. The free end of the lifeline should be secured to a fixed object and should be attended to by an observer (standby man) who will always keep the man in the tank within his vision or communications. The observer may pass tools, but he must have no other job that will take his attention away from the man in the vessel and/or will interfere with his attempts to withdraw the victim by use of the lifeline or which will require his leaving the vicinity of the vessel for any time whatever.
- In case of emergency, the outside observer must never enter the vessel until he is relieved at this post. It is his job to summon aid immediately, to attempt to remove the victim by use of the lifeline and to perform all other necessary rescue functions from outside. Upon arrival of help, he may enter the vessel for rescue work only when he is assured that adequate outside assistance is present and he wears all prescribed protective equipment. Such safety observers or standby men should be well-trained in basic First Aid principles such as rescue breathing techniques. Rescuers entering the vessel must be protected with the safety facilities required by the situation, i.e., lifeline and harness, and proper personal protective and respiratory equipment.
- For rescue purposes, at least one unit of self-contained breathing equipment should be located outside and convenient to the vessel, together with harness, rope, and such other emergency equipment as may be indicated. It is better to have too much equipment at the job site than too little, too late. The number of men in the tank, particularly at the time of burning or welding, must be reduced to the absolute minimum necessary for the work itself.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- A clearly understood signal system shall be established prior to the start of the operation:

Three pulls:	Allow more slack in the line
Two pulls:	Take up slack in the line
One pull:	Emergency, pull man from the tank

- No one shall enter a confined space until an appropriately trained and equipped standby man is present.
- Persons working in vessels should exit from the same point they entered except for emergencies.
- One additional safety line will be available for each person within the vessel so that in the event the entry man has fouled his on a structural member to such an extent that the clearing of the line to effect a rescue would be time-consuming and dangerous, the lifeline to the man will be unsnapped. A new lifeline will be hooked on, and rescue affected.
- It will be the responsibility of the Site Safety Representative and/or supervisor to determine the environmental condition inside the vessel and prescribe the necessary precautions required for safe vessel entry as outlined herein.
- A minimum of men will be permitted to work within a vessel at any one time. The standby man shall keep an updated account of how many persons are in the vessel at all times. Procedures shall be developed to coordinate entry operations when employees of more than one employer are working simultaneously as authorized entrants in a confined space so that employees of one employer do not endanger employees of any other employer.
- While personnel are inside the vessel, a qualified and certified standby man shall be observing the operation from outside the tank. Standby men shall have available entry safety equipment. The standby man shall be aware of the conditions of personnel within the vessel at all times. The standby man shall not leave his position until the vessel is vacated or he is relieved by other suitably attired and instructed personnel.
- The supervisors concerned must be alerted before and during the job to detect and correct new and different hazards immediately or to stop the work until the new hazards are corrected.

CONTAMINANTS

- Categories of Contaminants:
  - Although oxygen content is a prime concern when considering whether a confined space is safe to enter, other hazardous conditions may also exist. Three of the most common atmospheric conditions constituting hazards are OXYGEN DEFICIENCY OR ENRICHMENT, COMBUSTIBLE GASES AND VAPORS, AND TOXIC GASES AND VAPORS.
    - Oxygen Deficiency or Enrichment: OSHA Regulations require that air breathed by employees contain at least 19.5% (but not more than 21.4%) oxygen by volume. Normal fresh air contains about 20.9% oxygen. Certain asphyxiants, normally categorized as toxic gases or vapors, may also cause oxygen deficiency by displacing or diluting the air. Oxidation of metals or other materials in damp, enclosed areas may "use up" the available oxygen—freshly exposed rust or scale, such as oxygen deficiency. Oxygen enrichment could result from chemical reactions giving off oxygen, leaking oxygen cylinders or lines, or working in/near greenhouses. An oxygen-enriched area has the potential to explode violently. For this procedure, an oxygen-enriched atmosphere occurs when the oxygen content is greater than 21.4%.
    - Toxic Gases and Vapors: Such gases and vapors may be fatal in deficient concentrations in the air. Carbon monoxide, for example, is odorless but may be fatal at extremely low concentrations. Hydrogen sulfide, on the other hand, is quite noticeable at low concentrations but has a paralyzing effect on the olfactory organs (sense of smell) after the initial exposure. Asphyxients and irritants are also

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

included in this category. Carbon dioxide is commonly regarded as an asphyxiant, but it is about 1.5 times heavier than air. Possible sources of carbon dioxide include gas purging systems for hydrogen-cooled machines and many fire control applications, including portable fire extinguishers and as a product of decaying matter (in ship holds, for example).

- Mixtures of these types of hazardous atmospheres are not uncommon. Some gases, under certain conditions, may fall into more than one category.
- Some other common contaminants that may be found in confined spaces are:
  - Harmful Levels of Dust, Mist, Fumes, and Vapors: Many substances that we could consider "safe" may become "unsafe" when they are heated or cut. For instance, copper used in plumbing and electrical applications is considered harmful when it is heated or cut and produces a fume.
  - Lead: Employees exposed to potential lead must have a medical check to establish a baseline before handling lead and an exit medical check to rule out any exposure.
  - High Temperature with Humidity: Such conditions may also have adverse effects on workers exposed.
  - Asbestos: No work unless the area is cleared by the general contractor or the client

- Sources of Contaminants:
  - Contaminants often found in confined spaces may be grouped as follows:
    - Cooling, insulating, blanketing, test gases, such as hydrogen, nitrogen, argon, carbon dioxide, sulphur hexafluoride, etc
    - Dust, mists, fumes, and vapors that workers are exposed to generate or use while performing the planned work in the confined space
    - Fuel gases include manufactured gas, natural gas, liquefied petroleum gas, etc.
    - Gases from fermentation of organic matter such as methane, hydrogen sulfide, carbon dioxide, hydrogen, etc., and mixtures deficient in oxygen
    - Gases generated or used in processes
    - Ionizing radiation
    - Lead - employees exposed to potential lead must have a medical checkup to establish a baseline before handling lead and an exit medical checkup to rule out any exposure.
    - Products of combustion such as carbon monoxide or carbon dioxide from combustion engine exhaust, etc.
    - Vapors of liquid fuels and solvents such as gasoline, kerosene, naphtha, lubricating/insulating oils, trichloroethylene, 1,1,1 trichloromethane, other hydro-carbons, etc.
  - Sources of contaminants should be physically disconnected and purged whenever possible. Such sources include fuel gas or fuel oil lines, hydrogen, nitrogen, carbon dioxide piping, supply bottles, etc. Possible leakage through closed valves should always be anticipated and evaluated.
  - Tagging and lockout procedures will be used to prevent the inadvertent introduction of possible contaminants. Unscheduled operation of any machinery or other equipment in the confined spaces shall be guarded with barriers and warning signs in accordance with current federal, state, and local OSHA regulations.

VENTILATION

- Confined spaces containing air contaminants (other than ionizing radiation) and/or explosive hazards must be purged by mechanical ventilation until tests indicate that there is sufficient oxygen available in the confined space and that the concentration of air contaminants in the confined space is within allowable limits before entry is permitted.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

VENTILATION PROCEDURE

- Personnel implementing the ventilation procedure must be familiar with operating instructions for the particular equipment being used. Proper steps for using blower-type ventilation equipment include the following:
    - Locate the blower so that it does not take suction from a contaminated area and thereby introduce additional or different contaminants into the confined space.
    - Place the blower so it will not be subject to damage, obstruct traffic, or present a hazard to pedestrians.
    - Place the blower on a firm level base at least three feet from a manhole or vault opening.
    - On sloping surfaces, avoid placing the blower on the upgrade of the confined opening. If it is necessary to place the blower on the upgrade side of a manhole or vault, block the unit so that vibration will not cause it to move toward the manhole opening.
    - Do not operate or store a blower in a confined space.
    - When contamination is being introduced into the atmosphere by the work activity, such as when using solvents or when welding, ventilate in the direction that best removes the contamination from the workers. Also, take steps to ensure that contaminated air from a confined space is exhausted to a location where it presents no hazard. A good example of the latter case would be to ensure adjoining manholes are not receiving contaminated air from the ventilated manhole.
    - Enhance the ventilation process by removing other manhole covers or panels, opening windows and doors, etc. Ensure dangerous down drafts or back pressures are not created.
    - Let the blower run for one minute with the hose out of the confined space. Check the end of the hose to see that the hose is securely attached to the air outlet.
    - Place the blower hose into the confined space and adjust the position of the blower so the hose will run directly into the confined space without unnecessary bends. The optimum position of the output end of the blower hose is with the hose opening directly toward an end wall near the bottom of the confined space.
    - If the ventilation blower stops, leave the confined space immediately. Remove the hose from the confined space. Do not replace the hose in the confined space until the blower is operating. When the blower is again operating, purge the hose and test the atmosphere before replacing the hose in the confined space.
    - To minimize possible contamination, always remove the blower hose from a confined space before shutting down the blower.
    - Whenever possible, air movers shall be used with ducting to increase the efficiency of ventilation and to prevent the recirculation of contaminated air due to ventilation "short-circuiting."
    - When two or more air movers are used for ventilation, all such units should be operated in the same flow direction to maximize efficiency; for example, all in the exhaust mode or all in the supply mode.
    - Never ventilate an area with oxygen!

REFERENCES

- OSHA Regulation 1910.252 (application portions of chapter)
- OSHA Regulation 1926.21 (b)(6)(i); 1926.21 (b)(6)(ii)
- OSHA Regulation 1926.352 (g)
- OSHA Regulation 1926.353 (a); 1926.353 (b)
- OSHA Regulation 1926.953 (entire chapter)
- OSHA Pamphlet 2224 - Training Requirements
- OSHA Pamphlet 2254 - Carbon Monoxide
- Other applicable sections of OSHA Regulations 1910 and 1926
- OSHA Regulation - Maritime Standards and Interpretations (applicable segments)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Date: _____

Time: _____

Tester: _____

Confined Space Entry Permit

YES	NO	N/A	
_____	_____	_____	Have all lines containing harmful agents such as supply, discharge, overflow, vent, drain, or similar connections entering the space between physically separated means of blinds complete closure
_____	_____	_____	Have all fixed mechanical devices or equipment, the operation of which might endanger the employee or cause additional hazards, been rendered inoperable by disconnection?
_____	_____	_____	Has electrical service equipment, excluding lighting, been padlocked or tagged in accordance with 29 CFR 1910.145 (f)?
_____	_____	_____	Has the internal atmosphere been tested for combustible air?
_____	_____	_____	Has the space been examined for decaying vegetation or animal matter which could contain toxic properties?
_____	_____	_____	Has the space been surveyed for possible industrial waste disposal, which could contain toxic properties?
_____	_____	_____	If the confined space is a manhole, is it impossible for vehicular exhaust or carbon monoxide to creep into the space?
_____	_____	_____	Are proper ventilation devices blowing fresh air into the confined space? (Caution: Ensure the air intakes on the ventilation units are not drawing exhaust fumes or carbon monoxide from passing vehicles, building exhaust fans, etc.)
_____	_____	_____	Are the proper highway warning cones, barricades, and lights positioned and working, as applicable?
_____	_____	_____	If the confined space is in a boiler, have additional necessary air sampling and bulk sample analysis been performed prior to the start of work for the detection of asbestos, benzene, inorganic arsenic, lead, sulfur dioxide, vanadium, and silica?
_____	_____	_____	Have additional necessary air sampling and bulk sample analysis been performed to detect any other harmful dusts, fumes, mists, vapors, or substances that may reasonably be expected to be encountered in the course of the operation?
_____	_____	_____	Is the space ventilated to safe atmospheric levels before employees enter?
_____	_____	_____	If ventilation does not reduce or remove the hazardous substance(s), do employees wear an appropriate approved respirator to enter the space?

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

_____	_____	_____	Are employees trained in the use of respirators?
_____	_____	_____	Have the employees been fit-tested via quantitative methods? (IMPORTANT: Quantitative fit testing can be used in minimal applications).
_____	_____	_____	Have the employees inside and outside the confined space been trained and passed the required test for awarding of First Aid Card in the past 36 months?
_____	_____	_____	Have you seen these cards or other appropriate documentation in the job files?
_____	_____	_____	Is rescue equipment available for immediate use?
_____	_____	_____	Is there constant communication with employees in the immediate vicinity who are not in the confined space?
_____	_____	_____	If the project manager, superintendent, or client deemed it necessary for a more detailed emergency entry procedure to be written for the work, has it been written? Have you thoroughly reviewed it?

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Initial Test Conducted

		TIME	RESULT	INITIALS OF TESTER
A.	Oxygen Deficiency	_____	_____	_____
B.	Oxygen Enrichment	_____	_____	_____
C.	Combustibility	_____	_____	_____
D.	Toxicity	_____	_____	_____
E.	Asbestos	_____	_____	_____
F.	Benzene	_____	_____	_____
G.	Inorganic Arsenic	_____	_____	_____
H.	Lead	_____	_____	_____
I.	Sulfur Dioxide	_____	_____	_____
J.	Silica	_____	_____	_____
K.	Vanadium	_____	_____	_____
L.	Carbon Monoxide	_____	_____	_____
M.	Carbon Dioxide	_____	_____	_____
N.	_____	_____	_____	_____
O.	_____	_____	_____	_____

Additional Test Conducted
(Name of Substance)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Test Performed by: _____ Date: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Confined Space Entry Hazard Evaluation

Confined Space: _____ Area/Location: _____

Description & Equipment Number: _____

Workscope: ____ Clean ____ Inspect ____ Repair

____ Other Describe: _____

_____

_____

_____

POTENTIAL CHEMICAL HAZARDS:

___ Oxygen Deficiency (O_2) ___ Hydrogen Sulfide (H_2S) ___ pH

___ Ammonia ___ Flammability (LEL%) ___Benzene

___ Carbon Monoxide ___ Hydrofluoric Acid (HF) ___ Carbon Monoxide (CO)

___ Cleansing Agents _____

Corrosivity _____

Continuous Monitoring for: ___ Oxygen, LEL%, Hydrogen Sulfide ___ Other

Describe: _____ Comments: _____

_____

_____

POTENTIAL PHYSICAL HAZARDS:

___ Slip, Trip, Fall ___ Scale/Residue (Flammable? Yes No N/A)

___ Heat Stress ___ Noise ___ Configuration Hazard

___ Radiation (type: _____) ___ Energized Sources (Electrical ___, Mechanical ___, Pressurized ___)

Comments: _____

_____

_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Personal Protective Equipment Needed:

* Personal Protective Equipment required for use in this confined space is subject to change (by upgrading or downgrading) dependent upon entry conditions as determined by qualified persons monitoring the space during the time of authorized entries.

Other Protective Equipment Needed:

___ Ventilation Equipment (type/use: _____)

___ Emergency Rescue Equipment (describe: _____)

___ Lockout/Tagout Devices Blinds Installed (type/purpose: _____)

___ Other (_____)

Special Considerations:

Describe: _____

_____

_____

_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Confined Space Rescue Plan

Confined Space Designation: _____
Unit or vessel name and ID#

Description: _____
_____

_____

(approximate size dimensions, access, egress, etc.)

Technique: _____
_____

_____

(hauling, lowering, patient egress points)

Team member assignments: _____
_____

_____

(primary rescuer/first responder access points; IC/Safety Officer; other assignment(s) mode of communications)

Equipment:_____
_____

_____

(rescue rope, hardware, medical, PPE)

Anchorage: _____
_____

_____

(tripod, I-beam, davit, etc.)

NOTE: This plan serves only as a preparatory guideline and will be altered as the CSRT Leader deems it necessary for the safety and efficiency of the rescue.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Confined Space Entry Log

Date: _____ Hole Watch Name: _____

Job #: _____ Designated Competent Person: _____

Location: _____

Craft	Entrant Name	Entry Date Time	Exit Date Time	Reason for Exit

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RADIOGRAPHIC WORK

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The following procedures are required by the Nuclear Regulatory Commission and/or State Department of Health, Radiation Control Branch Board or as additional safety requirements. They apply equally to radioisotopes and X-ray equipment. The Human Resource Department shall make periodic inspections during the time work is being performed. Any violations of these procedures governing this work shall be noted and referred to the Project Manager.
- The following information shall be made available to the Human Resource Department and the Site Superintendent.
    - A copy of the subcontractor's Radioactive Material License or Registration
    - Name and phone number of the subcontractor's Radiation Safety Officer
    - Type and size of source being used or expected to be used in the future
    - Type of exposure device, X-ray machine, or source handling equipment to be used
    - Description and location of the storage facility to be used on-site
    - A copy of the subcontractor's "Operating and Emergency Procedures"
- The radiographer's assistants shall have in their possession appropriate personnel monitoring devices and an operable and calibrated survey meter.
- Before any exposure, the radiography personnel shall establish and post the restricted area and remove all personnel from this area.
- During the first exposure, the radiography personnel shall survey the perimeter of the restricted area to ensure the 2mR one-hour limit is not exceeded.
- The radiography personnel shall record the results of the area survey performed at the perimeter of the restricted area. A copy of the documentation of the recorded survey shall be filed with the Human Resources Department and Site Superintendent at the end of each day.
- During periods of inactivity, the radiographer shall ensure that the exposure device is locked to prevent accidental exposure of other individuals and/or removal from the job site by unauthorized personnel.
- The radiography personnel shall survey the exposure device with an operable and calibrated survey meter after each exposure to ensure the source of radiation is returned to a safe position.
- In situations where a crank-out exposure device with a source exposure tube is required to perform industrial radiography, a directional beam collimator shall be utilized. The collimator shall provide the shielding equivalence of at least three half-value layers and shall be used at all times except when panoramic exposures are required. The angle of the collimated beam shall be minimal, thus limiting the path of ionizing radiation to only the section of the specimen being radiographed.
- In case of emergency, the radiography subcontractor shall contact Project Management and the Site Safety Representative.
- In the event of an emergency or an incident involving sources of radiation, the subcontractor shall (within ten working days of the date of the emergency or incident) provide the project management and the Human Resource Department a written report detailing the event. The report shall include the following:
    - Date of incident
    - Subcontractor personnel involved
    - THE COMPANY personnel involved
    - Identifying information about the source of radiation and equipment used
    - Details of events leading up to the emergency or incident

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Corrective actions taken to rectify the situation
- Action taken to prevent the situation from reoccurring
- Amount of radiation exposure subcontractor's personnel received as a result of the emergency or incident
- Whether or not the emergency or incident was classified as "reportable" to the governing Federal or State Regulatory Agency, if so, the subcontractor shall also provide a copy of the report supplied to the governing agency.

DEMARCATION

- When the X-ray work is being done, the radiographer will place barricades around the area at a point where there will be no danger to employees and will also post signs with the barricades similar to that shown on the following page.
- Should one encounter such a barricade with the radiographic signs in place, do not attempt to enter the barricaded area. The barricade is placed for protection, and failing to observe it will mean disciplinary action.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCAVATION AND SHORING

PURPOSE

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- This policy aims to fully comply with the excavation standards designated by LA Rev Stat § 40:1749.13.
- The purpose of the following is to ensure the safety of personnel who are required to enter/work in excavations and trenches.
- This procedure will apply to all personnel and subcontractors whose job function requires them to enter any excavation four feet or deeper.
- There shall be a minimum of one designated competent person on the site at all times during excavation. All documentation shall be on site as well.

GENERAL REQUIREMENTS

- All employees shall be protected with personal protective equipment for the protection of the head, eyes, respiratory organs, hands, feet, and other parts of the body, as required.
- Employees exposed to vehicular traffic shall be provided with and shall wear reflective or highly visible warning vests.
- No person shall be permitted under loads handled by power shovels, derricks, or hoists. No employee shall remain in or near a vehicle being loaded by the above.
- A designated competent person shall make daily inspections of excavations. If cave-ins or slides are evident, all work in the excavation shall cease until the necessary precautions have been taken to safeguard employees.
- It is strongly recommended that all excavating, even hand shovel work, require prior approval from the supervisor over the area.
- The One-Call Center shall be contacted at least 48 hours before any work on excavations and/or trenches is scheduled to begin.
- The possibility of flammable gases settling in low places of excavations must be considered before doing "hot work."

SPECIFIC EXCAVATION REQUIREMENTS

- Prior to opening an excavation, efforts shall be made to determine whether underground installations (i.e., sewer, telephone, water, fuel, electric lines, etc.) will be encountered, and if so, where such underground installations are located and at what depth. Probing shall be conducted every six (6) inches during the excavation process to assist in the identification of potential unknown underground systems.
- The exact location and depth of these lines will be marked by stakes indicating the type of service.
- The walls and faces of all excavation in which employees are exposed to danger from moving ground shall be guarded by a shoring system, sloping of the ground, or some other equivalent means.
- All slopes shall be excavated to at least the angle of repose. The determination of the angle of repose and design of the supporting system shall be based on careful evaluation of pertinent factors such as depth of cut, possible variation in water content of the material while the excavation is open, anticipated changes in materials for exposure to air, sun, water or freezing, loading imposed by structures, equipment, overlying material, or stored material, and vibration from equipment, traffic, or other sources.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- The angle of repose shall be flattened when an excavation has water conditions, salty materials, loose boulders, and areas where erosion, deep frost action, and slide planes appear.
- Support systems shall be planned and designed by a qualified person (and documented) when excavation is in excess of 20 feet in depth, adjacent to structures or improvements, or subject to vibration or groundwater.
- Materials used for sheeting, sheet piling, cribbing, bracing, shoring, and underpinning shall be in good serviceable condition, and timbers shall be sound, free from large or loose knots, and of proper dimensions.
- Special precautions shall be taken in sloping or shoring the sides of excavations adjacent to a previously backfilled excavation or a fill, particularly when the separation is less than the depth of the excavation.
- Except in hard rock, excavation below the level of the base of the footing of any foundation or retaining wall shall not be permitted unless the wall is underpinned and all other precautions are taken to ensure the stability of the adjacent walls and the safety of employees involved in excavation work or the vicinity thereof.
- If excavations endanger the stability of adjoining buildings or walls, then shoring, bracing, or underpinning shall be provided as necessary to ensure their safety. Such shoring, bracing, or underpinning shall be inspected daily or more often as conditions warrant by a competent person, and the protection effectively maintained.
- Diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering an excavation and to provide adequate drainage of the area adjacent to the excavation. Employees must be protected from water accumulation, including the use of shields, and must be inspected by a competent person before work begins.
- If it is necessary to place or operate power shovels, trucks, materials, or other heavy objects on a level above and near an excavation, the side of the excavation shall be sheet-piled, shored, or braced as necessary to resist the extra pressure due to such superimposed loads.
- When mobile equipment is utilized or allowed adjacent to excavations, substantial-stop logs or barricades shall be installed. If possible, the grade should be away from the excavation.
- Adequate barricades providing physical protection shall be provided at all excavations. All wells, pits, shafts, etc., shall be barricaded or covered. Upon completion of operations, temporary wells, pits, shafts, etc., shall be backfilled.
- Where employees or equipment are required or permitted to cross over excavations, walkways, or bridges, standard guardrails shall be provided. They must be designed to support all anticipated loads safely.
- All ladders used on excavation operations shall be in accordance with the requirements of this manual. At no time shall persons be allowed to work in excavations without safe, adequate means of egress.
- Tests should be conducted for air contaminants (oxygen, flammable gases, etc.), and ventilation should be provided where necessary.

SPECIFIC TRENCHING REQUIREMENTS

- Banks more than five feet high shall be shored and laid back to a stable slope, or some other equivalent means of protection shall be provided where employees may be exposed to moving ground or cave-ins. Trenches less than five feet in depth shall also be effectively protected when examination of the ground indicates hazardous ground movement may be expected or at worksites where any employee could be expected to squat down or get below ground level.
- Sides of trenches in hard or compact soil, including embankments, shall be shored or otherwise supported when the trench is more than five feet in depth and eight feet or more in length. In lieu of shoring, the sides of the trench above a four-foot level can be sloped to preclude collapse but

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

shall not be steeper than a one-foot rise to each one-half foot horizontal (in these hard, compact soil conditions).

- Materials used for sheeting and sheet piling, bracing, shoring, and underpinning shall be in good serviceable condition and inspected frequently by a designated competent person.
- Additional precautions by way of shoring and bracing shall be taken to prevent slides or cave-ins when excavations or trenches are made in locations adjacent to any backfilled excavations or where excavations are subjected to vibrations from railroad or highway traffic, the operation of machinery or any other sources.
- When employees are required to be in excavations or trenches four feet deep or more, a ladder shall be provided and located so as to require no more than 25 feet of lateral travel. An additional ladder is required for each additional ten persons. All ladders will be secured at the top and bottom.

BARRICADES

- Types:
    - Warning: These call attention to the hazard but offer no physical protection; therefore, they should be at least five feet from the edge. They are generally erected with multi-colored flagging.
    - Protective: They provide physical protection and are generally made from solid rails on posts set in the ground.
    - If rebar stakes are used in or around any excavation (concrete reinforcement or barricades), rebar caps or wooden blocks must be attached to protect employees from puncture hazards.
- Placement:
    - Shall be erected prior to excavating or immediately thereafter to avoid leaving an unprotected hazard.
    - Shall be marked with lights at night if they are on walkways or roadways.
    - Protective physical barricades should be used for all excavations anticipated to be left open for longer than two days (48 hours).

ONE-CALL CENTER REQUIREMENTS

- The One-Call Center shall be contacted at least 48 hours before any work on excavations and/or trenches is scheduled to begin.
- The markings shall be maintained throughout the excavation and/or trenching process. The One-Call Center shall be contacted if the contractor encounters any problems with the utility line markings. Listed below are several scenarios that would require the contractor to contact the Louisiana One-Call Center:
    - Excavation must stop if the operator's markings become no longer visible during the job. The Louisiana One-Call Center must be contacted with a request to re-mark the lines.
    - Excavation must stop if a utility cannot be found where a mark was placed. The Louisiana One-Call Center must be contacted, and work can continue after the location of the utility line is confirmed.
    - Excavation must stop if a utility is found where no mark was placed. The Louisiana One-Call Center must be contacted. Work can continue after the location of the utility line has been confirmed, or it can be proven that the utility line is inactive and abandoned.
- All One-Call locating tickets that have been issued shall be present on the job site at all times, either in electronic form or on paper.
- All One-Call locating tickets shall be renewed before the designated expiration date.

EXCAVATIONS WITHIN THE TOLERANCE ZONE

- A tolerance zone is a horizontal area designated by the locating marks where the underground utility line is located. An 18" tolerance zone shall be respected on all job sites.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- The tolerance zone must be an area equal to the width of the underground facility, plus 18 inches on each side. If the utility gives no width for its facility, assume two inches.
- A hand dig clause shall also be recognized while excavating within the tolerance zone. This means that digging within the tolerance zone is prohibited. It is unlawful to use mechanized digging equipment within the tolerance zone; hand digging tools are allowed.

REFERENCES

- OSHA Regulation 1926.32 (f) Subpart C
- OSHA Regulation 1926.650
- OSHA Regulation 1926.651
- OSHA Regulation 1926.652
- OSHA Regulation Appendix A to Subpart P - Soil Classification
- OSHA Regulation Appendix B to Subpart P - Sloping and Benching
- OSHA Regulation Appendix C to Subpart P - Timber Shoring for Trenches
- OSHA Regulation Appendix D to Subpart P - Aluminum Hydraulic Shoring for Trenches
- OSHA Regulation Appendix E to Subpart P - Alternatives to Timber Shoring
- OSHA Regulation Appendix F to Subpart P - Selection of Protective Systems
- THE COMPANY Safety Manual

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SOIL CLASSIFICATION

VISUAL TESTS

V-1 Particle size: Fine-Grained = Cohesive; Coarse Grained = Sand or Gravel
V-2 Observe excavated material: Stays in clumps = Cohesive; Breaks up easily = Granular
V-3 Observe excavations for cracks, fissures, vertical spills, or slumping.
V-4 Observe for existing utilities or other signs of previously disturbed soil.
V-5 Is a layered system present? Does it slope toward the trench?
V-6 Water conditions: Observe the presence of surface water, runoff, seepage, existence of water table.
V-7 Presence of Vibration: In general area, in trenching area.

MANUAL TESTS

M-1 Plasticity: Roll a moist sample into a ball; can it be rolled into a 2" long by 1/4" diameter thread and picked up without breaking it? If yes, material is cohesive.

M-2 Plasticity: Form 3" diameter ball; roll into 1/2" rope, feed rope between thumb and forefinger, squeezing gently. If rope stays together and curls over back of hand, it is cohesive.

M-3 Thumb Penetration Test

Identification	Penetration	Type Soil
Readily _____	Great Effort _____	A
With effort _____	With Effort _____	B
	Easily _____	C

M-4 Penetrometer (take 10 readings and average)

a. 0 - 0.5 Type C
b. 0.5 - 1.5 Type B
c. 1.5 and above Type A

M-5 Fissured Soil Test: If a dry soil breaks into clumps which do not break into smaller clumps and the smaller clumps can only be broken with difficulty and there are not signs of fissures, then classification of un-fissured can be used.

M-6 Percent of granular material in sample using a 3" x 8" jar, add 5" water, 1-1/2" soil, seal and shake well giving 1/2 turn when placing on flat surface; after 30 seconds measure height of granular material; allow to set an additional 1 1/2 minutes. Divide granular height by overall height to obtain percentage.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCAVATION CHECKLIST

(to be completed by a "Competent Person")

Site Location: _____

Date: _____ Time: _____ Competent Person: _____

Soil Type: _____

Soil Class: _____ Excavation Depth: _____ Excavation Width: _____

Type of Protective System Used: _____

Indicate for each item: Yes, No or N/A

General Inspection of Jobsite		
A.	Excavations, adjacent areas and protective systems inspected by a competent person daily prior to the start of work.	☐Yes ☐No ☐N/A
B.	Competent person has the authority to remove employees from excavation immediately.	☐Yes ☐No ☐N/A
C.	Surface encumbrances removed or supported.	☐Yes ☐No ☐N/A
D.	Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation.	☐Yes ☐No ☐N/A
E.	Hard hats worn by all employees.	☐Yes ☐No ☐N/A
F.	Soils, materials and equipment set back at least 2' from the edge of the excavation.	☐Yes ☐No ☐N/A
G.	Barriers provided at all remotely located excavations, wells, pits, shafts, etc.	☐Yes ☐No ☐N/A
H.	Walkways and brides over excavations 4' or more in depth are equipped with standard guardrail.	☐Yes ☐No ☐N/A
I.	Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic.	☐Yes ☐No ☐N/A
J.	Employees required to stand away from vehicles being loaded or unloaded.	☐Yes ☐No ☐N/A
K.	Warning system established and utilized when mobile equipment is operating near the edge of the excavation.	☐Yes ☐No ☐N/A
L.	Employees prohibited from going under suspended loads.	☐Yes ☐No ☐N/A
M.	Employees are prohibited from working on the faces of sloped or benched excavations above other employees.	☐Yes ☐No ☐N/A
Utilities		
A.	Utility companies contacted and/or other utilities located.	☐Yes ☐No ☐N/A
B.	Exact location of utilities marked when approaching the utilities.	☐Yes ☐No ☐N/A
C.	Underground installations protected, supported, or removed when excavation is open.	☐Yes ☐No ☐N/A
Means of Access and Egress		
	Lateral travel to means of egress no greater than 25' in excavations 4' or more in depth.	☐Yes ☐No ☐N/A
	Ladders used in excavations secured and extended 3' above the edge of the trench.	☐Yes ☐No ☐N/A
	Structural ramps used by employees designed by a competent person.	☐Yes ☐No ☐N/A
	Structural ramps used for equipment designed by a registered professional person.	☐Yes ☐No ☐N/A

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCAVATION SAFETY POLICY STATEMENT AND ENROLLMENT DOCUMENT

It is the policy of Excel Contractors that all employees supporting or directly involved in excavation-related policies or activities will follow the following laws of the states and/or provinces in which they are working and the procedures laid out in Excel's Dig-In Prevention Plan.

It is the policy of Excel Contractors that no later than 120 days from Excel's Gold Shovel Standard certification date, 100% of employees on a job site, including any recent or new hires, will have completed Excel's excavation safety training curriculum prior to being on any job site, which includes any excavation of any type or sort, and will repeat the training at least every 12 months. Furthermore, Excel will document training attendance, and records of the most recent training will be preserved.

It is the policy of Excel Contractors to encourage and empower all employees to speak up without fear of retribution when they observe situations that are unsafe or in conflict with Excel's policy on excavation-related work.

It will be the policy of Excel Contractors to hire subcontractors who have a Gold Shovel Standard certification for all excavation-related work, with few exceptions. I understand that should our subcontractor, whom is Gold Shovel Standard certified, have an incident, there will be minimal impact on Excel's rating. I further understand that should our subcontractor, which is not Gold Shovel Standard certified, have an incident. There will be a more significant impact on Excel's rating than if the incident had been caused directly by Excel Contractors.

Excel Contractors understands that all damages to any buried infrastructure (gas, electric, water, sewer, telecom, etc.) must be reported to Gold Shovel Standard within 3 business days of an incident as a condition of maintaining a valid Gold Shovel Standard certification. If confidentiality provisions are required, incidents can be reported without identifying information (location and asset owner).

I understand that my signature below as an officer of Excel Contractors is obligating Excel to maintain the policies listed above or as may be amended or expanded from time to time as a condition of continued participation in the Gold Shovel Standard program.

I fully understand that Gold Shovel Standard is going to share the performance information of Excel Contractors with its various members, which may have positive or adverse consequences for Excel Contractors, and I am voluntarily enrolling Excel in Gold Shovel Standard. Enrollment and participation in Gold Shovel Standard constitutes acceptance of the Terms of Service and Privacy Policy posted on our website, and my signature below confirms my acceptance of those agreements.

Printed Name of Corporate Officer_____

Signature of Corporate Officer_____

Title_____

Date_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EMPLOYEE SAFETY ACKNOWLEDGMENT AND ACCOUNTABILITY STATEMENT

"I have been trained on safe excavation practices and always agree to follow these procedures and understand that I will be breaking the law (LA Rev Stat § 40:1749.13) if those procedures are not followed."

"I understand that I will violate the law if I fail to fully comply with the safe excavation practices and procedures defined in (LA Rev Stat § 40:1749.13)."

"I will ensure that there is a valid One-Call ticket physically present (whether electronic or on paper) at all worksites where excavation operations are being performed."

"I will notify the One-Call center of continuing work to obtain a ticket renewal before a ticket expires if work is to continue past the ticket expiration date."

"I have been made aware of the proper way to contact the One-Call center and shall do so at the appropriate times."

"If, during the job, the location markings become no longer visible, I will stop work, contact the One-Call center, and request the operator to re-mark the lines before resuming work."

"If a utility cannot be found where it was marked, I will stop work and call the One-Call center and resume work when the operator has properly marked the facility."

"If a utility is found where none was marked, I will stop work and call the One-Call center, and resume work when the operator has properly marked the facility or confirmed the facility to be inactive and abandoned."

"I understand that Louisiana law requires an 18-inch tolerance zone from the outside diameter of the buried facility. I understand that I must hand excavate within 18" of the outside diameter of the facility. Facilities that conflict with my excavation are to be located with hand tools and protected. No mechanized equipment is to be used without permission from the owner of the buried line."

"As an Excel employee, I am empowered and have been given the authority to stop work without fear of reprimand or retaliation."

"I have the authority to immediately STOP any work activity that presents a danger to myself, my co-workers, or the public. I will rectify, question, and report any unsafe conditions or acts to my supervisor that do not comply with Excel's safety and health policies."

"As an Excel employee, I am empowered and responsible for my personal safety and my fellow employees' safety."

Printed Name of Employee_____

Signature of Employee_____

Job Title_____

Date_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EMPLOYEE VERIFICATION OF TRAINING

I verify that I have been trained on safe excavation practices and procedures. I fully understand Excel's guidelines for this topic and agree to uphold these guidelines at all times. I also fully understand that Louisiana Law mandates the application of safe excavation practices and procedures, as defined in (LA Rev Stat § 40:1749.13). I confirm that I have received the appropriate training in the following areas:

1. The requirement to have a valid and current One-Call ticket physically present (whether electronic or paper) on all sites
2. The requirement to renew locating tickets prior to expiration
3. Tolerance Zones (Hand Expose Zones)
4. What a tolerance zone is
5. The state and/or province-specific width or a most conservative policy that covers the state(s) and/or province(s) in which the company works
6. The state and/or province-specific procedures for working within the tolerance zone (for example, "no mechanized equipment shall be used – hand tools only") or a most conservative policy that covers all states and/or provinces
7. What to do if marks are no longer visible during a job (maintaining marks on job sites)
8. What to do if a utility cannot be found as marked
9. What to do if an unmarked utility is found during excavation

Printed Name of Employee_____

Signature of Employee_____

Job Title_____

Date_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Gold Shovel Standard: Test

Employee Name: _____

Date: _____

Multiple Choice: Please circle the best possible answer.

1. What should be done before any excavation work begins?
   A. Contact the Louisiana One-Call Center to obtain the proper paperwork.
   B. Have a meeting with your supervisor.
   C. Discuss the excavation with your co-workers.

2. How large of a tolerance zone is recognized by the state of Louisiana?
   A. 25"
   B. 18"
   C. 30"

3. What should be done if a utility line cannot be found where a mark was placed?
   A. Continue digging
   B. Leave work and go home
   C. Stop work and contact the Louisiana One-Call Center

4. According to the One-Call marking system color code, what does the color red mean?
   A. Indicates electric power lines, conduits, and cables
   B. Reclaimed water, irrigation, and slurry lines
   C. Sewers and drain lines

5. Which is an acceptable digging method while in a tolerance zone?
   A. Hand shovels
   B. Backhoe
   C. Excavator

Fill in the blank: Please fill in the best possible answer.

6. _____ is the phone number for the Louisiana One-Call Center.

7. _____ should be physically present on the job site at all times, whether electronic or on paper.

8. The Louisiana One-Call System must be contacted at least _____ hours before any excavation work can begin.

9. The tolerance zone is a _____ area, measured from the marks, where the underground facility is located.

10. Failing to comply with the excavation laws in Louisiana can result in a _____ penalty.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

True or false. Please circle true or false for the following questions.

11. T or F: A call to the One-Call Center must be made if the utility markings become no longer visible.

12. T or F: One-Call tickets should be renewed before the expiration date.

13. T or F: There is no need for excavation to stop if an unmarked underground utility is found during excavation.

14. T or F: Contacting the One-Call Center can help keep employees safe.

15. T or F: Excavation should be stopped if an underground utility cannot be found where it is marked.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Gold Shovel Standard Test: Answer Key

1. A. Contact the Louisiana One-Call Center to obtain the proper paperwork
2. B. 18"
3. C. Stop work and contact the Louisiana One-Call Center
4. A. Indicates electric power lines, conduits, and cables
5. A. Hand shovels
6. 811
7. One-Call ticket
8. 48
9. Horizontal
10. Civil
11. True
12. True
13. False
14. True
15. True

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ISOLATED WORK CREWS

GENERAL

- In instances where employees are working in areas isolated from normal working areas and population, it will be necessary to provide reliable communication devices (i.e., radios, cellular phones, etc.).
- Special consideration should be taken as to the severity of the job task in relation to the frequency of contact with site supervision.
- Visual or verbal communication shall occur at least three (3) times during any given shift (e.g., beginning of shift, mealtime, or end of shift).
- Where employees are located in remote areas, dependable transportation, and emergency procedures will be provided, and documentation will be maintained to support such.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PROCESS SAFETY MANAGEMENT

PURPOSE

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- OSHA Standard 1910.119 was established to minimize the potential of a catastrophic release of toxic, reactive, flammable, or explosive chemicals in the work environment.
- The ultimate responsibility for compliance with this standard rests with the client (process originator). The second level of responsibility rests with the prime contractor. EXCEL is generally contracted to the prime contractor and, as such, has the following responsibilities for compliance with these standards:

TRAINING

- The plant owner shall evaluate the hazards and risks, establish a suitable procedure, and gather other data that must be conveyed to contractors prior to mobilization. In turn, the contractor is responsible for ensuring that employees are properly trained in safe work rules and procedures. It is also the contractor's responsibility to ensure that those employees comply with the safe work rules and procedures set forth by both the plant and the contractor, as regulated by federal and state governing agencies. The contractor shall ensure that each contract employee is instructed in the known potential fire, explosion, or toxic release hazards related to his/her job and the process and the applicable provisions of the emergency action plan. The contract employer shall advise the employer of any unique hazards presented by the contract employer's work or of any hazards found by the contract employer's work.
- Documentation for this training is referred to as Site Specific Orientation. The documentation used to support this orientation is referred to as Process Hazard Analysis (PHA). This training documentation must be completed and on file at the job site for EXCEL.
- This procedure is designed to help minimize or prevent employee exposure while performing construction or maintenance work in process plants.

APPLICATION

- EXCEL's Safety Department will administer all aspects of this program.
- Prior to mobilization, the EXCEL Safety Department shall request the client to provide known potential fire, explosion, or toxic release hazards (PHAs).
- EXCEL's Safety Department shall request the client's established procedures for the following:
    1. Lock out/tag out
    2. Confined Space
    3. Emergency Evacuation
    4. Permit
    5. Control of Entry
    6. Management of Change
- EXCEL's Safety Department shall incorporate all information provided by the client into a specific employee training and testing program for verification of comprehension of the training program.

SAFETY AUDITS

- EXCEL's Safety Department will routinely audit jobs to locate and eliminate hazards, unsafe conditions, unsafe work habits, or employees with weak safety attitudes.
- EXCEL's Safety Department shall conduct a PSM audit as soon as possible after mobilization.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- All audits shall be discussed in weekly construction meetings to make everyone aware of hazards that have been identified and/or eliminated.
- Unsafe machines, tools, or equipment found in the audit shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from their place of operation.
- Employees must immediately report all accidents, injuries, and near misses—an incident investigation initiated within 48 hours. Resolutions and corrective actions must be documented and maintained for five years.
- All contract employers must respect the confidentially of trade secret information when the process information is released to them.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Process Safety Checklist

Plant: _____ Project Manager: _____

	YES	NO
Client information requested	_____	_____
Client information received	_____	_____
TRAINING:		
Client		
Overview of process	_____	_____
Management of change	_____	_____
EXCEL/Client		
Lockout/Tagout	_____	_____
Confined Space	_____	_____
Line breaking	_____	_____
Control of entrance	_____	_____
Emergency procedures	_____	_____
Fire, explosion/toxic hazards	_____	_____
Subcontractors		
Written program	_____	_____
Audit of training results	_____	_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Client PSM Request

EXCEL does hereby formally request _____ written PSM standard to include all known fire, toxic, reactive, and explosion hazards.

Date: _____ EXCEL Job No.: _____

Supervisor: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

LEAD POLICY

POLICY STATEMENT

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Providing a safe and healthy work environment for employees is the most important objective. We recognize that our industry has occupations identified by OSHA as potential lead exposure sources. The Company will utilize all possible methods to ensure that our employees are not exposed to lead in the workplace as defined by OSHA 29 CFR 1910.1025. To accomplish this goal, complete compliance with our Lead Program is required by all.

SYNOPSIS FOR LEAD TRAINING

- General contracting has occupations identified by OSHA as potential lead exposure sources.
- HEALTH EFFECTS: Routes of entry include inhalation and ingestion. Inhaling airborne concentrations of solid lead particles presents the principal threat to systemic contamination. Lead is a toxic metal that is transmitted through the bloodstream and stored in various organs.
- The human body contains lead to some degree. The problem arises when lead consumption exceeds the amount that the body can excrete.
- Acute Effects: Brain disorder known as acute encephalopathy that may develop into seizure, coma, or death from cardiorespiratory arrest – highly unlikely
- Chronic Effects:
    - Long-term encephalopathy
    - Damage to blood-forming systems as lead disturbs oxygen's flow through the bloodstream—anemia results
    - Damage to the nervous system, including:
        - Nervousness
        - Disorientation
        - Vertigo
        - Memory loss
    - Damage to reproductive systems, including:
        - Decreased sex drive
        - Altered sperm structure
        - Increased instances of miscarriage and stillbirth
        - Low infant birthweight
        - High infant mortality
        - Birth defects
    - Renal Failure: kidney disease/damage is usually extensive by the time symptoms manifest themselves.

POTENTIAL LEAD EXPOSURE SOURCES

- Abrasive blasting activities that may release respirable-sized particles of residual lead in a base metal or its coating
- Welding, burning, and grinding activities that may release respirable-sized particles from coated surfaces
- NOTE: Lead-based paints have historically been the prime agents of lead poisoning. Although domestic suppliers have largely eliminated this element or reduced it to trace levels, lead coatings remain a concern in older plants and foreign equipment.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

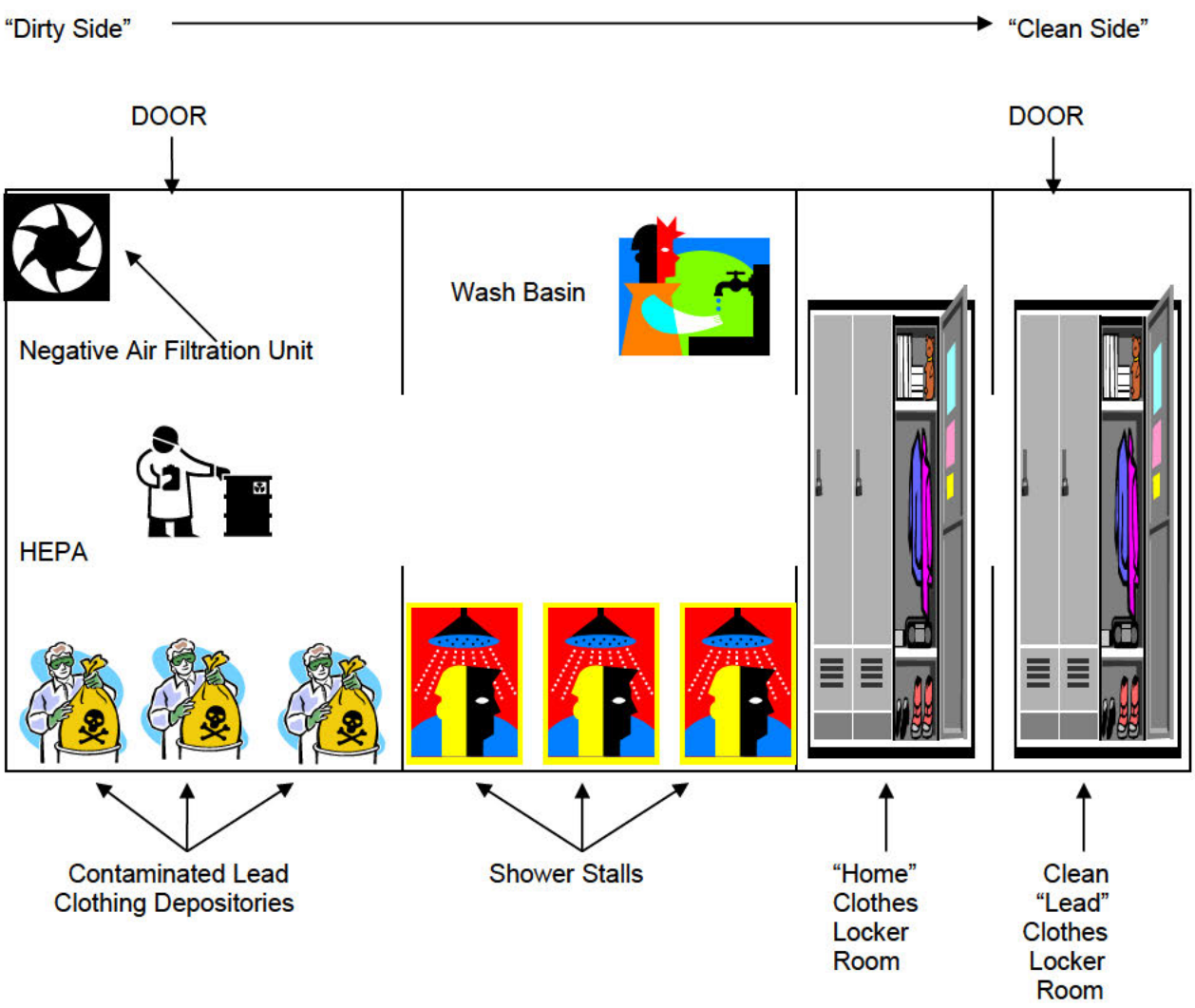
METHODS OF DETECTION

- Atmospheric monitoring is used to detect the presence and (if present) the concentration of respirable lead in the air. OSHA requires initial air monitoring for activities that could generate lead exposure. Important thresholds are:
    - 30 μg /m3 Action Level marks the point at which the employer must establish a lead control program.
    - 50 μg /m3 PEL (maximum allowable 8-hour TWA): Continued analyses above the PEL result in the work site's designation as a Regulated Area accessible only to Authorized Persons.
- Atmospheric Testing. After initial monitoring, sampling must be repeated every six months until consecutive samples collected at least seven days apart indicate results below the action level. The program remains in effect until sampling and analyses reveal acceptable concentrations.
- Medical surveillance is performed every 6 months for persons who are or may be exposed to concentrations at or above the action level for a total of 30 or more days during a year. The purpose is to ensure that persons who are in the exposure control program do not have excessive lead levels in their blood. Also:
    - Medical surveillance will be conducted every 2 months if an employee's lead blood level is at or exceeds 40 ug/100g of whole blood.
    - An analysis of 50 ug/100g of whole blood results in the Worker's removal from the lead site until the lead blood level lowers and stabilizes.
- Note: OSHA prohibits treating lead poisoning with chelating ("de-leading") agents without the supervision of a physician. Although this measure has sometimes provided relief from chronic ailments that have not responded to other treatments, it can cause irreversible kidney damage.

CONTROL MEASURES

- Engineering Controls mechanically reduce dependence on personal respiratory protection by reducing or diluting lead in the air.
    - Ventilation
        - General/Forced Air
        - Local Exhaust
    - Negative Air (HEPA) Filtration Systems (lead & lunch trailers)
    - Dust Collection Systems (Shothouse)
- Work Practice Controls (Hygiene/Decontamination):
    - Vacuum (HEPA) protective clothing. Do not brush or blow off dust. This may stir up lead particles and place them in the breathing zone.
    - Utilize lead (clean side / dirty side) and lunch trailers.
    - Wash hands often and shower at the end of the shift to avoid transferring contaminants to home and family.
    - Do not eat, drink, smoke, or chew gum in the regulated area (eliminate ingestion as a route of entry.)
- Person Protective Equipment:
    - Respirators (explain uses and limitations)
    - Coveralls and inner clothing
    - Gloves

Decontamination Trailer



Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Safety and Health Policies and Procedures
Control, Handling, and Use of Lead Policy & Procedure

Originator: _____ Safety Director

Approvals: _____ Operations Manager

_____ Vice President

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SAFETY AND HEALTH POLICIES AND PROCEDURES
CONTROL, HANDLING, AND DISPOSAL OF LEAD POLICY AND PROCEDURE

Table of Contents

Page

I. Policy 7

II. Purpose and Applicability 7
A. Purpose 7
B. Applicability 7

III. References 7

IV. Procedures 7

A. Definitions 7
B. Program Responsibilities 8
C. Compliance Program 9
D. Airborne Lead Exposure Monitoring 11
E. Medical Surveillance 12
F. Employee Training 12
G. Contractors 13
H. Program Effectiveness 13
I. Record Keeping 13

Appendices

Best Management Practices and Explanations

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

I. POLICY

- It is the policy of The Company to recognize, evaluate, and control lead hazards in order to provide a safe and healthful workplace for its employees.
- The Corporate Safety Director will be responsible for maintaining, approving, and incorporating revisions to these policies and procedures. The supervisors must carry out all procedures pertaining to their operations. The Company will utilize all possible methods to ensure that our employees are not exposed to lead in the workplace as defined by OSHA 29 CFR 1910.1025. To accomplish this goal, complete compliance with our Lead Program is required by all. All proposed revisions must be submitted to the Corporate Safety Director for consideration and/or incorporation. All revisions will be approved by top management prior to implementation.

II. PURPOSE AND APPLICABILITY

- Purpose
  - This procedure serves as a compliance program for the control, use, and handling of all lead-containing materials at the facility that may be present in concentration and form that may be of regulatory concern or may pose a health hazard to our employees.
- Applicability
  - This procedure is applicable to all employees, divisions, vendors, and subcontractors involved in the handling, receiving, storage, moving, and disposal of lead and lead-containing materials.

III. REFERENCES

- 29 CFR 1915.1025, lead
- Respiratory Protection Policy
- National Institute of Occupational Health and Safety (NIOSH), Manual of Analytical Methods, Publication Number 94-113, August 1994.

IV. PROCEDURES

- Definitions
  - Action Level: An airborne lead concentration of 30 micrograms per cubic meter (μg/m3) of air as averaged over 8 hours.
  - Facility: The Company and/or Client Facility or job site
  - Exposure Assessment: A qualitative or quantitative determination of the magnitude, frequency, duration, and route of exposure directed at identifying potential overexposures.
  - Exposure or exposed: Subjected to a toxic substance or harmful physical agent in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.) without regard to the use or effectiveness of personal protective equipment.
  - Lead: All metallic lead, inorganic lead, and organic lead soaps. Organic lead compounds are excluded from this policy.
  - Lead Work Area: Any work area where lead is present.
  - Lead (Pb) Worker: Any employee exposed to airborne lead concentrations exceeding 30 μg/m3, the action level, averaged over an 8-hour work day for THIRTY or more days per year.
  - Regulated Area: Any work area where the level of airborne lead exceeds 30 μg/m3 averaged over 8 hours as determined by the Industrial Hygiene section or any area designated as such by Industrial Hygiene.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Exempt Worker: any employee of the general contracting department who is not a blaster and who is not called upon to blast, including supervisors. These workers, although they may occasionally be exposed to low concentrations of lead (below the action level), are not in THE COMPANY's lead program.
- Permissible Exposure Limit (PEL): Established by OSHA (sec 29 CFR 1915.1000, Subpart Z or other substance-specific standards), the permissible concentration in air of a substance to which nearly all workers may be repeatedly exposed 8 hours a day, 40 hours a week, for 30 years without adverse health effects. Compliance with PELs is mandatory; exposures equal to or greater than the PEL are considered overexposures.
- Permissible Exposure Limit-Time weighted Average (PEL-TWA): An 8-hour time-weighted average exposure limit. The PEL for lead is 50 μg/m3, averaged over 8 hours.
- Subcontractors: Contractors who provide a complete labor service, who work independently under their supervisory personnel, and who often work separately and apart from The Company employees.
- Medical Surveillance: Necessary or required medical oversight, which may include biological monitoring, medical examination, physician consultation, and multiple physician review.

- Program Responsibilities
  - The Safety Department is responsible for:
    a. Providing annual training to Departmental Superintendents, Managers, and Supervisors in the requirements of this procedure and in hazard recognition techniques necessary for determining when environmental monitoring would be beneficial
    b. Providing specialized training to individual employees on lead hazards in accordance with the OSHA Lead Standard
    c. Ensuring that this policy and procedure is reviewed semi-annually as part of The Company's Safety and Health Self-Evaluation Program
  - The Industrial Hygiene section of the Safety Department is responsible for:
    a. Supervising and/or performing all exposure monitoring and reviewing all sampling analytical results in order to formulate necessary strategies for controlling lead exposures
    b. Specifying respiratory protection, protective clothing, and equipment based on exposure monitoring results
    c. Performing quantitative respirator fit testing on all Lead Workers for any tight-fitting facepieces they might wear
  - The Company Medical provider will:
    a. Perform employee medical surveillance as required by the OSHA Lead Standard and in accordance with The Company's Employee Medical Surveillance Procedure
    b. Notifying employees within 5 working days if their blood level is greater than 40 μg/100g whole blood
    c. Maintaining employee biological monitoring records and providing employee notifications in accordance with 1915.1025.
  - The Environmental Control section of the plant/client/facility is responsible for monitoring and controlling all lead disposal activities and lead emissions in air and water and maintaining all necessary permits.
  - Company Superintendents, Managers and Supervisors are responsible for:
    a. Informing each of their employees of the intent and requirements of this policy and procedure
    b. Scheduling and sending lead workers to the Safety Department for the training and fit testing specified in this lead program

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

c. Attending training programs concerning the details of this procedure and hazard recognition techniques
d. Maintaining records of employee training, fit testing, and participation in programs so that they can maintain a ready force to accomplish their work. Notify the Safety Department when new workers are to be introduced into the lead program.
e. Notifying the Safety Department of all new operations where lead hazards may be present which have not been previously evaluated by the Industrial Hygiene section
f. Notify the Safety Department of new workers to be involved in blasting and schedule them for necessary training and preparation.
g. Reporting situations where employee overexposure to lead may exist where previously recommended controls or PPE is believed to be inadequate
h. Reporting any problems with this control program to the Safety Department

- Subcontractors and vendors are responsible for:
  a. Complying with this procedure and performing their employee exposure evaluations
  b. Ensuring that their employees have been properly trained and fit tested in respirators appropriate to the lead concentrations they will encounter
  c. Ensuring their workers report for work clean-shaven
- All employees, foremen, and supervisors are responsible for taking ownership of the program and contributing their parts to make it work.

- Compliance Program
  - Operations in which lead is emitted:
    a. painting
    b. welding
    c. grinding
    d. burning
    e. demolition
    f. repair
    g. sandblasting
  - Operating procedures and maintenance practices are detailed in the respective department JSA's and procedures
  - Specific Means Used to Achieve Compliance – Reference OSHA Technical Manual, Section V: Chapter 3 (see attached)
  - Other General Methods of Compliance for Abrasive Blasting
    a. Where feasible, engineering controls such as but not limited to isolation, enclosure, exhaust ventilation, and dust collection are being used to reduce and maintain employee exposure to the permissible exposure limit of 50 μg/m3. Primer coatings with nominal zero lead have been selected. (There is usually a trace of lead present in nominal lead-free coatings.) Blasting agents with the lowest lead content have been selected. The Company has prohibited the use of agents with higher lead content.
    b. Whenever necessary, administrative controls in the form of rotating personnel out of a Regulated Area will be used to limit employee lead exposures to an average of 50 μg/m3 or less. Such controls are not currently being used.
  - Control Technology Considered - The greatest flexibility in controlling airborne lead in abrasive blasting is in the selection of the blasting medium. The Company has considered and attested silica sands, coal slags, and copper slags in addition to the recyclable steel shot.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Air Monitoring Data - The Company will rely on air monitoring data from our client. All air monitoring data performed by The Company for lead exposures is on file in the Safety Department.
- Implementation Schedule - All items of this plan are fully implemented. Study and review of the plan, the controls, the equipment, and the materials used are ongoing. Whenever this study indicates the need for significant control or operations modifications, those plans and implementation schedules will become a part of this lead control program.
- Work Practices
    a. No food, drink, tobacco products, gum, or cosmetics will be permitted in designated Lead Work Areas; eating, drinking, smoking, and chewing are prohibited in these areas. Reference OSHA Facts Sheet No. 93-49 (see attached).
    b. The following sign shall be clearly displayed immediately outside all restricted areas at all entryways:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING
RESPIRATOR REQUIRED

    c. Whenever practical, excessive accumulations of lead in the form of spent abrasive in the work area shall be collected at the end of each shift, the end of the day, or at the job's completion. Any time vacuum cleaners are used for this purpose, they shall exhaust through High Efficiency Particulate Air (HEPA) filters.
    d. Compressed air must not be used to clean lead-contaminated clothing. Compressed air shall not be used to clean lead-contaminated surfaces except in controlled blowdown operations.
    e. All employees designated as lead (Pb) workers must be properly trained, fit tested, and medically qualified to wear tight-fitting facepiece respiratory protection as described in The Company's Respiratory Protection Procedure, in addition to their training in the use of abrasive blasting hoods.
    f. Workers entering the regulated area while blasting or blowdown is not in progress shall wear a half-mask air-purifying respirator with P100 (or HEPA) cartridge filters (or a higher APF respirator approved for lead). Employees working in regulated areas (these are all blast areas) must wear the assigned type CE Abrasive blasting hood. EXCEPTION: Supervisors, pot tenders, or other qualified exempt personnel may enter the regulated area for brief periods for essential work activities with air purifying respirators (that is, without a Type CE hood) so long as they are at least 40' away from the actual blasting and are in no danger from the blast stream.
    g. Exempt personnel (workers not in the Lead Program) shall not be allowed in the blast area of the shot house when it is a regulated area. That is, exempt personnel are not authorized to enter the regulated area.
    h. Protective work clothing and equipment required to be used by Lead Workers:
        - Provided by The Company:
            - full body coveralls
            - gloves, hard hats, and safety shoes or disposable shoe coverlets
            - vented goggles or safety glasses (if not wearing an abrasive blasting hood).
    i. All protective clothing and equipment must be donned by the employee prior to entering the Regulated Area. Change room facilities (decontamination trailer) outside of the regulated area are provided for this purpose. They are equipped with separate storage systems to prevent cross-contamination between street clothing and protective work clothing.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

j. Exempt personnel shall be provided with and shall wear disposable dust protective coveralls when performing their assigned jobs. Disposable coveralls shall be disposed of at the end of the work shift or when damaged.
k. All crafts or job titles assigned to work in lead-producing areas and abrasive blasting shall continue to participate in the quarterly exposure monitoring (air sampling) program as required to maintain the validity of the exemption. In the event that any work process changes and exposure monitoring results indicate exposure levels equal to or in excess of the action level for lead, the affected crafts shall immediately revert to non-exempt status, i.e., return to the full coverage of the lead control program.
l. Respirators to protect against the overall dust hazard must be worn by any person entering the blast area for any reason during blasting, bobcat operation, or cleaning.
m. All contaminated clothing and equipment to be cleaned or laundered must be placed in designated containers in the lead change room facility, which display the following warning:

CAUTION: CLOTHING CONTAMINATED WITH LEAD.
DO NOT REMOVE DUST BY BLOWING OR SHAKING.
DISPOSE OF LEAD-CONTAMINATED WASTE WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

n. All employees designated as Lead (Pb) Workers must be decontaminated immediately after leaving the Lead Work Area. Decontamination can be accomplished by thoroughly washing the face and hands and showering in the decontamination trailer.
o. All lead or lead-containing scrap, waste, or debris must be treated as hazardous waste and placed in containers labeled special waste. Disposal of lead or lead-containing waste

- Airborne Lead Exposure Monitoring
  - The Industrial Hygiene Department must be informed of all operations involving the processing or use of lead-containing materials prior to initiating such operations.
  - Representative sampling of exposed employees potentially exposed to the highest concentrations of airborne lead will be supervised and/or performed by the Industrial Hygiene Department. Sampling and analysis will be conducted according to NIOSH methods.
  - Upon completion of exposure monitoring surveys, the Industrial Hygiene Department will determine whether a worker or job class will be included in the lead program.
  - Periodic determinations of employee breathing zone lead exposures will be performed.
  - Employees whose exposure is represented by monitoring will receive written notification of their monitoring results within 5 days after receiving them.
- Medical Surveillance
  - Biological Monitoring
    - Frequency: The Company's Safety Department, through our Lead Monitor Contractor, will provide biological monitoring in the form of blood lead level and zinc protoporphyrin (ZPP) level for all employees classified as Lead Workers:
      - For workers without elevated lead levels, at least every six months.
      - At least every two months for each employee whose last blood sample indicated a blood lead level at or above 40 μg/100g of whole blood.
      - Every two weeks during medical removal (see E.6.).
    - Notification: If an employee's blood lead level exceeds 40 μg/100g, they will receive written notification within 5 working days after the Safety Department receives the results. Biological monitoring of such employees will be performed

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

every two months until two successive measurements are below 40 μg/100g. (1910.1025 (j)(2)(B)

- Medical Examinations
  - Frequency: The Medical Department will provide medical examinations by licensed physicians for all employees classified as Lead Workers:
    - Prior to assignment in the regulated area
    - At least annually for any worker whose blood lead was at least 40 μg/100g during the preceding 12 months
    - As soon as possible when signs or symptoms of lead poisoning are detected, suspected, or reported by the employee
    - As frequently as necessary for any employee to be medically removed from work, but at least monthly.
  - Content: Initial Lead Worker medical examinations will consist of a thorough physical, detailed work history, blood pressure measurement, routine urinalysis with microscopic examination, a blood sample and analysis which determines blood lead level, hemoglobin/hematocrit, red cell indices, and examination of peripheral smear morphology, zinc protoporphyrin, blood urea nitrogen, and serum creatinine as specified in 1910.1025 (j)(3)(ii).
- Removal Protection
  - The Company will remove an employee from Lead Work when that employee's blood lead level is at or above 60 μg/100g of whole blood (verified by follow-up two weeks later) or when the average of the last three blood lead concentrations (or the average of all the tests from the previous six months, whichever is longer) is at or above 50 μg/100g of whole blood.
  - An employee removed from lead exposure will be returned to his/her job when two consecutive blood sampling tests indicate that the employee's blood lead level is at or below 40 μg/100g of whole blood.
- General
  - All other requirements concerning medical monitoring of Lead Workers, as discussed in 29 CFR 1915.1025, will be followed.

- Employee Training
  - An annual training program will be initiated for all employees classified as Lead Workers. The lead training program will include the following:
    - Content of the OSHA Lead Standard and its appendices;
    - Specific nature of operations which could result in exposure to lead above the action level;
    - The purpose, proper selection, fitting, use, and limitations of respirators;
    - The purpose and a description of the medical surveillance program and the medical removal protection program;
    - Information concerning the adverse health effects associated with excessive exposure to lead (with attention to the adverse reproductive effects and hazards to the fetus and precautions for pregnant employees;
    - The engineering controls and work practices associated with the employee's job assignment;
    - An explanation of The Company's compliance plan for the OSHA Lead Standard;
    - An explanation to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician and
    - The employee's right of access to employee exposure and medical records under 29 CFR 1910.1020

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

    - As part of the training program, each Lead Worker will receive a quantitative respirator fit test in order to determine if the employee is receiving adequate protection. Successful completion of this test is required for an employee to participate in the lead program. These fit test procedures shall be repeated every year for employees classified as Lead Workers.
- Contractors
    - Subcontractors are required to perform their exposure assessments, train their employees, and provide any necessary personal protective equipment and are subject to compliance with all aspects of these procedures.
- Program Effectiveness
    - To ensure proper implementation, this policy and procedure will be reviewed and revised every 6 months based on workplace changes and conditions. These reviews will be documented. Evaluation of the program will include observation of and consultations with employees to determine if there are problems with current practices.
    - As part of the training program, each Lead Worker will receive a quantitative respirator fit test in order to determine if the employee is receiving adequate protection. Successful completion of this test is required for an employee to participate in the lead program. These fit test procedures shall be repeated every year for employees classified as Lead Workers.
- Recordkeeping
    - All recordkeeping relative to this program (i.e., sample data reports, analytical results, equipment calibration records, training records, etc.) shall be formally documented and maintained on file.
      Employees will receive written notification of exposure monitoring results within 5 days of receipt of results.
    - The Safety Department will maintain employee exposure records for at least 40 years or duration of employment plus 20 years, whichever is longer.
    - The Company Safety Department, through our Lead Monitor Contractor, will maintain medical surveillance records of all workers who have been biologically monitored for lead for at least 40 years or the duration of employment plus 20 years, whichever is longer.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Appendix A (non-mandatory):
Best Work Practices and Explanations

A.1) The use of the change room and shower facility by exempt personnel involved in abrasive blasting operations is strongly recommended.

A.2) Awareness training on the hazards of lead will be made available to exempt employees. This training can help exempt workers understand what is taking place around them for the non-exempt workers. Attendance at the awareness training is a condition of employment.

A.3) Exempt workers will not be issued reusable coveralls, will not be included in formal hazard training for lead, nor will they participate in the biological monitoring program.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CADMIUM EXPOSURE

PURPOSE

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- This procedure provides mandatory guidelines to protect the safety and health of all Company employees where the potential exposure to harmful concentrations of cadmium may exist. Specifically, this procedure establishes safe work practices, personal hygiene, engineering and administrative controls, and medical monitoring for any work involving cadmium.

SCOPE

- This procedure applies to all occupational exposure to cadmium in any amount and form (metallic, inorganic, and organic). The requirements of this procedure apply to all Company personnel and subcontractors working on projects where cadmium exposure control requirements are applicable.

REFERENCES

- Title 29, Code of Federal Regulations, Parts 1910.1000, 1910.1027 and 1910.125, Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.
- Title 29, Code of Federal Regulations, Part 1926.55, Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.
- Title 29, Code of Federal Regulations, Part 1926.1127, Cadmium Exposure in Construction; Interim Final Rule, Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.

APPENDIXES

- Appendix A
    - Table A – Biological Marker Monitoring Result Category
    - Table B – Actions Determined by Biological Monitoring

GENERAL

- The standard sets the permissible exposure limit (PEL) for cadmium in construction and general industry at 5 micrograms per cubic meter of air (5 μg/m3) at an 8-hour time-weighted average (TWA). The standard also sets an action level, which triggers various requirements at 2.5 μg/m3. Where feasible, the PEL should be achieved by engineering and work practice controls.

DEFINITIONS

- Action Level – Employee exposure, without regard to the use of respirators, to an airborne concentration of cadmium of 2.5 micrograms per cubic meter of air (2.5 μg/m3) calculated as an 8-hour time-weighted average (TWA).
- Authorized Person – Any person specifically authorized by the employer and required by work duties to be present in regulated areas or any person authorized by the Occupational Safety and Health Act (OSHA) or regulations issued under it to be in regulated areas
- Competent Person – One who is capable of identifying existing and predictable cadmium hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them
- Employee Exposure – Exposure to airborne cadmium that would occur if the employee were not using respiratory protective equipment.
- Exposure Assessment – Breathing zone air sampling utilizing a properly calibrated air sampling pump connected via flexible tubing to a filter cassette. The cadmium particulates are collected on

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

a membrane filter and subsequently analyzed by an American Industrial Hygiene Associated accredited laboratory.

- Final Medical Determination – If the written medical opinion of the employee's health status by the examining physician under section 5 "Medical Surveillance," if multiple physician review under section 5 "Medical Surveillance," or if the alternate physician determination under section 5 "Medical Surveillance" is invoked, it is final, written medial finding, recommendation or determination that emerges from that process.
- High-Efficiency Particulate Air (HEPA) Filter – A filter capable of trapping and retaining at least 99.97 percent of mono-dispersed particles of 0.3 micrometers in diameter or larger
- Regulated Area – Any area in which airborne cadmium levels exceed or can be expected to exceed the PEL.

RESPONSIBILITIES

- The Site Manager/Supervisor is responsible for implementing and enforcing this procedure. The Corporate Safety Representative is responsible for monitoring compliance with this procedure.

PROCEDURE

- Cadmium can be absorbed into the body by inhalation (breathing) and ingestion (eating). Very small amounts of cadmium that may be unintentionally ingested via eating, drinking, or smoking on the job can be harmful. Good personal hygiene is important in all jobs where cadmium is present.
- Cadmium can cause skin or eye irritation. Cadmium poisoning can occur at high exposure concentrations (acute) or at low exposure concentrations over a long time (chronic) and can cause either temporary or permanent damage.
- An increasing blood cadmium level usually means that there has been recent exposure and that cadmium is building up in the body faster than it is being eliminated. The early effects of cadmium poisoning are not specific and resemble "flue-like" illnesses. Worker awareness and training are important so that employees can recognize the symptoms of exposure and get prompt medical attention.
- Cumulative exposure to cadmium may result in damage to the kidneys and an increased risk of cancer of the lung and prostate.

PERMISSIBLE EXPOSURE LIMIT (PEL)

- No employee is to be exposed to cadmium concentration above the PEL of 5 μg/m3 of air. The PEL is an 8-hour average of exposure for any workday.

EXPOSURE ASSESSMENT

- The Company shall conduct an exposure assessment for each workplace or work operation covered by this procedure to determine whether any employee is exposed to cadmium at or above the action level. Employee exposure is the exposure that would occur if the employee were not using a respirator.
- The initial assessment may be based on previous objective data or historical measurements of airborne cadmium. To satisfy the initial cadmium exposure assessment, the historical monitoring data must have been obtained since September 14, 1991, with similar processes, work practices, and cadmium-containing materials. If such data are not available, monitoring of a representative sample of employees with the highest exposure levels is required.
- It is not a requirement that each employee's exposure level be measured. Exposure monitoring must consist of at least one personal breathing zone sample for each job classification within each operation for each shift or the shift with the highest exposure level. Full-shift personal samples shall be representative of the monitored employee's regular, daily exposure to cadmium.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- If the initial determination reveals exposures at or above the action level but at or below the PEL, monitoring shall be performed every 6 months until at least two consecutive measurements taken at least 7 days apart are below the action level.
- If the initial determination reveals exposure levels above the PEL, monitoring shall be performed at least every 6 months and be continued until at least two consecutive measurements taken at least 7 days apart are at or below the PEL.
- The method of monitoring and analysis shall have an accuracy (to a confidence level of 95 percent) of not less than plus or minus 25 percent for airborne concentrations of cadmium equal to or greater than 30 µg/m3.
- Within 5 working days after completion of the exposure assessment, The Company shall notify each employee in writing of the monitoring results, including corrective actions to be taken if the exposure was found to be at or above the PEL.
- The Company shall institute the exposure monitoring required above whenever there has been a change in the raw materials, equipment, personnel, work practices, or finished products that may result in additional employees being exposed to cadmium at or above the action level or in employees already exposed to cadmium at or above the action level being exposed above the PEL, or whenever the employer has any reason to suspect that any other change might result in such further exposure.

REGULATED AREAS

- The Company shall establish a regulated area wherever an employee's exposure to airborne concentrations of cadmium is or can reasonably be expected to be in excess of the permissible exposure limit (PEL).
- Regulated areas shall be demarcated from the rest of the workplace in any manner that adequately establishes and alerts employees of the boundaries of the regulated area. Access to regulated areas shall be limited to authorized persons.
- Each person entering a regulated area shall be supplied with and required to use a respirator, selected in accordance with the NIOSH and Section 8.4, Respiratory Protection Program of the Corporate Safety Manual.
- Supervisors shall ensure that employees do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas, carry the products associated with these activities into regulated areas, or store each product in those areas.

METHODS OF COMPLIANCE

- Employee exposure levels to cadmium shall be reduced to, or below, the PEL by means of engineering controls, work practices, and, as a last resort, respiratory protection.
- The requirement to implement engineering and work practice controls to achieve the PEL does not apply where:
    1. The employee is only intermittently exposed, and
    2. The employee is not exposed above the PEL on 30 or more days per year (12 consecutive months).
- Whenever engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, The Company shall use respiratory protection.
- The Company shall not use employee rotation as a method of compliance.
- Prior to the commencement of a project or work operation with potential for exposure to cadmium, The Company shall establish and implement a site-specific written compliance program to achieve compliance with this procedure.
- Where the PEL is exceeded, a written compliance program shall be established and implemented to reduce employee exposure to or below the PEL by means of engineering and work practice controls. To the extent that engineering and work practice controls cannot reduce exposures to or

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

below the PEL, the written compliance program shall include the use of appropriate respiratory protection to achieve compliance with the PEL.

- The written compliance program shall include at least the following:
    - A description of each activity in which cadmium is emitted (e.g., equipment used, materials involved, controls in place, crew size, employee job responsibilities, operating procedures, and maintenance practices)
    - A description of the specific means that will be employed to achieve compliance, and where engineering controls are required, engineering plans and studies used to determine methods selected for controlling exposure to cadmium
    - A report of the technology considered in meeting the PEL
    - Air monitoring data that document the source of cadmium emissions
    - A detailed schedule of implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.
    - A work practice program that includes provisions for protective work clothing and equipment, housekeeping, and hygiene facilities and practices, as well as other relevant good work practices
    - An administrative control schedule
    - A description of arrangements made among contractors on multi-contractor sites with respect to informing affected employees of potential exposure to cadmium and with respect to responsibility for compliance
    - A written plan for emergencies, including respirator use and PPE
    - Other relevant information
- The compliance program shall provide for frequent and regular inspections of job sites, materials, and equipment to be made by a competent person.
- A copy of the written program shall be submitted, upon request, to any affected employee, any authorized employee representative, or any OSHA compliance personnel. It shall be available at the work site for examination and copying by any OSHA compliance personnel.
- The written program shall be revised and updated at least every 6 months to reflect the current status of the program.
- Where mechanical ventilation is used to control cadmium exposure, an evaluation shall be made of the mechanical performance of the system in controlling exposure as necessary to maintain its effectiveness.
- Measurements of the system's effectiveness in controlling exposure shall be made as necessary within five working days of any change in production, process, or control that might result in a significant increase in employee exposure to cadmium.
- Recirculation of air – If air from exhaust ventilation is recirculated into the workplace, the system shall have a high-efficiency filter and be monitored to ensure effectiveness.
- Procedures shall be developed and implemented to minimize employee exposure to cadmium when maintenance of ventilation systems and changing of filters is being conducted.
- If administrative controls are used as a means of reducing employee TWA exposure to cadmium, The Company shall establish and implement a job rotation schedule that includes:
    - Name or identification number of each affected employee
      Duration and exposure levels at each job or workstation where each affected employee is located
    - Any other information which may be helpful in assessing the reliability of administrative controls to reduce exposure to cadmium

RESPIRATORY PROTECTION

- When the use of respirators is required, The Company shall provide, at no cost to the employee, and assure the use of respirators that comply with the requirements of this paragraph. Respirators shall be used in the following circumstances:

- When an employee's exposure to cadmium exceeds the PEL
- In work situations in which engineering controls and work practices are not sufficient to reduce exposures to or below the PEL
- Whenever an employee requests a respirator
- During exposure assessment

- No employee must use a respirator if, based on their most recent medical examination, the examining physician determines that they will be unable to continue to function normally while using a respirator. If the physician determines that the employee must be limited in, or removed from, their current job because of their inability to use a respirator, the limitation or removal must be in accordance with the medical removal section of this procedure.
- If an employee has breathing difficulty during fit testing or respirator use, the employee must be provided with another medical examination to determine if the employee can use a respirator while performing the required duties.
- A written plan shall be developed and implemented for reacting to emergencies involving substantial releases of airborne cadmium. The plan shall include provisions for the use of appropriate respirators and personal protective equipment. In addition, employees not essential to correcting the emergency shall be restricted from the area, and normal operations shall be halted in that area until the emergency is abated.
- The selection of an appropriate respirator or combination of respirators must be made from the following table:

Respiratory Protection for Cadmium

Airborne concentration or condition of use[a]	Required respirator type[b]
10 x or less	A half mask, air-purifying equipped with a HEPA filter.[d]
25 x or less	A powered air-purifying respirator ("PAPR") with a loose-fitting hood or helmet equipped with a HEPA filter or a supplied-air respirator with a loose-fitting hood or helmet facepiece operated in the continuous flow mode
50 x or less	A full facepiece air-purifying respirator equipped with a HEPA filter or a powered air-purifying respirator with a tight-fitting half mask equipped with a HEPA filter, or a supplied air respirator with a tight-fitting half mask operated in the continuous flow mode
250 x or less	A powered air-purifying respirator with a tight-fitting full facepiece equipped with a HEPA filter or a supplied-air respirator with a tight-fitting full facepiece operated in the continuous flow mode
1,000 or less	A supplied-air respirator with a half mask or full facepiece operated in the pressure demand or other positive pressure mode
>1,000 or unknown concentrations	A self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode, or a supplied-air respirator with a full facepiece operated in the pressure demand or other positive pressure mode and equipped with an auxiliary escape type self-contained breathing apparatus operated in the pressure demand mode
Fire fighting	A self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode

[a] Concentrations expressed as multiple of the PEL
[b] Respirators assigned for higher environmental concentrations may be used at lower exposure levels. Quantitative fit testing is required for all tight-fitting air purifying respirators where the airborne concentration of cadmium exceeds 10 times the TWA PEL (10 x 5 ug/m^3 = 50 ug/m^3). A full facepiece respirator is required when an eye irritation is experienced.
[c] HEPA means High-efficiency Particle Air
[d] Fit testing, qualitative or quantitative, is required
SOURCE: Respiratory Decision Logic, NIOSH, 1987.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- The Company shall provide a powered air-purifying respirator (PAPR) in lieu of the respirator specified in the table above whenever:
    - An employee chooses to use this type of respirator
    - The PAPR will provide adequate protection to the employee
- The Company shall select respirators from among those approved by the National Institute for Occupational Safety and Health (NIOSH) for protection against cadmium dust, fumes, and mist.
- The Company shall ensure that the respirator issued to an employee exhibits minimum facepiece leakage and that the respirator is fitted properly. A qualitative or quantitative face fit test must be performed at the time of initial fitting and repeated at least every 12 months for employees wearing negative pressure respirators.
- The qualitative fit test may be used only for testing the fit of half-mask respirators where they are permitted to be worn.
- A respiratory protection program must be instituted that contains basic requirements for the proper selection, use, cleaning, and maintenance of respirators. See Section 8.4, Respiratory Protection Program of the Corporate Safety Manual.
- The Company shall permit each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.
- Employees who wear respirators shall be permitted to leave work areas to wash their face and respirator facepiece whenever necessary to prevent skin irritation associated with respirator use.

PROTECTIVE CLOTHING AND EQUIPMENT

- When an employee is exposed to cadmium above the PEL, when employees are exposed to cadmium compounds that may cause skin or eye irritation, and as interim protection for employees during exposure assessment, protective work clothing and equipment that prevents contamination of the employee and the employee's garments shall be provided. Such clothing and equipment shall be provided at no cost to the employee, and their use enforced.
    - Protective clothing and equipment shall consist of, but not be limited to, the following:
    - Coveralls or similar full-body work clothing
    - Gloves, hats, and shoes or disposable shoe coverlets
    - Face shields, vented goggles, or other appropriate protective equipment
- Protective clothing and equipment shall be issued in a clean and dry condition at least weekly and daily to employees whose exposure levels, without regard to a respirator, are over 5 μg/m3 of cadmium as an 8-hour TWA.
- Protective clothing and equipment shall be repaired or replaced as needed to maintain their effectiveness.
- Protective clothing shall be removed at the completion of a work shift only in change areas provided for that purpose. No employee will take cadmium-contaminated protective clothing or equipment from the workplace except for employees authorized to do so for purposes of laundering, cleaning, maintaining, or disposing of cadmium-contaminated protective clothing and equipment at an appropriate location or facility away from the workplace.
- Removal of cadmium from protective clothing or equipment by blowing or shaking is prohibited to minimize secondary exposures to cadmium.
- Contaminated protective clothing, which is to be cleaned, laundered, or disposed of, shall be placed in a closed container in the change area, which prevents dispersion of cadmium outside the container. Containers of contaminated protective clothing and equipment shall be labeled as follows:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DANGER
CONTAINS CADMIUM
CANCER HAZARD
AVOID CREATING DUST
CAN CAUSE LUNG AND KIDNEY DISEASE

- All persons who clean or launder protective clothing or equipment shall be informed, in writing, of the potentially harmful effects of exposure to cadmium.

HOUSEKEEPING

- All work surfaces shall be maintained as free of accumulation of cadmium as practicable.
- Cleanup of floors and other surfaces where cadmium accumulates shall, wherever possible, be cleaned by vacuums equipped with HEPA filters and used and emptied in a manner that minimizes the reentry of cadmium into the workplace.
- Compressed air shall not be used to remove cadmium from any surface unless the compressed air is used in conjunction with a ventilation system designed to capture the airborne dust created by the compressed air.
- Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and found not to be effective.
- Waste, scrap debris, bags, containers, personal protective equipment, and clothing contaminated with cadmium and consigned for disposal shall be collected and disposed of in sealed impermeable bags or other closed, impermeable containers. These bags and containers shall be labeled in accordance with the section above.

HYGIENE FACILITIES AND PRACTICES

- In areas where employees are exposed to cadmium above the PEL without regard to the use of respirators, The Company shall ensure that food or beverages are not present or consumed, tobacco products are not present or consumed, and cosmetics are not applied. See Exhibit I – Clean House/Change Room.
- Clean change areas shall be provided for employees whose airborne exposure to cadmium is above the PEL. Change areas shall be equipped with separate storage facilities for protective work clothing and equipment and for street clothes to prevent cross-contamination.
- Employees shall not leave the workplace wearing any protective clothing or equipment that is required to be worn during the work shift.
- Shower facilities, where feasible, shall be provided for use by employees whose airborne exposure to cadmium is above the PEL. Employees shall shower at the end of the work shift and shall be provided with adequate supplies of cleansing agents and towels. Where showers are not provided, employees shall be provided with hand-washing facilities and shall be required to wash their hands and face before eating and at the end of the shift.
- Lunchroom facilities or eating areas shall be provided for use by employees whose airborne exposure to cadmium is above the PEL without regard to the use of respirators. Such facilities shall be kept as free as practicable from cadmium contamination (less than or equal to the action level) and shall be readily accessible to employees.

MEDICAL SURVEILLANCE

- There are two levels of medical surveillance: currently exposed medical surveillance, currently exposed medical surveillance and previously exposed medical surveillance program/baseline.
- A medical surveillance program must be established for employees currently exposed at or above the action level for more than 30 days a year. Medical surveillance program requirements are shown in Appendix A.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- A medical surveillance program must be established for employees previously exposed at or above the action level for more than 30 days a year. Medical surveillance program requirements are shown in Appendix A.
- The Company shall ensure that all medical examinations and procedures are performed by or under the supervision of a licensed physician. All such medical examinations and procedures shall be performed at no cost to the employee and at a reasonable time and place.
- The Company shall ensure that the collecting and handling of biological samples of cadmium in urine (CdU), cadmium in blood (CdB), and beta-2 microglobulin in urine (B(2)-M) taken from employees under this procedure is done in a manner that assures their reliability and that analysis of biological samples of cadmium in urine (CdU), cadmium in blood (CdB), and beta-2 microglobulin in urine (B(2)-M) taken from employees under this section is performed in laboratories with demonstrated proficiency for that particular analyte.
- The Company shall provide an initial (preplacement) examination to all employees covered by the medical surveillance program required in this procedure. The examination shall be provided to those employees within 30 days after initial assignment to a job with exposure to cadmium or no later than 90 days after the effective date of this section, whichever date is later.
- The initial (preplacement) medical examination shall include:
    - A detailed medical and work history, with emphasis on past, present, and anticipated future exposure to cadmium;
    - Any history of renal, cardiovascular, respiratory, hematopoietic, reproductive, and/or musculoskeletal system dysfunction.
    - Current usage of medication with potential nephrotoxic side effects;
    - Smoking history and current status; and
    - Biological monitoring includes the following tests:
        - Cadmium in urine (CdU), standardized to grams of creatinine (g/Cr);
        - Beta-2 microglobulin in urine (B(2)-M), standardized to grams of creatinine (g/Cr), with pH specified; and
        - Cadmium in blood (CdB), standardized to liters of whole blood (lwb).
- Recent Examination: An initial examination is not required to be provided if adequate records show that the employee has been examined in accordance with the requirements of 1926.1127 paragraph (1)(2)(ii) within the past 12 months. In that case, such records shall be maintained as part of the employee's medical record, and the prior exam shall be treated as if it were an initial examination.

MULTIPLE PHYSICIAN REVIEW

- If the Company selects the initial physician to conduct any medical examination or consultation provided to an employee under this section, the employee may designate a second physician to:
    - Review any findings, determinations, or recommendations of the initial physician and
    - Conduct such examinations, consultations, and laboratory tests as the second physician deems necessary to facilitate this review.
- The Company shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician provided by the employer conducts a medical examination or consultation pursuant to this section. The Company may condition its participation in and payment for multiple physician reviews upon the employee doing the following within fifteen (15) days after receipt of this notice or receipt of the initial physician's written opinion, whichever is later:
    - Informing the employer that they intend to seek a medical opinion and initiating steps to make an appointment with a second physician
    - If the findings, determinations, or recommendations of the second physician differ from those of the initial physician, then The Company and the employee shall ensure that efforts are made for the two physicians to resolve any disagreement.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - If the two physicians have been unable to resolve their disagreement quickly, then The Company and the employee, through their respective physicians, shall designate a third physician to:
    - Review any findings, determinations, or recommendations of the other two physicians and
    - Conduct such examinations, consultations, laboratory tests, and discussions with the other two physicians as the third physician deems necessary to resolve the disagreement among them.
- The Company shall act consistently with the findings, determinations, and recommendations of the third physician unless The Company and the employee reach an agreement that is consistent with the recommendations of at least one of the other two physicians.
- Alternate physician determination. The Company and an employee or designated employee representative may agree upon the use of any alternate form of physician determination in lieu of the multiple physician review described in 1926.1127, paragraph (1)(13), so long as the alternative is expeditious and at least as protective of the employee.
- Information the employer must provide to the employee is as follows:
  - The Company shall provide a copy of the physician's written medical opinion to the examined employee within two weeks after receipt thereof.
  - The Company shall provide the employee with a copy of the employee's biological monitoring results and an explanation sheet explaining the results within two weeks after receipt thereof.
- Within 30 days after a request by an employee, The Company shall provide the employee with the information the employer is required to provide the examining physician under 1926.1127, paragraph (1)(9).
- Reporting – In addition to other medical events that are required to be reported on the OSHA Form No. 300, The Company shall report any abnormal condition or disorder caused by occupational exposure to cadmium associated with employment as specified in Chapter (V)(E) of the Reporting Guidelines for Occupational Injuries and Illnesses.

MEDICAL REMOVAL PROTECTION

- The Company shall temporarily remove an employee from work where there is excess exposure to cadmium on each occasion that medical removal is required and on each occasion that a physician determines in a written medical opinion that the employee should be removed from such exposure. The physician's determination may be based on biological monitoring results, inability to wear a respirator, evidence of illness, other signs or symptoms of cadmium-related dysfunction or disease, or any other reason deemed medically sufficient by the physician.
- The Company shall medically remove an employee regardless of whether, at the time of removal, a job is available into which the removed employee may be transferred.
- Whenever an employee is medically removed, The Company shall transfer the removed employee to a job where the exposure to cadmium is within the permissible levels specified in that paragraph as soon as one becomes available.
- For any employee who is medically removed, The Company shall provide follow-up biological monitoring at least every three months and follow-up medical examinations semi-annually at least every six months until, in a written medical opinion, the examining physician determines that either the employee may be returned to his/her former job status or the employee must be permanently removed from excess cadmium exposure.
- The Company may not return an employee who has been medically removed for any reason to their former job status until a physician determines in a written medical opinion that continued medical removal is no longer necessary to protect the employee's health.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Where an employee is found unfit to wear a respirator, The Company shall remove the employee from work where exposure to cadmium is above the PEL.
- Where removal is based on any reason other than the employee's inability to wear a respirator, The Company shall remove the employee from work where exposure to cadmium is at or above the action level.
- Except as specified in 1926.1127, paragraph (1)(11)(v), no employee who was removed because their level of CdU, CdB and/or B(2)-M exceeded the medical removal trigger levels in paragraphs (1)(3) or (1)(4) may be returned to work with exposure to cadmium at or above the action level until the employee's levels of CdU fall to or below 3 ug/g Cr, CdB falls to or below 5 ug/lwb, and B(2)-M falls to or below 300 ug/g Cr. However, in the examining physician's opinion, continued exposure to cadmium will not pose an increased risk to the employee's health. There are special circumstances that make continued medical removal an inappropriate remedy. The physician shall fully discuss these matters with the employee. A written determination may return a worker to their former job status despite what would otherwise be unacceptably high biological monitoring results. After that, the returned employee shall continue to be provided with medical surveillance as if he/she were still on medical removal until the employee's levels of CdU fall to or below 3 ug/g Cr, CdB falls to or below 5 ug/lwb, and B(2)-M falls to or below 300 ug/g Cr.
- Where The Company, although not required by 1926.1127, paragraph (1)(11)(i) thru (iii) of this second to do so, removes an employee from exposure to cadmium or otherwise places limitations on an employee due to the effects of cadmium exposure on the employee's medical condition, The Company shall provide the same medical removal protection benefits to that employee under paragraph (1)(12) as would have been provided had the removal been required under paragraph (1)(11)(i) thru (iii) of this section.

MEDICAL REMOVAL PROTECTION BENEFITS (MRPB)

- The Company shall provide MRPB for up to a maximum of 18 months to an employee each time and while the employee is temporarily medically removed.
- MRPB means that The Company shall maintain the total normal earnings, seniority, and all other employee rights and benefits of the removed employee, including the employee's right to his/her former job status as if the employee had not been removed from the employee's job or otherwise medically limited.
- Where, after 18 months of medical removal because of elevated biological monitoring results, the employee's monitoring results have not declined to a low enough level to permit the employee to be returned to their former job status:
    - The Company shall make available to the employee a medical examination pursuant to this section in order to obtain a final medical determination as to whether the employee may be returned to his/her former job status or must be permanently removed from excess cadmium exposure and
    - The Company shall ensure that the final medical determination indicates whether the employee may be returned to his/her former job status and what steps, if any, should be taken to protect the employee's health.
- The Company may condition the provision of MRPB upon the employee's participation in medical surveillance provided in accordance with this section.

EMPLOYEE INFORMATION AND TRAINING

- The Company shall communicate information concerning cadmium hazards according to the requirements of OSHA's Hazard Communication Standard for the construction industry, 29 CFR 1926.59, including, but not limited to, the requirements concerning warning signs and labels, Safety Data Sheets (SDS), and employee information and training.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Training shall be conducted for all employees who are subject to exposure to cadmium at or above the action level on any day or who are subject to exposure to cadmium compounds, which may cause skin or eye irritation.
- Training shall be provided prior to job assignment and annually after that for all employees who are subject to cadmium exposure at or above the action level on any day.
- The Company's training program shall consist of the following:
    - The content of OSHA's cadmium standard and its appendixes
    - The specific nature of the operations which could result in exposure to cadmium above the action level
    - The purpose, proper selection, fitting, use, and limitations of respirators
    - The purpose and a description of the medical surveillance program and the medical removal protection program, including information concerning the adverse health effects associated with excessive exposure to cadmium
    - The engineering controls and work practices associated with the employee's job assignment.
    - The contents of this procedure and its appendixes
    - Instructions to employees that chelating agents should not routinely be used to remove cadmium from their bodies and should not be used at all except under the direction of a licensed physician
    - The employee's right of access to records under 29 CFR 1910.20
    - A training record shall be prepared to include the identity of the employee trained, the signature of the person who conducted the training, and the date of training. The training record shall be maintained on file for 1 year beyond the date of training.
- The Company shall make a copy of the Cadmium standard (29 CFR 1926.62) and its appendices readily available to all affected employees.
- The Company shall provide, upon request, all materials relating to the employee information and training program to affected employees and their designated representatives.

SIGNS

- The Company shall post warning signs in each work area where an employee's exposure to cadmium is above the PEL. The signs shall state.

WARNING
CADMIUM WORK AREA
POISON
NO SMOKING OR EATING

- The Company shall ensure that all signs are illuminated and cleaned as necessary so that the legend is readily visible.

RECORDKEEPING

- The Company shall establish and maintain an accurate record of all monitoring and other data used in conducting employee exposure assessments as required by this procedure. Exposure monitoring records shall include
    - The date(s), number, duration, location, and results of each of the samples taken, if any, including a description of the sampling procedure used to determine representative employee exposure where applicable
    - A description of the sampling and analytical methods used and evidence of their accuracy
    - The type of respiratory protective devices worn, if any
    - Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

    - The environmental variables that could affect the measurements of employee exposure
- The Company shall establish and maintain an accurate record for each employee subject to medical surveillance as required by this procedure. This record shall include:
    - The name, social security number, and description of the duties of the employee
    - A copy of the physician's written opinions
    - Results of any airborne exposure monitoring done on or for that employee and provided to the physician
    - Any employee's medical complaints related to exposure to cadmium
    - Monitoring and other exposure records in accordance with the provisions of 29 CFR 1910.20
- The Company shall keep the following medical records:
    - A copy of the medical examination results, including medical and work history required by this procedure
    - A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information
    - A copy of the results of biological monitoring
    - Other medical records in accordance with the provisions of 29 CFR 1910.20
- The Company shall establish and maintain an accurate record for each employee removed from current exposure to cadmium pursuant to this procedure. Each record shall include:
    - The name and social security number of the employee
      The date of each occasion that the employee was removed from current exposure to cadmium, as well as the corresponding date on which the employee was returned to their former job status
    - A brief explanation of how each removal was or is being accomplished
    - A statement with respect to each removal indicating whether or not the reason for the removal was an elevated blood Cadmium level
- All biological and environmental records used in conducting employee assessment of exposure to cadmium shall be kept for the duration of employment plus 30 years. Records concerning temporary medical removal of employees from Cadmium exposure shall be maintained for at least the duration of employment.

OBSERVATION OF MONITORING

- The Company shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to cadmium.
- Whenever observation of the monitoring of employee exposure to cadmium requires entry into an area where the use of respirators, protective clothing, or equipment is required, The Company shall provide the observer with and ensure the use of such respirators, clothing, and equipment, and shall require the observer to comply with all other applicable safety and health procedures.
- Without interfering with the monitoring, observers shall be entitled to:
    - Receive an explanation of the measurement procedures
    - Observe all steps relating to the monitoring of cadmium performed at the place of exposure
    - Record the results obtained or receive copies of the results when returned by the laboratory

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Appendix A
Table A – Biological Marker Monitoring Result Category

	Monitoring result category		
Biological Marker	**A**	**B**	**C**
Cadmium in urine (CdU) *ug/g creatinine)	< = 3	>3 and < = 7	>7
B(2)-microglobulin (B(2)-M) (ug/g creatinine)	< = 300	>300 and < = 750	>750[1]
Cadmium in blood (CdB) (ug/liter whole blood)	< = 5	>5 and < = 10	>10

Footnote:
[1]If an employee's B(2)-M levels are above 750 ug/g creatinine, in order for mandatory medical removal to be required (see Appendix A, Table B), either the employee's CdU level must also be >3 ug/g creatinine or CdB level must also be >5 ug/liter whole blood.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Appendix A
Table B –Actions Determined by Biological Monitoring

Required Actions	Monitoring result category		
	A[1]	B[1]	C[1]
1. Biological Monitoring			
(a) Annual	X		
(b) Semiannual		X	
(c) Quarterly			X
2. Biological Monitoring			
(a) Biennial	X		
(b) Annual		X	
(d) Semiannual			X
(e) Within 90 Days		X	X
3. Assess within two weeks:			
(a) Excess cadmium exposure		X	X
(b) Work practices		X	X
(c) Personal hygiene		X	X
(d) Respirator usage		X	X
(e) Smoking history		X	X
(f) Hygiene facilities		X	X
(g) Engineering controls		X	X
(h) Correct within 30 days		X	X
(i) Periodically Assess Exposure			X
4. Discretionary Medical Removal		X	
5. Mandatory Medical Removal			X[2]

Footnotes:

[1] For all employees covered by medical surveillance exclusively because of exposures prior to the effective date of this standard, if they are in category A, the employer shall follow the requirements of paragraphs (1)(3)(i)(B) and (1)(4)(v)(A). if they are in Category B or C, the employer shall follow the requirements of paragraphs (1)(4)(v)(B)-(C).

[2] This table presents the actions required based on the monitoring result in Appendix A, Table A. Each item is a separate requirement in citing non-compliance. For example, a medical examination within 90 days for an employee in category B is separate from the requirement to administer a periodic medical examination for category B employees on an annual basis.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PRESSURIZED WATER CLEANING AND CUTTING EQUIPMENT

PURPOSE

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- This procedure covers the personnel requirements, operator training, operating procedures, and recommended equipment performance/design for the proper operation of typical pressure water jet cleaning and cutting equipment used in the performance of work associated with and in conjunction with construction, maintenance, repair, cleaning, cutting, and demolition work.
- The term "high-pressure water jetting" covers all water jetting operations, including the use of additives or abrasives at pressures above 1000 psig.
- Any person operating or maintaining high-pressure water jetting equipment shall have been trained and have demonstrated the ability and knowledge to do so in accordance with the original equipment manufacturer's instructions, specifications, and training programs. These guidelines are intended to comply with the recommended safe work practices of the US Water Jet Technology Association.

POLICY MAINTENANCE AND COMPLIANCE

- The Corporate Safety Director is responsible for the issuance, revision, and maintenance of this procedure.
- The site manager or superintendent shall be responsible for compliance, training, job-set up, maintenance, and inspection of this equipment and its use. Employees shall be responsible for being trained and compliant with this procedure and policy prior to using high-pressure water jet equipment.

DEFINITIONS

- Dump System - The discharge orifice operator-controlled, manually operated device or system that reduces the pressure to a level that yields a pressure flow at the nozzle that is considerably below the risk threshold.
- High-Pressure Water Cleaning - The use of high-pressure water, with or without the addition of other liquids or solid particles, to remove unwanted matter from various surfaces where the liquid jet pressure exceeds 1000 psig at the orifice. The limit of 1000 psig does not mean that operating pressures below 1000 psig will not cause injury or permit deviation from this policy and these operating procedures.
- High-Pressure Water Cutting - The use of high-pressure water (regardless of operating pressure), with or without the addition of other liquids or solid particles, to penetrate the surface of a material for the purpose of cutting that material
- Hose Assembly - A hose with safety coupling attached in accordance with the manufacturer's specifications, designed and used as intended for high-pressure water cleaning or cutting.
- Lance - A rigid metal tube used to extend the nozzle of high-pressure water jetting equipment from the end of the hose.
- Lancing - An application whereby a lance and nozzle combination is inserted into and retracted from the interior of a pipe or tubular object.
- Moleing - An application whereby a hose fitted either with a nozzle or with a nozzle attached to a lance is inserted into and retracted from the interior of a vessel, pipe, or object. It is a system commonly intended for cleaning the internal surfaces of tubes, pipes, or drains. It can be self-propelled by its backward-directed jets and is manufactured in various shapes, sizes, and combinations of forward- and backward-directed jets.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Nozzle - A device with one or more openings where the fluid discharges from the high-pressure water jetting system. The nozzle restricts the area of flow of the fluid, accelerating the water to the required velocity and shaping it to the required flow pattern and distribution for a particular application. Combinations of forward and backward nozzles are often used to balance the thrust. Such nozzles are commonly referred to as tips, jets, orifices, etc.
- Operator (Hydro-blaster) - A person who has been trained in accordance with the original manufacturer's instructional training program and has been qualified by demonstrating the knowledge, experience, and ability to perform the assigned task. This must be documented, and the operator must have valid certification on his person at all times while operating high-pressure water jetting equipment. Persons who have not been trained shall not be allowed to use, modify, or maintain high-pressure water jetting equipment.
- Pressure Water Jet System - Water delivery systems that have nozzles or other openings whose function is to increase the speed of liquids that may cause injury. Solid particles or additional chemicals may also be introduced, but the exit in all cases will be in a free stream. The system shall include the pumps (pressure-producing devices), hoses, lances, nozzles, valves, safety devices, and personal protective equipment, as well as any heating elements or injection systems.
- Shotgunning - An application whereby a lance or nozzle combination can be manipulated in virtually all planes of operation.
- Qualified Operators - Only personnel who have undergone a proper training program and who have demonstrated the knowledge and skill and gained the experience to perform all likely assigned tasks shall operate water jetting equipment. They may also supervise the training of new operators.

COMPLIANCE AND TRAINING

- Before being assigned to their first water jetting jobs, employees shall receive proper training. Training information for pressurized water systems is available from the Corporate Safety Department. This shall be supplemented with site-specific, hands-on training per the manufacturers' instructions for the specific equipment in use. Training shall cover the following topics:
    - Cutting Action - The cutting action of a water jet and the potential hazard it poses to the human body shall be demonstrated through the use of audiovisual aids or actual use of equipment (by cutting through a piece of lumber, a concrete block, etc.).
    - System Operation - The operation of water jetting systems shall be explained by pointing out potential problems and proper corrective actions.
    - Operating Pressure - At no time will the high-pressure water jetting equipment be operated above the manufacturer's recommended working pressures.
    - Control Devices - The operation of all control devices shall be explained and demonstrated by a competent person. Tampering with any control devices, as well as the importance of keeping them in proper working order, shall be covered, and comprehension of this procedural requirement will be documented.
    - Equipment Maintenance - The importance of the proper care and maintenance of water jetting equipment shall be included and demonstrated. Instructions shall be provided on the procedures to follow in maintaining equipment and when the equipment must be returned for manufacturer-only maintenance and repair. It shall also be procedural/policy that equipment shall not be repaired or connections tightened when the unit is in operation, or the pump is running.
    - Valve Maintenance - Valves and seating surfaces in pressure-regulating devices encounter high wear during water jetting. These items require frequent inspections, maintenance, and/or replacement to ensure proper operation.
    - Hose - The proper method of identifying and connecting hoses, including laying out without kinks, protecting hoses from excessive wear, identifying a worn or unsafe hose, and proper tools to use on couplings and fittings shall be explained. Fittings and couplings on hoses

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

shall not be tightened or tampered with while the hose is pressurized. Safety connectors (whipchecks) should be used across all hose connections. Also, see Lance and High-Pressure Hose Testing procedures included in this section.

- Body Position - The proper stance for sound footing and how to use the various devices for lancing, shotgunning, and moleing shall be demonstrated. It shall be the supervisor's responsibility to ensure proper walking and working surfaces for employees using High-Pressure Water Jets. The operator trainee, under close supervision of a competent person, shall be trained to use the various devices while the unit is slowly pressurized and is operating at its normal working capacity. Personnel shall demonstrate knowledge and skill in the proper operation of equipment through practical applications before performing indirectly supervised work.

PERSONAL PROTECTIVE EQUIPMENT

- The minimum personal protective equipment (PPE) shall be as indicated in this section. These are the minimum requirements for PPE, and the supervisor/competent person shall also perform a hazard analysis and determine if any other PPE is required for each specific job. All applicable recommended practices and regulations, instructions, and warnings covering PPE shall be followed as prescribed by the original equipment manufacturer.
- Head Protection - All operators shall wear hard hats with attached face shields.
- Eye Protection - Suitable eye protection (adequate for the purpose and of adequate fit on the person) shall be provided to all operators of pressure water jetting equipment and must be worn. Where liquids liable to cause eye damage (see Material Safety Data Sheets) are encountered, it is necessary to use either a combination of visor and impact-resistant goggles or a full hood with a shield. Where corrosive materials are present, an eye wash station and safety shower in proper working order, temperature, and same level accessible will be made available.
- Body Protection - All operators shall be supplied with suitable waterproof clothing and jet-resistant PPE (i.e., foot and leg guards) that are applicable to the type of work being performed. Garments shall provide full protective cover to the operator, including arms. Liquid- or chemical-resistant suits shall be worn where there is a reasonable probability of injury (see Material Safety Data Sheets) that can be prevented by such equipment and PPE.
- Hand Protection - Adequate hand protection shall be supplied to all operators and shall be worn when there is a reasonable probability of injury that can be prevented by such equipment. Refer to the Company hand protection policy for selection (section 7.4 of the safety manual).
- Foot and Leg Protection - All operators shall be supplied with waterproof boots with steel toecaps and shanks.

- The jetting gun operators shall use metatarsal guards and leg guards.
- Hearing Protection - Pressure water jetting operations may produce noise levels in excess of 90 dB(A). Suitable hearing protection issued in accordance with the recommended practices of the original equipment manufacturer must be worn. Provision shall be made for regular inspection and maintenance, including daily cleaning of hearing protection devices that are of the reusable type. All personnel and operators shall receive instruction on the correct use of ear protectors such that noise exposure lies within the limits specified by the original equipment manufacturer's instructions.
- Respiratory Protection- A respiratory protection program shall be implemented where there is a reasonable probability of injury that such a program can prevent.
- Equipment Limitations - It should be recognized that some protective equipment might not necessarily protect the operator from injury by direct high-pressure water jet impact. Shields and guards shall be used as provided in the original equipment operator's instructions and training programs to prevent any injury.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PRE-OPERATING PROCEDURES

- Planning - Preplan each job and document this on a JSA. Follow the steps outlined in the original manufacturer's instructions and programmed training materials. Competent persons familiar with the item to be cleaned, the material to be cut, and the work environment shall meet with the personnel that will be performing the work and outline potential hazards of the work area, environmental problems, safety standards, and emergency aid procedures.
- Checklist - Use the checklist included in this section, or the listing of critical items, to ensure that the proper equipment selection and use are followed.
- Dump Valve - All systems shall incorporate at least one fluid shut-off or dump device. The orifice operator must always be able to shut down the water jet by releasing pressure on the trigger, switch, or foot valve pedal.
- Warning Barriers - Erect suitable barriers to encompass the hazard area and post signs to warn personnel that they are entering a hazardous area. The perimeter should be outside the effective range of the jet wherever possible. Barriers may be rope, safety tape, barrels, etc., as long as they give an effective warning and are highly visible.
- Hook-ups - Hose shall be arranged so that a tripping hazard does not occur. Support hoses, pipes, and fittings to prevent excessive sway and wear. Check all hoses for evidence of damage, wear, or imperfections prior to use and during use.
- Fittings - Clean and lubricate all fittings before installing them in the system. Be sure all fittings, hoses, and nozzles are designed for the purpose.
- Pre-flushing - Flush the system completely with sufficient water to remove any contaminants before installing the nozzle.
- Nozzles - Remove nozzles and check all orifices for any blockage or damage, or both, or for imperfections.
- Electrical Equipment - Any electrical equipment in the immediate area of the operation that presents a hazard to the operator shall be de-energized, shielded, or otherwise made safe. GFCIs shall be used for any necessary power hook-ups.

OPERATIONAL PROCEDURES

- Work Area - Isolate the workpieces/items to be jetted from any unprotected areas to a protected pressure water jetting area. Cutting or cleaning in place or adjacent to the installed position can be done with the necessary clearance and permission of the occupier and equipment/facility owner.
- Area Limits - Area limits applicable to the cutting or cleaning operations shall be defined by barriers and should be marked with notices to warn against access to other personnel and specific hazards present. Suitable barriers shall be an approved form of hazard warning, rope, or tape, as a minimum. Alternatively, a suitable barrier shield is acceptable at any reasonable distance. Notices should read Danger - Keep Clear, Pressure Water Jetting in Operation - Severe Injury May Result, or other suitable wording.
- Corrosive Materials - Where there is a possibility of encountering corrosive or toxic material, the general contractor, employer, or owner shall be requested to inform the person in charge of pressure water jetting of any precautions that may be necessary, including the collection and disposal of waste materials.
- Work Surface - Operators should have good access to the workpiece, safe walking and working surfaces, and secure footing. The work area should be kept clear of loose items and debris to prevent tripping and slipping hazards.
- Unauthorized Access - Prevent access by unauthorized persons into the area where pressure water jet cleaning, cutting, or both is taking place. The area shall be secured as described in this policy. The perimeter should be outside the effective range of the jet wherever possible.
- Approaching the Operator - Personnel having reasons to enter the pressure water jet cleaning and cutting area must wait until the jet is stopped and their presence is known. Personnel wishing to

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

have the jet stopped shall approach a team member other than the jet operator. The jet operator shall not be distracted until the jet has been stopped.

- Side Protection - Suitably placed side shields shall be provided to safeguard personnel and equipment against contact with grit or solids removed by the jet.
- Pressurizing the System - Increase pressure slowly on the system while it is being inspected for leaks and faulty components. Repair or replace components only when the equipment is properly shut down, drained, pressure relieved, locked out, and tagged.
- Team Operations - In jetting operations, a minimum of two persons, one at the pump and one at the orifice or gun, shall be employed at all times.
- Supervision - All pressure water jetting operations shall be controlled by a supervisor who has been trained in all aspects of the jetting operation in accordance with the instructions of the original equipment manufacturer.
- Number of Operators - The operators of the pressure water jetting equipment should consist of two or more operators according to the equipment being used and the nature of the job. These operators shall work as a team, with one member designated in charge. The operator of the gun or lance shall take the lead role while jetting is in progress.
- Gun Operator - One operator from the team shall hold the lance, gun, or delivery hose with the nozzle mounted on it. That operator's primary duty is to direct the jet.
- Second Operator- The second operator of the team shall attend to the pump unit, keep a close watch on the first operator for signs of difficulty or fatigue, and watch the surrounding area for intrusion by other persons or unsafe situations. If required, the operator will shut off the pressure until any unsafe acts or conditions have been corrected, and it is safe to continue.
- Additional Operators- Additional operators are required in the following circumstances:
    - To assist the first operator with the handling of the lance if it is too long or too heavy for one person or
    - To provide communication if the lance operator is out of sight of the pump unit operator.
- Job Rotation - The team members should rotate their duties during any job to minimize fatigue to the operator holding the lance or gun.
- Signals - Before starting a jetting operation, the team members, one of whom must be in charge, shall agree on signals to be used during the operation of the equipment.

SINGLE PERSON OPERATION

- Single-person operation is allowed where the pressure does not constitute a hazard to personnel. Single-person operations are prohibited at operating pressures exceeding 1000 psig and may be deemed unsafe at lower pressures due to job site conditions. (NOTE: All HAZWOPER operations are required to use the buddy system.)
- Shotgunning Control - The person operating the nozzle shall have direct control of the dump system. The pressurized system shall never be left unattended.
- Multiple Operation - When more than one shotgunning operation is being performed within the same area, install a physical barrier or maintain adequate spacing between operators to prevent the possibility of injury from the pressure water.
- Target Holding - Never manually hold objects to be cleaned.
- Minimum Length - When used, the minimum length of the shotgun lance extension shall be 4 feet (1.2 mm) from the triggering device to the nozzle.
- Hose Protection - Use steel-braided hoses on air-operated, fail-safe systems to keep the system from being activated by someone stepping on the hose or running over it.

MOLEING OR FLEX LANCING

- Reversing- A positive method shall be used to prevent the nozzle from reversing direction inside the item being cleaned. Safety guards for this purpose shall be used.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Retrojets - During manual operations, the entrance to a line or pipe shall not be cleaned with a nozzle containing back jets without adequate shielding.
- Clearance - The clearance between the outside diameter of the hose, lance, and nozzle assembly and the inside wall of the item being cleaned shall be sufficient to allow adequate washout of water and debris.
- Pressurization - During manual operation, insert the nozzle into the tube prior to pressurizing. Conversely, depressurize the system before removing the nozzle from the tube.
- End Identification - Hoses shall be conspicuously marked no closer than 24 inches (600 mm) from the nozzle to warn the operator of the nozzle location.
- Nozzle Support - Where the length of the nozzle and rigid coupling is less than the inside diameter of the pipe, a length of rigid pipe of not less than the diameter of the pipe being cleaned shall be fitted directly behind the nozzle, or a suitable safety shield shall be provided to protect the operator. This is to prevent the nozzle from turning around 180 degrees and doubling back towards the operator. Specific safety guards shall be used for this purpose.

RIDGE LANCING

- Clearance - The clearance between the outside diameter of the lance and nozzle and the inside wall of the item being cleaned shall be sufficient to allow adequate washout of water and debris.
- Pressurization - When under manual operation, the nozzle shall be inserted into the tube prior to pressurizing. Conversely, the system shall be depressurized before removal of the nozzle from the tube unless proper shielding is provided.
- Shields - When lancing tubes with a rigid lance, a guard shall be installed around the lance to prevent a lance nozzle from being inadvertently withdrawn and causing injury.

PROPER OPERATION

- Start-up - Do not start the pump unit and bring it up to pressure unless each team member is in their designated position, the nozzle is held in or directed at the workpiece, and the lance or gun is securely held.
- Adjustments - Apart from operational procedures, no attempt shall be made to perform maintenance or adjust any nut, hose connection, fitting, etc., while the system is under pressure. Stop the pumps, discharge any pressure in the line, and remove the key prior to making any such adjustment. Take care to release the pressure in the dry shut-off gun and the line when the unit is switched off.
- Equipment Malfunction - If, for any reason, the water flow does not shut off when the trigger or foot pedal is released, cease work until the item has been serviced, repaired, or changed by properly trained personnel. Equipment shall be shut down, depressurized, locked out, and tagged prior to making repairs.
- Reaction Force - The operators shall be allowed to experience the reaction force of the jet progressively until the required operating pressure is reached. Use the lowest pressure compatible with the work to be done. Do not adjust the pressure without the operator being aware of this operation.
- Effect of Line Pulses - Operators shall be made aware of the reactive effect of pressure in the line that can transmit a severe jolt to the operator when the dump valve or dry shut-off valve is operated. To minimize this effect, keep total hose lengths as short as possible. Damping devices shall be introduced into the system in accordance with the original equipment manufacturer's instructions.
- Thermoplastic Hoses - Thermoplastic hoses shall not be used for water jetting unless specifically designed for this purpose.
- Operator Position - While operating, the team members shall be safely positioned. Stop the jetting if any person encroaches into the working area.
- Work Stoppage - Stop work in the following cases:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - In the event that leaks or damage become apparent,
  - If any person becomes aware of any change in conditions or of any hazards being introduced or existing,
  - If plant or work alarms are sounded; or
  - If any of the practices in this procedure are not being followed.
- Hose Protection - Protect all hoses from being run over and crushed by vehicles, forklift trucks, and the like.
- Back Thrust - The back thrust from a linearly directed jet can be calculated from the equation:

$$B = 0.052\ Q(P)0.5$$

where:

B = Back thrust, lb(kg)
Q = Flow rate, gal/min (or metric equivalents), and
P = Jet pressure (psi)

- It is not recommended that one person be required to withstand a back thrust of more than one-third of their body weight for any extended time.

USE OF LANCES AND NOZZLES

- Lances - Lances that are rigid or semirigid, having nozzles fitted to them with any combination of forward, backward, or 90-degree angle jets, shall be used with either a dump system or dry shut-off control valve. When a flexible lance or nozzle mounted on a hose is in use, do not operate the jet at pressure unless the nozzle is properly positioned inside the workpiece or the operator is protected by screens or proper shielding from the rear-facing jets. If necessary, clean the lead-in to the workpiece by other methods.
- Flexible Lances- Flexible lances, used to clean pipes where the inside diameter of the pipe is not small enough to prevent the lance from turning back on itself, shall have a piece of rigid straight tube slightly longer than the diameter of the pipe fitted immediately behind the nozzle to prevent this from happening.
- Distance Indicator- When using an assembly that allows the nozzle to enter the workpiece with restricted visibility, clearly mark the lance, hose, or floor in a manner that enables the operator to judge how far the nozzle is in the workpiece before pressure is applied and, conversely, so that pressure is released before the apparatus is completely withdrawn from the workpiece.
- Lance Length- The length of a rigid lance or combination of lances shall be such that the operator can maintain control at all times.
- Jet Pressure- Operators shall select the nozzle and minimum operating pressure to allow effective and efficient jetting.
- Improper Use- Should an operator enter a manhole or access port for any purpose (with the jetting machine turned off), the hose shall not be used to support his weight when climbing up or down.
- "AT" Pieces- An AT piece or nozzle carrier AT (devices for producing two equal and opposite jets at the end of the land and right angles to the normal flow) shall inserted into a tube or vessel or between two surfaces before the system is pressurized. This is necessary to ensure that should one jet be larger than the other or one jet become blocked or partially blocked, the operator of the lance will not be spun out of control. When an AT piece is used to provide a balancing jet on a long lance to clean a single surface, it is not always possible to check for equal thrust from both jets in the above-described manner; therefore, check these lances by progressive pressure increases.

REFERENCES

- ASTM E-1575-93, Standard Practice for Pressure Water Cleaning and Cutting
- Water Jet Technology Association=s Recommended Practices for the Use of Manually Operated High-Pressure Water Jetting Equipment

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Checklist for Pressure Water Jet Cleaning and Cutting Equipment

The following information shall be verified before starting work with a **Yes (Y) or No (N)**

ITEM #	DESCRIPTION	Y / N
1.	Date (Print):	
2.	Location:	
3.	Equipment being cleaned (Print):	
4.	Is the area, including the other end of the unit, being cleaned and properly secured?	
5.	Have precautions been taken to protect all electrical equipment?	
6.	Is there any hazard to personnel resulting from damage to the equipment, such as the release of corrosive chemicals, flammable liquids, gases, or the like?	
7.	Are all fittings of the correct pressure rating?	
8.	Are all hoses of the correct pressure rating?	
9.	Are all fittings in good operating condition?	
10.	Are all hoses in good operating condition?	
11.	Are all nozzles free from plugging and in good operating condition?	
12.	Have precautions been taken to prevent line-mole reversal?	
13.	Is the filter on the pump suction clean and in good operating condition?	
14.	Is there an adequate water supply?	
15.	Have precautions been taken against freezing?	
16.	Do all personnel have proper personal protective equipment for this job?	
17.	Do all personnel have proper training for this job?	
18.	Are all personnel qualified to perform this work?	
19.	Has the complete hook-up been flushed and air removed from the system prior to installing the nozzle?	
20.	Has hook-up, including pipes, hoses, and connections, been pressure tested with water at the maximum operating pressure?	
21.	Is the dump system operating properly (will it dump when released)?	
22.	Are all control systems operational?	
23.	Is the location of emergency medical aid known?	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Lance and High-Pressure Hose Testing

This policy intends to set forth guidelines for the maintenance, inspection, or repair of equipment used or associated with high-pressure water jet equipment. When a more stringent policy is in place, then that policy shall apply.

1. All hoses purchased will be rated with a minimum working pressure of 250 psig.
2. All hoses shall have a minimum temperature rating of 225 degrees Fahrenheit.
3. All hoses will be stamped with an identification number and date of purchase on each end.
4. All hoses will be hydro-tested at intervals of ninety (90) days.
5. Testing will be witnessed and documented by a competent person, and the documentation will be kept at the shop, which is assigned, with a copy forwarded to the Safety Director.
6. All hoses and couplings will be hydro-tested to one and a half (1 ½) times its rated working pressure.
7. After a visual inspection, if a hose shows excessive wear or its integrity is in question, then it will be cut into sections and discarded by a competent person with that indication shown on the test log.
8. Hose identification will begin with the state to which it is assigned, followed by the size and unit number.
9. All hoses will be checked for integrity and service prior to use.
10. An authorized manufacturer's service center or representative shall complete all equipment repairs.
11. Repaired equipment shall be tested prior to being placed back in service.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Testing Procedure

1. Visually inspect the hose, coupling, and flex lance for broken wires. Repair or discard hose(s)/lance(s) with broken wires.

2. Secure the pump and all connections to a flat and level surface. Attach the liquid-filled gauge (see pump specification diagram).

3. Place the test hose/lance in a clear area that will allow a ten-foot clearance for workers in the area. The hose may be coupled together and placed in a serpentine fashion but without sharp bends that would allow kinks in the hose.

4. Connect the hose/lance to the manifold connected to the discharge side of the test pump just past the pressure gauge.

5. Attach a bleed valve to the last length of the hose. The valve shall be in the open position.

6. Connect a water hose to the input side of the pump (opposite the discharge manifold). Turn on the water hose and allow water to flow for a couple of minutes through the test hoses until the air has been bled through the hose/lance.

7. Close the bleed valve and check for leaks at fittings. Do not shut off the water.

8. Attach the air hose to the air inlet side of the pump.

9. Inform all personnel in the area to stay at least ten feet away because the pressure testing is beginning.

10. Slowly turn the air valve to start the pump. Pressure shall be increased slowly on the system while it is being inspected for leaks or faulty components. The system shall be depressurized before making adjustments.

11. Once the desired test pressure has been achieved, shut off the air and water supplies. The pressure must remain constant for a full five minutes to satisfactorily meet testing procedures. If the pressure is unable to be held, air may be in the line. Depressurize and allow a longer bleed-through of water.

12. Once the testing has been completed, bleed the pressure from the line through the bleed valve on the end of the hose/lance.

13. Spray paint the ends of the hose to identify the pressure tested:

Paint Color	Pressure Tested
Blue	7,000 psi
Yellow	8,000 psi
Orange	10,000 psi
Red	12,500 psi

14. Record the test pressure data in the ledger. Logs shall be divided according to the size of the hose.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Test Pump Specification Example

* Pump Model No. S216J300.
* An oil-filled gauge will be used for accuracy.
* All unions, T's, quick-connects, and fittings will be rated at 1.5 times the maximum pressure.
* Do not tape the driving air supply line thread connecting the pump.
* The pump is installed in a typical circuit with recommended accessories, which are available from Teledyne Republic/Sprague.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Temporary Hose
Hydro-Testing Log

DATE	LOCATION	HOSE NUMBER	PRESSURE TESTED	PASS / FAIL	WITNESS

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZWOPER POLICY

INTRODUCTION

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The purpose of this policy is to provide enough information and guidance to all EXCEL employees to ensure each person's safety and health. It is everyone's responsibility to prevent accidents and injuries. Compliance with these policies and procedures is a condition of employment.
- Protecting our environment is also everyone's responsibility and very important. However, it is not always easy to do so. Remediation of environmental hazards and pollutants from our environment is never routine and should never be treated as such. In conjunction with this policy, the Company Corporate Safety Manual shall be used to provide an injury-incident-free workplace.
- Prior to any Hazwoper work activities, it shall be the responsibility of EXCEL management, site personnel, and the owner to review this policy, as well as those not listed in this policy that are required by the owner, state, and federal government. Each Hazwoper project requires a project-specific plan prior to execution.
- It is the policy of EXCEL to maintain compliance with all applicable environmental and health laws, regulations, and ordinances. This commitment to compliance is a top priority to be reflected in all aspects of the company's activities. As an integral part of its commitment to compliance, the company will maximize its efforts to:
    - Eliminate or minimize exposure of employees and the general public to dangerous and hazardous materials in the company's operations.
    - Require a close and supportive working relationship with public and private environmental agencies and organizations to solve environmental and hazardous waste problems.
    - Increase operations reliability through a system of internal compliance surveillance and monitoring.
    - Prevent the release of dangerous or hazardous substances into the environment.
    - Require top management's support, both through the commitment of the company's resources and the employment of highly skilled people in the industry.
    - Require continuing efforts to obtain the best available technologies to handle environmental and hazardous waste problems. Feasible engineering controls, including the use of pressurized cabs or control booths on equipment and/or the use of remotely operated material handling equipment, will be addressed. Engineering controls, safe work practices, and PPE shall be used to reduce and maintain exposure limits.
    - Encourage and support communication regarding regulatory issues between employees and management at all levels.
    - Train at the first responder level employees who are likely to witness or discover a hazardous substance release who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release.
    - Employees who receive 8 hours of training or have had sufficient experience to demonstrate competency in areas of responding to releases or potential releases of hazardous substances to protect wear by persons, property, or the environment. Their function is to contain the release from a safe distance and help prevent it from spreading. Certification is required.
    - An On-Scene Incident Commander will be appointed. This person is required to have at least 24 hours of training equal to the first responder level. This person knows how to implement the program and system, PPE, hazard risks, state and federal regulations, and decontamination. Certification is required.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Develop an emergency response plan. The minimum items that will be addressed are 1) Pre-emergency planning and coordination with outside parties. 2) Personnel roles, lines of authority, training, and communications. 3) Emergency recognition and prevention. 4) Safe distances and refuge.
- The senior official at an emergency response is the most senior official on the site who is responsible for controlling operations at the site.
- Upon completion of the emergency response, if it is determined that it is necessary to remove hazardous substances, health hazards, and materials contaminated with them (such as contaminated soil or other elements of the natural environment) from the site of the program must specify how this is to be accomplished.
- A decontamination procedure shall be developed, communicated to employees, and implemented before any employees or equipment may enter areas on site where potential for exposure to hazardous substances exists. The site safety and health supervisor shall monitor decontamination procedures to determine their effectiveness. If such procedures are found to be ineffective, appropriate steps shall be taken to correct any deficiencies.
- All employees leaving a contaminated area shall be appropriately decontaminated; all contaminated clothing and equipment leaving a contaminated area shall be appropriately disposed of or decontaminated. Decontamination shall be performed in geographical areas that will minimize the exposure of uncontaminated employees or equipment to contaminated employees or equipment.
- PPE and equipment shall be decontaminated, cleaned, laundered, maintained, or replaced as needed to maintain their effectiveness. Employees whose non-impermeable clothing becomes wetted with hazardous substances shall immediately remove the clothing.
- Unauthorized employees shall not remove protective clothing or equipment from change rooms.
- Where the decontamination procedure indicates a need for regular showers and change rooms outside of a contaminated area, they shall be provided and meet the requirements of 29 CFR 1910.141.

GUIDELINES AND REGULATIONS

- The following section is intended to be a brief overview of the significant laws and regulations pertaining to hazardous waste. For a complete explanation of or a copy of one of the following laws, please contact the Safety Department. Relevant policies from the corporate safety manual are also provided for reference and use.
  - Occupational Safety and Health Act of 1970 (OSHA)
  - Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)
  - Superfund Amendments and Reauthorization Act of 1986 (SARA)
  - Toxic Substances Control Act (TSCA)
  - The Clean Water Act (CWA) or the Federal Water Pollution Control Act
  - The National Oil and Hazardous Substances Contingency Plan
  - The Resource Conservation and Recovery Act (RCRA)
  - Oil Pollution Act of 1990 (OPA 90)
  - Hazardous Waste Operations and Emergency Response (29 CFR 1910.120)
- Company Corporate Safety Policies that shall be complied with, where applicable, during Hazwoper operations.
  - Section 2: Reporting & Record Keeping
  - Section 3: Responsibility
  - Section 4: Administrative
  - Section 5: General Policies and Procedures
  - Section 6: General procedures

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Section 7: Personal Protective Equipment
- Section 8: Specific Policies and Procedures
- Section 9: Shop and Storage Guidelines
- Section 10: General Work Practices

EMPLOYEE CLASSIFICATION

- All EXCEL employees performing Hazwoper work will be categorized under one or more of the following classifications. Under each classification is a brief description, which describes the type of activities that employees will be involved in.
- CLASS 1: HAZWOPER (Hazardous Waste Operations and Emergency Response) - Work at hazardous waste sites or projects involving hazardous chemicals (includes site investigations and remediation involving hazardous waste or chemicals) and confined space entry projects.
- CLASS 2: NON-HAZWOPER FIELD WORK - This class includes employees who routinely or periodically perform fieldwork where no hazardous chemicals or wastes are involved (e.g., geotechnical employees)
- CLASS 4: CONSTRUCTION SAFETY - This class includes D&D (Demolition and Decommissioning) employees who perform demolition-related work. It also includes employees who work at construction sites.
- CLASS 5: NORM (Naturally Occurring Radioactive Materials) - This class includes employees who perform work at NORM sites where radiological training certification is required. This applies primarily to Southern Region employees who perform work at NORM sites or in situations where state-specific NORM certification is required.
- CLASS 6: DOT (Employees With Commercial Driver's License) - This class includes employees who will operate a commercial vehicle that has a gross weight of 26,000 pounds or more or when operating a commercial vehicle that is trailering a unit that weighs 10,000 pounds or more.
- CLASS 7: ADMINISTRATIVE - This class includes office personnel who perform strictly clerical or administrative functions.
- CLASS 8: MANAGERS - This class includes managers, usually at the project manager level or higher, who only go into the field on rare occasions or not at all.
- Using the descriptions above, supervisors will review employee work activities and assign them to one or more of these classes. The Health & Safety Department will maintain a complete listing of employees along with assigned training classification in a company-wide database. This database shall be capable of tracking the status of each employee's training requirements.

TRAINING

- Training requirements will vary according to the nature of each employee's assigned tasks. Individuals who receive 8 hours of training or who have had sufficient experience to demonstrate competency in areas of responding to releases or potential releases of hazardous substances to protect wear by persons, property, or the environment. Their function is to contain the release from a safe distance and help prevent it from spreading. Certification is required. Equipment operators, general laborers, supervisors, and management must be trained prior to being allowed to participate in or supervise field activities. The training should cover the use of personal protective equipment. The training should also cover work practices that minimize hazardous risks and the safe use of engineering controls and equipment. Listed below are some of the required courses.
  - 8 hours of refresher training annually is required for anyone who has received HAZMAT/HAZWOPER basic (RCRA or OSHA required training).
  - 8 hours of supervisor training – required for all plant/project supervisors, foreman, lead men, etc.
  - DOT required Safety Training under 49 CFR – Included in the basic HAZMAT/HAZWOPER course.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Confined Space Training – Offered as an 8-hour confined space workers course or as a 24-hour competent person (for confined space entry) course. Required for Confined Space entry
  - First Aid/CPR – Required for all supervisors and managers on job sites highly recommended for all persons on remote job sites and in plants. An American Red Cross-certified instructor will provide CPR training annually and First Aid training every 3 years.
  - Lock-out/Tag-out/Try – Included in basic 24 (or more) hours HAZMAT/HAZWOPER course, refresher training included in an 8-hour refresher course.
  - Bloodborne Pathogens included in basic First aid/CPR courses
  - The person responsible for teaching the material called for in the plan shall have the training and/or academic credentials and instructional experience to demonstrate competency.
- **The Corporate Safety Director will be responsible for ensuring EXCEL employees are adequately 40-hour/24-hour trained prior to job assignment.**

TYPES OF TRAINING AND WHEN REQUIRED

- ½ Hour Indoctrination/Escort: Used for anyone visiting a TSD facility or conducting work in a clean area for one duration or less.
- 4-Hour Indoctrination: Corporate requirement for anyone entering a clean area to do work not related to hazardous waste or material.
- 8-Hour Indoctrination: Corporate requirement for anyone entering a "clean" area within a TSD facility to conduct hot work or confined space entry.
- 24-Hour Training: Required for all workers in TSD facilities per 40 CFR RCRA.
- 24-Hour Training: Required of workers on site occasionally for specific limited tasks, such as groundwater monitoring and employed visitors who cross into support zone, contamination reduction zone, exclusion zone, or where there is potential for hazardous substance exposure (i.e., downwind from hazardous waste activities). Limitations: no exposure above PEL and no "A" or "B" clothing. Individuals who receive 24 hours of training equal to first responder operations level with knowledge of how to implement emergency response plan, know the classification, identification, and verification of known or unknown substances, functions within an assigned role in the ICS, how to select and use proper PPE, perform advanced containment, and understands decontamination and toxicology. Certification is required.
- 40-Hour Training: Required of all personnel, including drivers, working on a hazardous waste site. Per OSHA 29 CFR 1910.120 (See Appendix L for more information.)
- EXCEL will utilize The New Orleans Safety Council for all Hazwoper training.

SUBSTANCE-SPECIFIC TRAINING

- Subpart Z of 29 CFR 1910 contains many "substance-specific" standards that establish a wide range of criteria to follow when personnel are working with a particular chemical. Each standard usually contains specific training and medical surveillance requirements that must be followed. The Corporate Safety Director or other designated individuals in the Safety Department will develop training for these standards on an "as needed" basis, as most of these substances are not frequently encountered. It is the Project Manager's responsibility to contact the Corporate Safety Director or someone in the Safety Department for guidance when one or more of these chemicals may be encountered during a project.
- The following chemicals have specific OSHA standards:

Asbestos	N-Nitrosodimethylamine
Coal tar pitch volatiles	Vinyl chloride
4 – Nitrobiphenyl	Arsenic (inorganic)
Alpha-Naphthylamine	Lead
Methyl chloromethyl ether	Cadmium

3,3'-Dichlorobenzidene	Benzene
Bis-Chloromethyl ether	Methylenedianiline
Beta-naphthylamine	Coke oven emissions
Benzidine	Bloodborne pathogens
4-Aminodiphenyl	Cotton dust
Ethyleneimine	1,2-Dibromo-3-Chloropropane
Beta-Propiolactone	Acrylonitrile
2-Acetylaminofluorene	Ethylene oxide
4-Dimethylaminoazobenzene	Formaldehyde

- Project Managers must recognize that OSHA has determined that the above standards must be implemented on hazardous waste sites that are otherwise covered under the HAZWOPER regulations (29 CFR 1910.120).
- A Hazardous Material Specialist will be appointed. In addition to the 24 hours of training for the technical level, the specialist must be able to develop a site safety and control plan. Certification is required.
- Requirements of chemical protective clothing and equipment to be used by hazardous material specialists shall meet the requirements of 1910.120(q)(3) through (5).
- EXCEL shall develop a job hazard analysis site-specific safety plan. Air monitoring shall be used to identify and qualify airborne levels of potential levels of hazardous substances. Our site-specific safety plan will address initial entry, periodic monitoring, potential IDLH, and wherever exposure may be a possibility. EXCEL site-specific safety orientation shall cover this plan requirement. Our onsite safety manager shall conduct training.

TRAINING RECORD MAINTENANCE

- There are several levels of responsibility for the maintenance of training records:
    - All employees are responsible for providing the Corporate Safety Director with copies of all health and safety-related training certificates. Upon completion of a training course, submit a copy of the certificate of completion to the Corporate Safety Director in a timely fashion; the original should be retained for the employee's files.
    - New employees will provide these certificates to the Corporate Safety Director within one week of reporting to work and prior to engaging in field activities to facilitate the timely scheduling of additional training as necessary. If a new employee cannot substantiate claims of prior health and safety training to the satisfaction of the Corporate Safety Director, either training equivalency must be applied for, or the courses appropriate for the employee's classification must be completed.
    - The Corporate Safety Director is responsible for obtaining training records from the field staff members in their office and forwarding copies of these records to the Corporate Safety Director within one week of their receipt. The Corporate Safety Director should also maintain an orderly filing system, which will contain copies of the field staff's training records along with medical clearance "Summary Profiles" and other health and safety-related information.
    - The Corporate Safety Director will maintain a centralized filing system and database with health and safety training data for all domestic field personnel. The database will be continually updated as new information (certificates, etc.) is submitted by the Corporate Safety Director.
    - At the end of each period, the Corporate Safety Director will provide management with a database printout for the entire company by office or profit center. Included will be a roster of personnel who have a training or medical surveillance due date in the following two periods.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DOT HAZARDOUS MATERIALS TRAINING

- Prior to shipping hazardous materials, "Hazmat Employers" such as EXCEL must train their "Hazmat Employees" on the requirements of the transportation regulations. A Hazmat Employee is defined as any employee who directly affects hazardous materials transportation safety, whether in packaging, loading, unloading, handling, storing or transporting hazardous materials.

- Under DOT regulations (49 CFR 172.700), there are four components of training that must be covered depending upon the HAZMAT employee's job function:

    1. 1General Awareness/Familiarization – designed to familiarize the employee with the requirements of the regulations and allows the employee to recognize materials covered under the OSHA Hazard Communication standard;

    2. Function-Specific – designed for employees who actually handle and prepare packages of hazardous materials for transport. It is intended to train the employee on how to perform his/her job safely and within the requirements of the regulations.

    3. Safety Training – This includes the OSHA Hazard Communication standard.

    4. Driver Training – this component applies to operators of hazardous materials transportation vehicles.

- To comply with DOT regulations, EXCEL will provide specialized General Awareness/Familiarization training courses for those employees who are involved in shipping hazardous materials to recognize and identify hazardous materials consistent with the OSHA Hazard Communication Standard and the DOT regulations.
- EXCEL will also provide Function-Specific and Safety Training for those employees who are required, as part of their job, to evaluate, mark, label, and package hazardous materials for shipment.
- All courses will be provided on an "as needed" basis. General Awareness/Familiarization, Function-Specific, and Safety Training will be refreshed at least every two years, as specified in the DOT regulations. At the discretion of the Corporate Safety Director, this refresher training may be incorporated into annual HAZWOPER refresher courses.
- Driver Training for those employees who operate motor vehicles to transport hazardous materials will be given as part of the Function-Specific training course.

DRIVER QUALIFICATION TRAINING

- The rules in part 49 CFR part 391.1 establish minimum qualifications for persons who drive commercial motor vehicles as, for, or on behalf of motor carriers (i.e., EXCEL)
- EXCEL will not permit an employee to drive a commercial motor vehicle unless they are qualified to do so. Except as provided in 49 CFR 391.63, a motor carrier shall not require or permit a person to drive a commercial motor vehicle unless that person is qualified to drive a commercial motor vehicle.
- Except as provided in subpart G of this part, a person is qualified to drive a commercial motor vehicle if they are:
    - Is at least 21 years old;
    - Can read and speak the English language sufficiently to converse with the general public, understand highway traffic signs and signals in the English language, respond to official inquiries, and make entries on reports and records;

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Can, by reason of experience, training, or both, safely operate the type of commercial motor vehicle they drive;
- Can, by reason of experience, training, or both, determine whether the cargo they transport (including baggage in a passenger-carrying commercial motor vehicle) has been properly located, distributed, and secured in or on the commercial motor vehicle they drive;
- Is familiar with methods and procedures for securing cargo in or on the commercial motor vehicle they drive;
- Is physically qualified to drive a commercial motor vehicle in accordance with subpart E (Physical Qualifications and Examinations) of 49 CFR part 391;
- Has a currently valid commercial motor vehicle operator's license issued only from one state or jurisdiction;
- Has prepared and furnished the motor carrier that employs them with the list of violations or the certificate as required by 49 CFR part 391.27;
- Is not disqualified from driving a commercial motor vehicle under the rules in 49 CFR part 391.15;
- Has completed a driver's road test and has been issued a certificate of driver's road test in accordance with 49 CFR part 391.31, or has presented an operator's license or a certificate of road test which the motor carrier that employs them has accepted as equivalent to a road test in accordance with 49 CFR part 391.33; and,
- Has completed and furnished the motor carrier that employs them with an application for employment in accordance with 49 CFR part 391.21.

DRIVER QUALIFICATION FILE

- As required under 49 CFR part 391.51, a "Driver Qualification File" shall be maintained for each applicable employee. This will include the following items:
  - Application for Employment
  - Application Addendum
  - Request for Information from Previous Employer (ESS Report)
  - Request for Check of Driving Record (ESS Report)
  - Driver's License copy
  - Driver's Medical Examination Certificate copy
  - Certification of Violations
  - Written Examination
  - Certificate of Written Examination copy
  - Record of Road Test
  - Certificate of Road Test
  - Annual Review of Driving Record
  - Driver's Mandatory Notification
  - Safety Regulations Receipt (from "Federal Motor Carrier Safety Regulations Pocketbook" provided to employee)
  - Annual Review of Driving Record.
- Each of these records is provided as an attachment to this procedure (with the exception of the Application for Employment, Driver's License Copy, and Driver's Medical Examination Certificate copy).
- Additional "miscellaneous forms" that will be included in the file include the following (NOTE: These forms are related to DOT compliance but not required to be maintained in the Driver Qualification File):
  - Certificate of Compliance with Driver License Requirements;
  - Acknowledgment of DOT Compliance Policy;
  - Certification of Non-Motor Carrier Compensated Work; and,
  - Meal Stop Card.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DISQUALIFICATION OF DRIVERS

- A driver who is disqualified shall not drive a commercial motor vehicle. EXCEL will not require or permit a driver who is disqualified to drive a commercial motor vehicle.
- A driver is disqualified for the duration of the loss of their privilege to operate a commercial motor vehicle on public highways, either temporarily or permanently, by reason of the revocation, suspension, withdrawal, or denial of an operator's license, permit, or privilege, until that operator's license, permit, or privilege is restored by the authority that revoked, suspended, withdrew, or denied it.
    - An offense committed during on-duty time; and,
    - The driver is employed by a motor carrier or is engaged in activities that are in furtherance of a commercial enterprise in interstate, intrastate, or foreign commerce.

DISQUALIFYING OFFENSES

- The following are considered disqualifying offenses:
    - Driving a commercial motor vehicle while under the influence of alcohol. This shall include driving a commercial motor vehicle while the person's alcohol concentration is 0.04 percent or more.
    - Driving under the influence of alcohol, as prescribed by state law or
    - Refusal to undergo such testing as is required by any State or jurisdiction in the enforcement of these regulations.
    - Driving a commercial motor vehicle under the influence of a Schedule 1 drug
    - Transportation, possession, or unlawful use of a Schedule 1 drug
    - Leaving the scene of an accident while operating a commercial motor vehicle or
    - A felony involving the use of a commercial motor vehicle
- Duration of disqualification – For first-time offenders, a driver is disqualified for one year after the date of conviction if, during the three years preceding that date, the driver was not convicted of a charge of an offense that would disqualify the driver. However, the period of disqualification is six months if the conviction solely concerned the transportation or possession of a Schedule 1 drug.
- For subsequent offenders, a driver is disqualified for three years after the date of their conviction if, during the three years preceding that date, they were convicted of an offense that would disqualify them.

DISQUALIFICATION FOR VIOLATION OF OUT-OF-SERVICE ORDERS

- A driver who is convicted of violating an out-of-service order is disqualified for the period specified below:
    - First violation – A driver is disqualified for not less than 90 days nor more than one year if the driver is convicted of a first violation of an out-of-service order.
    - Second violation – A driver is disqualified for not less than one year nor more than five years if, during any 10-year period, the driver is convicted of two violations of out-of-service orders in separate incidents.
    - Third or subsequent violation – A driver is disqualified for not less than three years nor more than five years if, during any 10-year period, the driver is convicted of three or more violations of out-of-service orders in separate incidents.
    - Special rule for hazardous materials and passenger offenses – A driver is disqualified for not less than 180 days nor more than two years if the driver is convicted of a first violation of an out-of-service order while transporting hazardous materials required to be placarded or while operating commercial motor vehicles designed to transport more than 15 passengers, including the driver. A driver is disqualified for not less than three years nor more than five years if, during any 10-year period, the driver is convicted of any subsequent violations of an out-of-service order, in separate incidents, while transporting hazardous

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

materials required to be placarded or while operating commercial motor vehicles designed to transport more than 15 passengers, including the driver.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BENZENE POLICY

POLICY

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Providing a safe and healthy work environment for all company employees is the most important objective. We recognize that our industry has occupations identified by OSHA as potential BENZENE exposure sources. EXCEL will utilize all possible methods to ensure that our employees are not exposed to Benzene in the workplace, as defined by OSHA 29 CFR 1910.1028. To accomplish this goal, complete compliance with our Benzene Program is required by all. In the event that Benzene becomes a hazard or a potential hazard, engineering controls, work practice controls, respiratory protection, or any combination of these controls will be implemented to reduce employee exposure to Benzene to or below PEL. When the job site establishes these controls and procedures, a written schedule for the development and implementation of these controls shall be reviewed and revised as needed according to the most recent monitoring data to reflect the current status of the program. The Assistant Secretary, the Director, affected employees, and designated employee representatives shall have access to the written plan.

HEALTH EFFECTS

- Routes of entry include inhalation, absorption, and ingestion. Benzene exposure can and may cause irreversible damage to your health, death, and or long-term health problems. Benzene is a known cancer-causing agent in lab animals.
- Acute Effects: Eye irritant, corneal injury, absorbed through skin in harmful atmospheres, chemical pneumonia, irreversible bone damage, and death
- Chronic Effects: Long-term health problems; bone injury, lung injury, chemical pneumonia

SIGNS AND SYMPTOMS OF OVEREXPOSURE

- Eyes have a burning sensation, red, tearing, inflamed. Skin redness. Ingestion, excitement, dizziness, drowsy, nausea, vertigo, loss of appetite, blurred vision, and difficulty breathing.

POTENTIAL EXPOSURE SOURCES

- Benzene units in refineries, large fuel spills
- Line breaking in benzene manufacturing units, maintenance on Benzene contaminated equipment.

METHODS OF DETECTION:

- Atmospheric monitoring is used to detect the presence and (if present) the concentration of respirable Benzene in the air. OSHA requires initial air monitoring for activities that could generate benzene exposure and after 30 days of introduction into the workplace. Where the employer has monitored within one year prior to the effective date of the OSHA standard, and the monitoring satisfies all other requirements of the OSHA regulations for Benzene, the employer may rely on earlier monitoring results.
- Important thresholds for permissible exposure:
    - Time-weighted average: 1ppm = one part of Benzene per million parts of the air in an 8-hour time-weighted average.
    - Short Term Exposure Limit: 5ppm = five parts of Benzene per million parts of air as averaged over any 15 minutes.
    - Regulated Areas: A regulated area shall be established wherever the airborne concentration of Benzene exceeds or can reasonably be expected to exceed the

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

permissible exposure limits of either the 8-hour time-weighted of 1 ppm or the short-term exposure limit of 5 ppm for 15 minutes.

- Atmospheric Testing. After initial monitoring reveals employee exposure at or above the action level but at or below the TWA, the employer shall repeat such monitoring for each employee at least once (1) per year. If monitoring required by OSHA reveals employee exposure above the TWA, the employer shall repeat such monitoring for each employee at least every six (6) months.
- Additional monitoring: additional monitoring shall be conducted when there has been a change in the production, process, control equipment, personnel, or work practices, which may result in new or additional exposures. Whenever spills, leaks, ruptures, or other breakdowns occur that may lead to employee exposure, the employer shall monitor (using area or personal sampling) after the cleanup of the spill or repair to ensure that exposures have returned to the level that existed prior to the incident.
- Accuracy of Monitoring: Monitoring shall be accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for the airborne concentrations of Benzene.
- Employee Notification of Monitoring Results: The employer shall, within 15 working days after receipt of the results of any monitoring performed under this standard (refer to 29CFR1910.1028), notify each employee of these results in writing either individually or by posting the results in an appropriate location that is accessible to affected employees.
- Methods of Compliance: The company shall comply with the engineering controls and work practices established by the producer/user/generator of Benzene at any level of contamination/concentration. Where these controls have not been established to eliminate and or reduce the possibility of benzene exposure, the company shall not begin work until this program is in place and has been communicated to all affected employees.
- Compliance Program: When any exposures are over the PEL, the company shall request the producer/user/generator of Benzene to establish and implement a written program to reduce employee exposure to or below the PEL primarily by means of work practices and engineering controls. The company shall not begin or continue work where exposure levels are above the acceptable limits until a compliance program provided by the producer/user/generator is in place and communicated to affected employees.
- Respiratory Protection: Where respirators are required by the standard (29CFR1910.1028), the company will provide respirators that comply with the requirements. The company will also implement a respiratory program in accordance with 29 CFR1910.134 and the corporate safety program (see section 8.4). The employer shall use Table 1-Respiratory Protection for Benzene (29CFR1910.1028 (3) (i), which is also attached. Respirators must be used during periods necessary to install or implement feasible engineering and work practice controls; work operations for which the employer establishes that compliance with either the TWA or STEL through the use of engineering and work practices controls is not feasible; Work operations for which feasible engineering and work-practices are not yet sufficient, or are not required under 29CFR1910.1028(f)(1)(iii); and emergencies.
- Protective Clothing and Equipment: Personal protective clothing and equipment shall be worn where appropriate to prevent contact and limit dermal exposure to liquid Benzene. Protective clothing and equipment shall be provided by the company (employer) at no cost to the employee. Eye and face protection shall meet the requirements of 29 CFR 1910.133 and the company safety policy (section 7).
- Medical Surveillance: The company, shall make available a medical surveillance program for employees who are or may be exposed to Benzene at or above the action level 30 or more days per year; for employees who are or may be exposed to Benzene at or above the PELs 10 or more days per year; for employees who have been exposed to more than 10ppm of Benzene for 30 or more days per year prior to the effective date of the standard (29CFR1910.1028). This will be provided for employees at no cost to the employee. The Medical Surveillance program shall be provided for by a licensed physician or medical provider.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Initial Medical Examination: All employees required to work in areas where there is a possibility of exposure will require an “initial” physical to determine employee health and pre-existing conditions, which may restrict the employee from performing work in accordance with this policy. This medical examination shall include but is not limited to (A) a detailed occupational history, which includes (1) Past work exposure to Benzene or any other hematological toxins; (2) A family history of blood dyscrasias including hematological neoplasm; (3) A history of blood dyscrasias including genetic hemoglobin abnormalities, bleeding abnormalities of formed blood elements; (4) a history of renal or liver dysfunction; (5) A history of medicinal drugs routinely taken; (6) A history of previous exposure to ionizing radiation; (7) Exposure to marrow toxins outside of the current work situation and (B) a complete physical examination (C) Laboratory tests shall include a complete blood count including leukocyte count with a differential, a quantitative thrombocyte count, hematocrit, hemoglobin, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC). The examining physician shall review the laboratory results. (D) Any additional test deemed necessary by the examining physician based on alterations to the components of the blood or other signs that may be related to benzene exposure. (E) For workers required to wear a respirator for at least 30 days a year, the physical examination shall pay special attention to the cardiopulmonary system and shall include a pulmonary function test.
- Periodic Examinations: The Company shall provide each employee covered under this policy and program with an annual medical examination following the previous examination. This periodic examination shall include at least (A), (B), (C) listed in “Initial Medical Examination” and where the employee develops signs or symptoms commonly associated with toxic exposure to Benzene; also where the employee is required to use a respirator at least 30 days a year. Refer to standard 29CFR1910.1028 and the company safety policy for specific details for periodic medical examinations. Each medical examination shall have a physician’s written opinion (see sample-Letter of Results, included in this policy); this opinion shall include but is not limited to the occupationally pertinent results, the physician’s opinion concerning whether the employee has any detected medical conditions which would place the employee’s health at greater than normal risk of material impairment from exposure to Benzene, the physician’s recommended limitations upon the employee’s exposure to Benzene or upon the employee’s use of protective clothing or equipment and respirators, a statement that the physician has informed the employee of the results of the medical examination and any medical conditions resulting from benzene exposure which require further explanation or treatment. The company shall provide the following information to the examining physician: A copy of the OSHA standard 29CFR1910.1028, the company benzene policy; a job description of the affected employees as they relate to exposure; the employee’s actual or representative exposure level; a description of any personal protective equipment used or to be used; and any information from previous employment-related medical examination not otherwise available to the examining physician.
- Emergency examinations: Should an employee become or is exposed to Benzene in an emergency, the company shall have that employee provide a urine sample at the end of that employee’s shift. A urine phenol test will be performed within 72 hours. The specific gravity of the urine sample must be within the acceptable limits or corrected to 1.024 specific gravity. If the phenol urine test results indicated 75mg phenol/L of urine, no further testing is required. If the urine phenol test is higher than 75 mg phenol/L, a complete physical, including a complete blood test, is required at monthly intervals for 3 months. For additional information on Benzene medical protocol, contact the Corporate safety director.
- Medical Removal: Should the examining physician make a referral to a hematologist/internist, the employee shall be removed from areas where exposures may exceed the action level until the physician determines the probable duration of the removal period. During this time, the company shall arrange and provide that employee with follow-up visits, and the treating physicians shall determine within 6 months whether or not the employee shall return to the usual job duties or whether the employee should be permanently removed. The company will provide Medical

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Removal Protection Benefits for any employee affected by the medical removal as outlined in 29CFR1910.1028 (9) (i).

- Communication of Benzene Hazards (signs & labels): The employer, company, and owner shall be responsible for posting signs at entrances to regulated areas. The signs shall bear the following legend:

DANGER
BENZENE
CANCER HAZARD
FLAMMABLE-NO SMOKING
AUTHORIZED PERSONNEL ONLY
RESPIRATOR REQUIRED

- The company shall ensure that labels or other appropriate forms of warning are provided for containers of Benzene within the workplace. The labels shall comply with the requirements of 29 CFR 1910.1200 (f) and, in addition, shall include the following legend:

DANGER
CONTAINS BENZENE
CANCER HAZARD

- Training: The Company will provide employees with information and training at the time of their initial assignment to work in areas where Benzene is present. Where exposures are above the action level, employees will be provided with training and information annually. The objective and intent of this program are to provide you with all the information necessary to allow you to understand the nature of the possible health hazards of Benzene and to educate you on the proper use of precautionary procedures and safety equipment. The following training outline will be followed:
    1. Benzene Policy and Program Review
    2. Respiratory Protection Equipment
    3. Demonstrate Respiratory Equipment Use
    4. PPE Inspection and Cleaning Practices
    5. Review of the Standard 29CFR1910.1028
    6. Test
    7. Employee Training Verification Sign-off Log
    8. Post Applicable Names on Authorized Persons List
- Record keeping: The Company shall maintain records for all employees, including but not limited to training, medical surveillance, work history, and exposure measurements. This information should be kept in a hard copy file and on the company's electronic data system. All information and records on employees must include at least the dates, number of measurements, results of each sample taken, description of the method used to take the sample, name, social security number, job classification, etc. These records must be kept for 30 years in accordance with 29 CFR1901.20. For additional information regarding record keeping associated with this plan, contact the corporate safety director.
- Chemical Names: Benzene
  Common Names: Benzol
  Coal Naphtha
  Cyclohexatriene
  Carbonyl Coal Naphtha
  Formula: C6H6
- Chemical and Physical Properties:

Boiling Point at one atmosphere-80.1 degree C	(176 degrees F)
Color	Clear colorless liquid
Specific gravity (water=1)	0.879
Vapor Density (air=1)	2.7
Solubility in Water	0.6%

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Explosive Limits % by Volume in Air	lower: 1.3% Upper: 7.1%
Flash Point (closed cup)	-11 degrees C (12 degrees F)
Auto Ignition	680 degrees C (1076 degrees F)
Molecular weight	78.11
Odor	Sweet
Physical State	Liquid at ordinary temperatures and pressures. The vapors are such that they are readily inhaled
Odor Threshold	75-100 ppm

- Basic Hazards: 1.) Hazard of fire and explosion, 2.) Direct skin contact with liquid Benzene, 3.) hazard of breathing Benzene vapors.
- Potential Exposure sources: 1.) Leaks in piping, pumps, vessels, tanks, and similar equipment 2.) Failure or rupture of piping, pumps, etc., that contain Benzene 3.) Operations involving sampling and loading/unloading of Benzene 4.) Residual and trace amounts of Benzene remain in piping, pumps, tanks, and vessels.

CONTROL MEASURES:

- Engineering and Work Practice Controls: mechanically reduce dependence on personal respiratory protection by reducing or diluting Benzene in the air.
    - Ventilation
        - General/Forced Air
        - Local Exhaust
    - No smoking, eating, or drinking in the work area
    - Good Maintenance and housekeeping practices
    - Cleaning contaminated equipment by “others” before working on it

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Authorization for benzene examination

MEDICAL FACILITY: _____ DATE: _____

ADDRESS: _____
_____
_____

This is to authorize a laboratory examination and medical history to be performed and billed to _____ for the following employee.

_____

Employee Name Social Security #

Please send bills to

_____
_____
_____
ATTN: SAFETY DEPT.

JOBSITE CONTACT:

_____
_____
_____

AUTHORIZED BY: _____

TITLE: _____

LOCATION: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

Monitoring Record

FOR_____ HEALTH HAZARD COMPLIANCE PROGRAM

Employee Monitored:_____ SSN#_____

Date:_____ Project & Company_____

Area of Monitoring:_____ Sub-Area:_____
(If applicable)

Type of Monitoring --- PERSONAL --- TASK --- CEILING --- OTHER:_____

(1) TIME STARTED:_____	(1) TIME STOPPED:_____	(1) TOTAL:_____
(2) TIME STARTED: _____	(2) TIME STOPPED:_____	(2) TOTAL:_____
(3) TIME STARTED:_____	(3) TIME STOPPED:_____	(3) TOTAL:_____
(4) TIME STARTED:_____	(4) TIME STOPPED:_____	(4) TOTAL:_____

TOTAL MONITORING TIME: _____

WEATHER CONDITION Wind Direction & Speed: _____
Changes: _____

Temp: low high Barometric Pressure:_____

On The Grid: First, plot a rough lay-out of the monitored unit; Second, plot the approximate location of the employee during the monitoring period. Identify the task(s) being performed at each plotted point below;

1)_____	2)_____	3)_____
4)_____	5)_____	6)_____
7)_____	8)_____	9)_____
10)_____	11)_____	12)_____
13)_____	14)_____	15)_____

REMARKS & POSSIBLE INTERFERENCES:_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

LETTER OF RESULTS

MEDICAL FACILITY:
_____

ADRESS: _____
_____
_____

DATE:_____

COMPANY _____
_____
_____

ATTN: SAFETY DEPARTMENT

EMPLOYEE NAME: _____

Dear Ms/Mr.:_____

As a result of the medical history and laboratory testing for benzene exposure which was done on you on (date)_____, the following results were obtained:

_____ No Significant Abnormality

_____ Consult with your family physician for follow-up concerning:
_____
_____
_____
_____

Dr. _____
(Signature)

Employee Copy ←

Employer Copy ←

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Table 1 – RESPIRATORY PROTECTION FOR BENZENE

Airborne concentration of Benzene or condition of use	Respirator type
(a) Less than or equal to 10ppm……	(1) Half-mask air purifying respirator with organic vapor cartridge
(b) Less than or equal to 50ppm……	(1) Full facepiece respirator with organic vapor cartridges. (1) Full facepiece gas mask with chin-style canister.
(c) Less than or equal to 100ppm……..	(1) Full facepiece powered air-purifying respirator with organic vapor canister.
(d) Less than or equal to 1,000ppm……	(1) A supplied-air respirator with a full facepiece in positive-pressure mode was used.
(e) Greater than 1,000 ppm or unknown concentration	(1) Self-contained breathing apparatus with a full facepiece in positive pressure mode. (2) Full facepiece positive-pressure supplied air respirator with auxiliary self-contained air supply.
(f) Escape……	(1) Any organic vapor gas mask; or (2) Any self-contained breathing apparatus with a full facepiece.
(g) Firefighting……..	(1) Full facepiece self-contained breathing apparatus in positive pressure mode.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ASBESTOS SAFETY

POLICY

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

ASBESTOS KILLS!

- If you are exposed to enough asbestos, it will kill you.
- Asbestos is too small to be seen and enters your body when you breathe, eat, or drink.
- Asbestos is used in thousands of products.
- Maintenance and construction workers are most at risk.
- The air quality is to be determined from breathing zone air samples. The samples should be representative of the 8-hour TWA and 30-minute short-term exposure. Measurements are required for documentation.

HOW DO ASBESTOS FIBERS ENTER YOUR BODY?

- Asbestos fibers are released from damaged materials containing asbestos.
- These fibers enter your body when you breathe, eat, or drink.
- They may remain in your body for life.
- They cause deadly diseases.

DISEASES CAUSE BY ASBESTOS

- Lung cancer causes the most deaths related to asbestos exposure.
- Asbestosis is a deadly, non-cancerous respiratory disease.
- Mesothelioma is a cancer of the lining of the chest or abdomen.
- It can cause cancer of the esophagus, stomach, intestines, rectum, colon, and pancreas.

PROTECT YOURSELF WHEN WORKING WITH ASBESTOS. DO NOT:

- Allow asbestos fibers to become airborne.
- Fallout continuously releases asbestos fibers from a damaged substance.
- Impact causes high concentrations of asbestos fibers to be released.
- Re-entrainment moves asbestos fibers that have settled.
- Saw, sand, scrape, or drill holes in asbestos material.
- Use abrasive pads or power strippers to sand wax from asbestos flooring.
- Touch-damaged asbestos without protective equipment.
- Sand or try to level asbestos flooring or its backing.

BEWARE OF MATERIALS THAT CRUMBLE EASILY

- Materials that crumble easily are called friable.
- Friable materials containing asbestos can release dangerous fibers into the air.
- Avoid contact with friable materials.
- Non-friable materials containing asbestos can become friable when damaged.
- They're safe as long as they are not disturbed.

WHEN CLEANING IN AREAS WITH ASBESTOS:

- Use a dampened mop and dust cloth.
- Only use a High-Efficiency Particulate Air vacuum cleaner.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Do not use a broom.

REGULATED AREAS

- Contains dangerous levels of airborne asbestos
- It will be marked with signs. Signs and labels shall meet OSHA requirements.
- Require you to follow these precautions:
    - Wear respirators and protective clothing.
    - Leave all protective clothing and equipment in the workplace.
    - Employees who perform housekeeping activities during and after construction activities shall be covered by the asbestos construction standard.

TRAINING

- Training shall be provided prior to or at the time of initial assignment and at least annually after that. Training shall be done in a manner that the employee is able to understand and should include the health effects associated with asbestos exposure. The training shall also include information on the relationship between smoking and exposure to asbestos-producing lung cancer. A certificate of training should be provided and maintained.

MONITORING

- Air quality is to be determined from breathing zone air samples. The samples shall be representative of the 8-hour TWA and 30-minute short-term exposure. Measurements are required for documentation.
- Engineering controls and work practices will be provided to reduce/maintain the exposure below TWA to the extent that such controls are not feasible. Some controls and work practices may be exhaust systems for hand tools, wet methods, clean-up procedures, and PPE.
- If the TWA and/or excursion limit is exceeded, a written program to reduce employee exposure will be implemented. This can be done by means of engineering and work practice controls and the use of respiratory protection. Respirators shall be used in the following four circumstances: work practice controls, work operations, to reduce exposure, and in emergencies. Respirators will be provided to the employees at no cost to them and shall be chosen from those approved by NIOSH. Powered, air-purifying respirators should be available when the employees choose to use this type or when this type will provide adequate protection.
- When exposure is above TWA, proper PPE will be provided. It shall include coveralls, gloves, head coverings, foot coverings, face shields, and vented goggles. Information on respirators, protective clothing, and their limitations shall be provided.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HYDROGEN SULFIDE

SCOPE

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- This Safety Standard covers the basic points in the protection of personnel from the harmful effects of hydrogen sulfide. It is intended to be a general statement of good practices that applies under normal circumstances. Use it as a source of information and as a guide wherever it is applicable.
- Refer to the Specific Safety Plan for identification of potential areas of exposure to H2S. Employees must review and follow the provisions set in the site-specific contingency plans. Employees must review and sign the plan that has been developed by the location program administrator, which should coincide with the owner's site-specific safety plan.

GENERAL INFORMATION

- Over the years in the petrochemical industry, many employees have been severely injured or killed by hydrogen sulfide gas, commonly known as H2S. In many cases, these were more experienced employees who used poor judgment with this deadly gas. In many cases, the injured person did not realize just how toxic this gas really was.

IMPORTANT PHYSICAL AND CHEMICAL PROPERTIES

- Hydrogen Sulfide is a flammable, colorless gas and, in low concentrations, has an offensive "rotten egg" odor. Some, who have been rendered unconscious from high concentrations and survived, report that they did not notice the so-called "rotten egg" odor but rather a sickening sweet odor. The gas is slightly heavier than air. In mixtures in air between 4.3 and 46% by volume, it is explosive. The auto-ignition temperature or the surface temperature will ignite a flammable mixture of hydrogen sulfide in the air at 500°F.

TOXICITY

- The most important consideration about hydrogen sulfide is its toxicity. At less than one (1) part per million in air, the gas can be distinctly smelled due to its "rotten egg" odor.
- Ten parts per million in air is the threshold limit value or the concentration at which a person can stay eight (8) hours without injury.
- At 100 parts per million, the sense of smell is deadened in 3 to 15 minutes. This can cause you to be lulled into the feeling that there is no longer any gas when, in reality, the concentration could have increased.
- USING THE SENSE OF SMELL TO DETECT HYDROGEN SULFIDE IS VERY UNRELIABLE AND MAY BE FATAL.
- Above 700 parts per million, respiratory paralysis sets in quickly. Unless the victim is rescued, brought into fresh air, and given immediate artificial respiration, they will die.
- THE PERSON MUST MAKE THE RESCUE WEAR THE PROPER RESPIRATORY PROTECTION EQUIPMENT.
- At 1000 parts per million and above, the victim will become unconscious at once, and their breathing will stop. When the breathing stops for more than four (4) minutes, permanent brain damage will occur.

EQUIPMENT AVAILABLE FOR PROTECTION AGAINST H2S INHALATION

- Air-Supplied Breathing Equipment - Breathing air equipment must be worn when the atmospheric level of hydrogen sulfide exceeds 10 parts per million or where a sudden release of hydrogen

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

sulfide is possible. Breathing air equipment used to protect against hydrogen sulfide must be a PRESSURE-DEMAND type. This type maintains a slightly positive pressure in the mask at all times. The three types of PRESSURE-DEMAND EQUIPMENT available are:

1. Scott Sling Pak is a self–contained unit that supplies 15 minutes of breathing air under normal use. They are used chiefly as an emergency unit.
2. Scott Back Pak is a self–contained unit that supplies 30 minutes of breathing air under normal use. It can be used for short-duration mechanical work, or when used in conjunction with extra 30-minute air cylinders, can be used for long-duration jobs requiring mobility.
3. Scott High Pressure Hose Line Respirator – This equipment uses from one (1) to 200 cubic foot air cylinders with a high-pressure hose line running to the air mask or masks. Each cylinder provides from four (4) to six (6) hours of breathing air for one person. Up to four (4) people can be equipped with one high-pressure kit.

MISCELLANEOUS

- If a break in a line carrying H2S occurs, leave the zone of exposure quickly, moving upwind or at a right angle to the wind. Do not run away from the windsock; you might get trapped. Run at right angles, left or right.

GENERAL

1. Never try to determine the presence of H2S by sense of smell. If in doubt, have the area checked with an H2S indicator. This unit will be tested on each individual during the training class.
2. H2S monitoring devices should be provided where there is a high concentration of equipment containing hydrogen sulfide and a high concentration of people. The boundaries of H2S areas should be clearly marked with Danger Signs warning of H2S. At a minimum, personal or area monitors must be available, and an alarm/sound must be used when the level reaches 10 parts per million.
3. A "buddy system" should be used any time an employee goes into an H2S-contaminated area. One man observes the other from a safe distance.
4. Confined space entry operations will be required to comply with 29CFR 1910.146 and will be trained under CFR1910.146 (g).

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Toxicity of Hydrogen Sulfide
H2s Concentration by Volume

%	Parts Per Million	
0.1	1000	Victim becomes unconscious at once. Permanent brain damage may result unless rescued promptly and given immediate artificial resuscitation.
0.07	700	Victim becomes unconscious quickly. Breathing will stop, and death will result unless rescued promptly and given artificial resuscitation
0.05	500	Victim loses a sense of reasoning and balance. Respiratory paralysis in a few minutes. Victim needs prompt artificial resuscitation.
0.02	200	Deadens sense of smell quickly. Stings eyes and throat.
0.01	100	Deadens sense of smell in 3 to 15 minutes. Stings eyes and throat.
0.001	10	This is the maximum allowable concentration for 8 hours of work without breathing protection.
0.00001	0.1	Lowest detectable level by odor.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

NAME:_____ **JOB#:**_____
SS#:_____ **LOCATION:**_____
DATE:_____

SULFUR BASED GASES EXAMINATION

1. Which of the following is flammable?
    a. Sulfur Dioxide
    b. Hydrogen Sulfide
    c. Sulfur Trioxide
    d. All of the above

2. When repairing a small hydrogen sulfide leak, what type of respirator should a person use?
    a. Half-face
    b. Full-face cartridge
    c. Five-minute escape pack
    d. Full-face supplied air

3. Which of the following types of respirators can be used to protect against exposure to Sulfur Oxides?
    a. Half-face respirators at low concentrations
    b. Full-face or air-supplied respirators at high concentrations
    c. Both a and b
    d. None of the above

4. Hydrogen Sulfide gas is what compared to carbon monoxide?
    a. 5 times as toxic
    b. Not as toxic
    c. Has the same toxicity
    d. 3 times as toxic

5. Workers can be exposed to what levels of hydrogen sulfide gas during a normal 8-hour day?
    a. 10 ppm
    b. 50 ppm
    c. Less than 1 ppm
    d. 20 ppm

6. Hydrogen Sulfide is found in what industrial process?
    a. Oil refineries
    b. Sewage treatment plants
    c. Iron and steel mills
    d. All of the above

7. Hydrogen Sulfide can deaden the sense of smell in about 5 seconds? T F

8. Knowing which direction the wind is blowing on a job site is unimportant? T F

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

9. Hydrogen Sulfide gas has a horrible rotten egg-like odor at high concentrations, but no odor at lower concentrations. T F

10. One of the effects of overexposure to sulfur oxide gases can be prolonged difficulty in breathing. T F

11. Hydrogen Sulfide is lighter than air and rises quickly. T F

12. If you should smell Hydrogen Sulfide knowing that it can deaden your sense of smell in about 5 seconds and the odor disappears, causing you to think the exposure is gone, should you keep working or evacuate the area? _____

STATEMENT OF UNDERSTANDING

I have reviewed the questions, corrected and initialed any wrong answers, and now understand the answer to each question.

_____

EMPLOYEE SIGNATURE

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

SULFUR BASED GASES

ANSWER KEY

1. B
2. D
3. C
4. A
5. A
6. D
7. TRUE
8. FALSE
9. FALSE
10. TRUE
11. FALSE
12. EVACUATE

SULFUR BASED GASES

GRADING SCALE

# WRONG	PERCENTILE
0	100
1	80
2	70
3	60

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

H_2S Safety Factsheet

HYDROGEN SULFIDE

Hydrogen sulfide (H2S, CAS# 7783-06-4) is an extremely hazardous, toxic compound. It is a colorless, flammable gas that can be identified in relatively low concentrations by a characteristic ***rotten egg*** odor. The gas occurs naturally in coal pits, sulfur springs, gas wells, and as a product of decaying sulfur-containing organic matter, particularly under low oxygen conditions. It is, therefore, commonly encountered in places such as sewers, sewage treatment plants (H2S is often called ***sewer gas***), manure stockpiles, mines, hot springs, and the holds of fishing ships. Industrial sources of hydrogen sulfide include petroleum and natural gas extraction and refining, pulp and paper manufacturing, rayon textile production, leather tanning, chemical manufacturing, and waste disposal.

Hydrogen sulfide has a very low odor threshold, with its smell being easily perceptible at concentrations well below 1 part per million (ppm) in air. The odor increases as the gas becomes more concentrated, with the strong rotten egg smell recognizable up to 30 ppm. Above this level, the gas is reported to have a sickeningly sweet odor up to around 100 ppm. However, at concentrations above 100 ppm, a person's ability to detect the gas is affected by rapid temporary paralysis of the olfactory nerves in the nose, leading to a ***loss of the sense of smell***. This means that the gas can be present at dangerously high concentrations with no perceivable odor. Prolonged exposure to lower concentrations can also result in similar effects of olfactory fatigue. This unusual property of hydrogen sulfide makes it extremely dangerous to rely totally on the sense of smell to warn of the presence of the gas.

HEALTH EFFECTS OF HYDROGEN SULFIDE

H2S is classed as a ***chemical asphyxia***, similar to carbon monoxide and cyanide gases. It inhibits cellular respiration and uptake of oxygen, causing biochemical suffocation. Typical exposure symptoms include:

LOW	0 - 10 ppm	Irritation of the eyes, nose, and throat
MOD	10 - 50 ppm	Headache Dizziness Nausea and vomiting Coughing and breathing difficulty
HIGH	50 - 200 ppm	Severe respiratory tract irritation Eye irritation / acute conjunctivitis Shock Convulsions Coma Death in severe cases

Prolonged exposures at lower levels can lead to bronchitis, pneumonia, migraine headaches, pulmonary edema, and loss of motor coordination.

WORKING WITH HYDROGEN SULFIDE

Most countries have legal limits in force that govern the maximum allowable levels of exposure to hydrogen sulfide in the working environment. The typical permissible exposure limit in many countries is 10 ppm. While the distinctive odor of H2S is easily detected, its olfactory fatigue effects mean that one cannot rely on the nose as a warning device. The only reliable way to determine exposure levels is to measure the amount in the air. Regular monitoring will help to identify areas and operations likely to exceed permissible exposure limits, and any areas that routinely pose overexposure hazards should be equipped with continuous monitoring systems.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

With a vapor density of 1.19, hydrogen sulfide is approximately 20 percent heavier than air, so this invisible gas will collect in depressions in the ground and confined spaces. The use of direct reading gas detection instrumentation should be required before entering confined spaces such as manholes, tanks, pits, and reaction vessels that could contain an accumulation of H2S gas.

Wherever possible, exposure should be minimized by employing adequate ***engineering controls*** and ***safe working practices***. Such methods include ensuring good ventilation and changing work procedures and practices. Where engineering controls cannot adequately control levels of exposure, it may be necessary to supplement them with the use of suitable ***personal protective equipment*** (PPE) such as supplied air respirators. A qualified industrial hygienist or safety professional should be consulted for guidance on the suitability and correct use of respirators.

Should a co-worker ever be overcome by H2S gas, do not attempt a rescue until you are properly protected yourself. The rescuer can very easily become overcome and rendered unconscious by venturing into a confined space without adequate protection. Remember that at levels above 200 ppm, collapse, coma, and death due to respiratory failure can occur within seconds after only a few inhalations so that you can overcome yourself very quickly. Such incidents are sadly all too common and only serve to make the rescue effort twice as difficult.

NOTE: The information contained in this Factsheet is presented for informative purposes only and should not be construed as legal advice or opinion. You should consult the hydrogen sulfide standard for your country or consult the appropriate health and safety regulatory body for guidance.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

About Hydrogen Sulfide

Flammable Limits in Air:	4.3 – 45% (by volume)
CAS #	7783-06-4
OSHA CEILING	20 ppm
Peak	50 ppm/10 minutes
TLV/TWA	10 ppm
TLV/STEL	15 ppm
TLV/IDLH	300 ppm
NIOSH Ceiling	10 ppm/10 minutes
Evacuation	Over 65 ppm

Hydrogen Sulfide is a colorless, very flammable gas. In low concentrations, it smells like "rotten eggs"; however, the sense of smell is lost after 2 – 15 minutes of exposure, making it impossible to smell dangerous concentrations. It is heavier than air. It is considered to be a very toxic gas. When H2S burns, it produces another very toxic gas – Sulfur Dioxide (SO2). H2S is used in metallurgy, the preparation of phosphorous and oil additives, as well as a reagent in chemical analysis. During the recovery and processing of crude oil, H2S can contaminate the atmosphere and become a major health hazard.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DROPPED OBJECT PREVENTION

PURPOSE

- EXCEL Companies has developed this Dropped Object Prevention Plan to establish corporate-wide guidelines for eliminating dropped objects when working at height. This prevention plan is intended to significantly reduce both hazards and serious injury and risks to employees that dropped objects can pose. This plan should help mitigate dropped objects by ensuring that workers are properly trained to secure tools at height and understand correct procedures.

APPLICATION

- This Dropped Object Prevention Sample Plan applies to:
    - All locations where personnel are employed to perform work at height or where they may be exposed to a dropped object by working below other personnel, tools, equipment, and platforms.
    - The requirements of this plan must be observed by all personnel involved in working at height or below height activities.
    - This Dropped Object Prevention Sample Plan must be reviewed in any job safety analysis or pre-task planning for activities that require working at height with tools and in those activities that require working below such activities.
    - This plan establishes minimum expectations in order to mitigate the risk of damage to property or personnel done by dropped or falling objects. It is the expectation of EXCEL Companies that any tools and materials that could be considered drop hazards are secured with secondary drop systems.

DEFINITIONS

- Primary Drop System - Primary Drop Systems are systems that serve as the tool's primary form of drop prevention and typically include the worker's hand placement or grip on the tool. Other forms of primary protection may include main support systems for the tool (such as holstering a tool on the body or the platform a tool may be resting while not in use).
- Secondary Drop System - Secondary Drop Systems serve as a backup in the event the primary system fails and are utilized to prevent damage from a dropped or falling object after it has fallen. Secondary systems may include passive systems such as guardrails with toe-board and mesh netting, screens, floor/hole coverings, and tool canopies that have side protection. They may also include tool restraint systems, which are utilized to secure a tool or object to an employee or stationary structure to prevent it from falling (these include pouches and transport buckets with closure systems). Tool arrest systems include tool tethers, which will arrest the fall of the tool and prevent it from striking a lower level and others below.
- Drop Hazard - Any tool, material, or object that has an opportunity to fall from elevation to a lower level, causing potential for damage to property, injury, or death.
- Mitigation - The elimination or reduction of the frequency, magnitude, or severity of exposure to risks by the minimization of the potential impact of a threat or warning.
- Anchorage - A secure point of attachment for tethers, tools, and transport buckets with closure systems, which is independent of an anchorage used for fall protection for personnel.
- Attachment Point - A device designed and utilized to create a connection point on a tool to which the user can connect a tether or lanyard.
- Tool Lanyard/Tether - An extension made of durable materials that are designed to prevent an object from being dropped. These will typically utilize a connection point on either end of the tether for securing an object or stationary item to a worker.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Tool Bucket - A bucket designed for the purpose of carrying tools and materials. These tool buckets must be capable of being closed and secured in order to prevent the contents of the tool bucket from spilling. All tool buckets being utilized by EXCEL Companies must utilize a closure system.
- Tool Pouch - A bag or pouch that is designed to secure its contents (nuts, bolts, nails, screws, small hand tools, etc.) from being spilled or dropped. Many tool pouches allow the user to remove a tool for use while preventing it from becoming a drop hazard through the use of tethers, retractors, etc.
- Tool Holster - A bag or pouch designed to secure single tools or items (hammers, wrenches, levels, radios, bottles, etc.) in order to keep them easily accessible while, in use with other necessary components, helps prevent them from becoming drop hazards.
- Tool Belt - A device that is designed to ergonomically support and manage other dropped prevention items such as lanyards/tethers, pouches, and holsters on the person of the worker.
- Dropped Object Zone (DOZ) - An area with the potential to be impacted by drop hazards currently present in the work-in-progress above. These Dropped Object Zones are to be secured with barricades to prevent unauthorized entry. Signage stating the hazard and who to contact for information will be posted at the DOZ as well.
- Safety Net - A device installed beneath work-in-progress to catch falling objects or personnel
- Tool Canopy - A structure designed to rest over an area that is capable of withstanding the impact force of dropped objects or tools. It is recommended that tool canopies have side protection if a potential for tool deflection exists.
- Static Load - Maximum Static Load, or Tensile Strength, refers to the maximum load an object can withstand before failing. This measurement does not take into account Drop Distance or Velocity.
- Dynamic Load - Maximum Dynamic Load refers to the load an object can withstand without failing when dropped from a specified Drop Distance. Maximum Dynamic Load is usually much less than Maximum Static Load due to the dramatic increase in force caused by the velocity of a falling object.

RESPONSIBILITIES

- The Vice President of EHS is responsible for ensuring that all employees adhere to this program.
- Management/Supervision is Responsible for:
    - Communicating the expectation that dropped objects will be eliminated within EXCEL Companies and ensuring that this plan and associated procedures are implemented
    - Coordinating assessments to ensure the implementation and effectiveness of the procedure
    - Ensuring employees have appropriate equipment and materials to implement the procedure effectively
    - Ensuring workers have the necessary opportunity for required training
- Health and Safety is Responsible for:
    - Communicating this procedure and supporting information to applicable employees
    - Conducting assessments to evaluate the procedure's effectiveness
    - Conducting necessary training with applicable employees
- All Employees are Responsible for:
    - Notifying his or her supervisor of any drop hazards within their scope of work
    - Conducting work only after all drop hazards have been eliminated or property mitigated
    - Stopping work if hazardous conditions prevent the job from being done safely
    - Immediately report any dropped or fallen objects
    - Including potential drop hazards in Job Hazard Analyses and Pre-job Planning

TRAINING

- In many circumstances, additional training related specifically to dropped and falling objects will be necessary for employees. Training will be provided to each employee who may create or be exposed to drop hazards during their work with EXCEL Companies. This training shall include:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - The nature of drop hazards and dropped objects in the workplace
  - Correct procedures and equipment used for drop prevention
  - Purpose and application of applicable Primary and Secondary Drop Systems
    Proper storage and handling of equipment and materials at height
  - Reporting requirements for incidents and near misses
- When there is reason to believe that an employee who has undergone training does not have adequate understanding or comprehension of standards regarding drop prevention, it will be required that said employee is re-trained. Other circumstances that could necessitate re-training are changes in procedure, changes in drop prevention equipment, etc. Training should be documented.

DROP PREVENTION SYSTEMS CRITERIA

- Tool Attachment Points
  - Prior to selecting a tool lanyard, a proper attachment point must be established on the tool. If a tool has a built-in connection point placed by the manufacturer for drop prevention, this step is not required. The load rating of the attachment point should be appropriate for the tool's weight.
- Tool Lanyards/Tethers
  - After establishing an adequate attachment point on a tool, a proper tool tether that has an appropriate load rating for the tool to be tethered will then need to be selected.
- Tool Holsters and Pouches
  - For some tools and objects, a tool holster or tool pouch may be appropriate. Tools used in these holsters should weigh less than or equal to the manufacturer's stated load rating.
- Tool Belts
  - Upon choosing a proper method for tethering, it becomes necessary to select an appropriate anchor point for the remaining end of the tethering device. For many small tools, connecting to the worker can be the best option. This is only acceptable for tools weighing less than 5 lbs. D-rings on fall protection harnesses, which the manufacturer has designated for use as a tool connection point, are a good option. Tool Belts designed with tether points are also a good option.
  - Another acceptable option for tethering to the human body is with the use of a wristband. Wristbands must never be utilized with tools over 5 lbs.
- Tool Buckets
  - For the safe transportation of tools and materials, buckets may be utilized only if they are manufactured with a closure system, which allows the user to secure the contents of the bucket from potential spills.

SECONDARY DROP SYSTEMS CRITERIA

- Safety Netting
  - In applications where the utilization of safety nets is necessary, nets should be designed with specific-sized webbing approved by the manufacturer for use based on the specific task, location, and type of tools/materials being used. Forged steel safety hooks or shackles will be used to fasten the net to its supports. Nets should be installed as closely below the work in progress as is deemed practicable but never more than 30 feet below.
  - Safety nets shall be hung, maintained, and tested in accordance with the manufacturer's instructions as well as the requirements set forth by the Occupational Safety and Health Administration found in CFR 1926.502. Nets designed to prevent falling objects shall not be used as fall protection for human beings. These nets may be deployed below fall protection nets in these cases. When falling object nets are used alone, signs will be posted informing employees that "Fall Protection is still required in work areas above placed

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

netting." Inspections of safety netting should occur weekly, and defective netting will not be deployed.

- Toe Boards
  - When being used as a secondary drop system, toe boards will be erected along the edge of overhead work in order to protect employees below. Toe boards will be capable of withstanding a force of at least 50 lbs. in any downward or outward motion. Toe boards will be at least 3 1/2 inches tall with no greater than 1/4 inch clearance over the working surface.
- Dropped Object Zones
  - Dropped Object Zones are to be clearly marked with barricades or caution/danger tape to restrict access. Only employees directly engaged in the activity conducted overhead will be admitted into a Dropped Object Zone.
- Guardrail Systems
  - If guardrail systems are to be engaged as a secondary drop system, they will need to be inspected to ensure any openings are not large enough for tools or materials to pass through. It is recommended they be enclosed with a small mesh netting or screen to prevent materials from passing through.

HUMAN PERFORMANCE

- Housekeeping
  - Trash and waste should be kept in appropriate bins, which are to be located in convenient locations across the workplace. When at height, these are to be stored in transport buckets with closure systems, pouches, etc., with the ability to be closed and spillage prevented until the material can be properly stored in a waste bin. Employees should "clean as you go" and maintain an orderly work area, resulting in a lower chance of dropped material.
  - Tools and other materials should also be kept in an organized, orderly fashion.
- Tool and Material Storage
  - Where tools or materials are stacked higher than the edge of the toe boards, screening or paneling will be constructed from the working surface to the top of the guardrail or mid-rail. This will be done for a sufficient distance to ensure these objects will not have an opportunity to become drop hazards. Unless guardrails with screening or paneling have been erected, materials should not be stored within four feet of the leading edge. All stacked materials should be stable and self-supporting.

TOOL AND MATERIAL HANDLING

- Positive tool transfer should be utilized by employees. When transferring a tethered tool from one employee to another, "100% tie off' should be engaged. The tool should be tethered to the passing employee. Prior to handing off, the receiving employee should connect their tether to the tool as well. After the positive connection has been completed, the passing employee may disconnect their tether from the tool. By utilizing this passing method, the tool never has an opportunity to become a drop hazard.

EQUIPMENT INSPECTION

- All drop prevention systems shall be inspected prior to use. Excessively worn or damaged tools or materials must be immediately removed from service and replaced.

DISCIPLINE

- Failure to implement these procedures or to use necessary drop prevention systems will be considered a failure to abide by EXCEL Companies safety rules and result in discipline up to removal from the project.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

KNIVES

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Knives shall not be used if alternate tools to perform the job task safely are available (cable stripper, cutter pliers, gasket scraper, etc.) Where a knife is an appropriate tool to perform the cutting task, the knife must have a fixed or retractable blade system design (i.e., folding blade knives or folding locking blade knives are not acceptable except for emergency response activity performed by certified personnel). Always use the smallest blade possible and practical for the job. Fixed-blade knives must be carried in an appropriate case, such as a sheath. The appropriate type of cut-resistant gloves shall be worn whenever a knife is used to perform a job task. A pre-job analysis must be completed before each use.
- Deviation from this policy requires prior approval from the Corporate Safety Department.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Section: 6.20
Policy Review: 1/1/2025

JEWELRY POLICY

GENERAL

- It is the policy of EXCEL that absolutely no jewelry will be allowed to be worn on any part of the body at any time on any of EXCEL's job sites. This policy includes but is not limited to the following:
  - Ear Jewelry
  - Nose Jewelry
  - Tongue Jewelry
  - Facial Jewelry
  - Finger/Hand Jewelry
  - Necklaces
  - Wrist Watches
- The only exception to this policy will be wristwatches that are plastic-bodied with nylon bands.
- This policy covers all employees working at any site. Violation of this policy could result in disciplinary action up to and including immediate termination. Should you require any additional information about variances and compliance, please contact EXCEL, Vice President of EH&S.

_____ _____
Employee Signature Date

_____
Employee Printed Name

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PORTABLE METABO GRINDERS

INTRODUCTION

- The Metabo high-speed grinder and high-speed grinder wheels and brushes have quickly become the tool of choice in the construction industry for grinding, buffing, and cutting different surfaces, including but not limited to pipe, plate, and grating, thus replacing conventional tools like the band saw, cutting torch, and lower RPM grinder. Because of this, it has become necessary to implement a training program specifically for the Metabo's many uses.

HAZARDS ASSOCIATED WITH THE METABO

- High RPM rate for the wheel and brushes in excess of 10,000 RPM
- The thickness of a high RPM wheel is thinner, and chips/breaks easily
- When the wheel breaks during usage, the projectile range triples
- Ease of cutting pipe, plate, and grating, thus replacing other conventional tools like the lower RPM grinder, band saw, and cutting torch that is safer to use in some instances
- Kickback of high RPM wheels and brushes can cause severe lacerations
- Safety awareness goes down because of the ease of tool usage
- The user forces the Metabo beyond recommended standards, causing wheel breakage and bodily injury

SAFE WORK MEASURES FOR THE METABO

- All users shall be trained and certified in the usage of the Metabo before using/operating.
- No Metabo will be used for a job task unless the Metabo is the only tool that can be used safely for the job task.
- The immediate supervisor shall approve the Metabo's use for the task at hand, or it will not be used.

JSA:

- The Metabo must be covered on your JSA to include, but not limited to:
    - Job scope and steps for usage
    - Hazards associated – i.e.) Line of fire, body positioning, and kickback potential
    - Steps to mitigate all hazards
- PPE
- All crew members shall sign and acknowledge the safe work measures listed on the JSA. The immediate supervisor shall review and approve the JSA before work commences. The JSA shall be revised when needed, i.e. if job scope changes. When the JSA is revised, and the Metabo is still to be used, the steps above shall take place once again before the work task commences.

MANDATORY PPE FOR METABO USAGE

- Hard Hat
- Ear Plugs
- Monogoggles
- Face Shield
- Cut Resistant Chaps
- Cut Resistant Vest
- Kevlar Arm Guards
- Leather Gloves

METABO DO'S AND DON'TS

- **Do:**
    - Always handle and store wheels carefully.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Visually inspect all wheels for possible damage before mounting.
- Make sure the machine's operating speed never exceeds the wheel speed.
- Always check mounting flanges for equal and correct diameters.
- Use mounting blotters when they're supplied with wheels.
- Make absolutely sure the work rest (where required) is properly adjusted (no more than 1/8" away from the wheel.)
- Always use a safety guard covering at least half of the grinding wheel.
- Always run newly mounted wheels at full operating speed (with guard in place) for at least one minute before grinding.
- Always wear safety glasses and appropriate face protection when grinding.

- **Do not:**
  - Do not use a wheel that has been dropped.
  - Do not force a wheel onto the machine or alter the size of the mounting hole. If the wheel won't fit the machine, get one that will.
  - Do not ever exceed the maximum operating speed established for the wheel.
  - Do not use mounting flanges that are not clean, flat, and designed for the wheel being used.
  - Do not tighten the mounting nut excessively.
  - Do not grind on the side of the wheel. (See ANSI B7.1 for exceptions).
  - Do not start the machine until the wheel guard is in place.
  - Do not jam the wheel into the material being worked on.
  - Do not stand directly in front of a grinding wheel when a grinder is started.
  - Do not grind the material for which the wheel is not designed.

GENERAL GRINDER SAFETY:

- What safety precautions should you follow when using a portable grinder?
  - Guards must be provided and adjusted to protect you. Replace damaged guards because if an abrasive wheel breaks while rotating, it can cause a serious injury.
  - Clean and service grinders according to manufacturers' recommendations. Record all maintenance for grinders.
  - Ensure that a machine will not operate when unattended by checking the dead-man (constant pressure) switch.
    Wear safety goggles and a face shield to protect against flying particles. Leather gloves, cut-resistant chaps, cut-resistant vest, Kevlar arm guards, and ear plugs are required. Respiratory protection may be required depending on the material you are working on.
  - Ensure the floor around the work area is clean.
  - Do not use wheels that are cracked or those that excessively vibrate.
  - Do not operate the grinder on wet floors.
  - Use both hands when holding the grinder.
  - Keep the power cord away from the grinding wheel and the material being ground.
- When and how should you check the speed of the wheel?
  - The maximum speed in revolutions per minute (rpm) is marked on every wheel. Never exceed this speed.
  - Check that the wheel speed marked on the wheel is equal to or greater than the maximum speed of the grinder.
  - Measure the speed of any new machine. Take several readings.
  - Measure the speed of governor-controlled air-driven grinders after twenty hours of use or every week, whichever comes first. Measure the speed after any repairs.
  - Measure the speed of electrically driven grinders monthly and after repairs.
- What should you do when using portable grinders?
  - Check that grinders do not vibrate or operate roughly.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Use racks or hooks to store portable grinders.
  - Stand away from the wheel when starting grinders. Warn co-workers to do the same.
  - Inspect all wheels for cracks and defects before mounting.
  - Ensure that the mounting flange surfaces are clean and flat.
  - Ensure the wheel guard is in place while operating the grinder.
  - Use the mounting blotters supplied.
  - Run newly mounted wheels at operating speed for 1 minute before grinding.
  - Wear appropriate eye, ear, and face protection. Use other personal protective equipment or clothing as required under the circumstances.
- What should you avoid when using portable grinders?
  - Avoid using grinders near flammable materials.
  - Do not clamp portable grinders in a vise for grinding hand-held work.
  - Do not use any liquid coolants with portable grinders.
  - Do not force wheels onto a grinder that is the wrong size or change mounting hole sizes.
  - Do not tighten the mounting nut excessively.
  - Do not put the grinder on the floor or working surface until the wheel has stopped turning.
  - Do not keep any materials close to the grinding wheel when it is not in use.

VARIANCE

- There will be **NO** variance from this Metabo safe work procedure unless approved by the Vice President of Safety, Divisional President or Vice President, and the appropriate Divisional Safety Manager.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Metabo Users Certification Test

Name: _____ Date:_____

Trainer: _____ SS # (last 4):_____

Work Site:_____ Job #:_____

Answer the following questions - True or False:

1. You must be certified through Excel to use a Metabo on ANY EXCEL jobsites. **True or False**

2. The Metabo should be used only if there is no other tool to perform your job task in the safest possible manner. **True or False**

3. Your supervisor must approve the use of a Metabo before it is used for your job task. **True or False**

4. The Metabo shall be inspected before each use. **True or False**

5. The Metabo must be covered on your JSA to include, but not limited to; job scope and steps for usage, hazards associated, steps to mitigate all hazards, and PPE. **True or False**

Fill in the blank:

6. Three of the hazards to be identified on the Metabo JSA are: Line of_____ _____, kick_____ potential, and body_____ _____.

7. The following mandatory PPE to wear when using the Metabo is:

   a.)_____ b.)_____
   c.)_____ d.)_____
   e.)_____ f.)_____
   g.)_____ h.)_____

8. The Metabo's _____ and _____must be on the grinder before using.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

9. Inspect the Metabo's wheel for _____before using.

10. The Metabo is a high_____ grinder and should be run for _____minute(s) before use when a new wheel is applied.

11. Always insure that the Metabo's _____speed never exceeds the _____ speed.

12. If you ever have any questions about the job you are about to perform and/or do not feel safe about it, _____the job down and report to your supervisor immediately.

13. Always use the _____size wheel and never _____ _____the mounting nut excessively.

14. Always _____the Metabo in the proper place when it is not in use.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Metabo User Certification Test Answer Key

True or False:

1. True
2. True
3. True
4. True
5. True

Fill In the Blank:

6. Fire, back, and positioning

7. Hard hat, ear plugs, mono goggles, face shield, leather gloves, cut resistant chaps, cut resistant vest, and kevlar arm guards.

8. Guard Handle

9. Defects

10. RPM 1 Minute

11. Operating Wheel

12. Shut

13. Correct Tighten

14. Store

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HEXAVALENT CHROMIUM POLICY

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- EXCEL will provide initial training prior to or at the time of initial assignment. EXCEL will provide understandable training and ensure each employee can demonstrate knowledge of the health hazards associated with Hexavalent chromium exposure; location, manner of use, and release of chromium in the workplace; engineering controls and work practice controls; purpose, proper selection, fitting, proper use and limitations of respirators and protective clothing; Emergency procedures; measures employees can take to protect themselves from exposure; purpose and description of medical surveillance program; contents of the standard. EXCEL shall make a copy readily available without cost to all affected employees. Training shall be documented.
- EXCEL shall ensure our employees are not exposed in excess of the permissible exposure level. EXCEL shall provide for monitoring or measuring of employee exposure. Periodic monitoring shall be conducted at least every 6 months if initial monitoring shows employee exposure. Air monitoring will be performed at the beginning of each job task. If exposure monitoring results indicate exposure is above the PEL, EXCEL shall include in written notification the corrective action being taken to reduce exposure to or below the PEL. No employee shall be exposed in excess of the PEL of 5 micrograms per cubic meter of air as an 8-hour TWA.
- Regulated areas shall be established when an employee's exposure is or is expected to be in excess of the PEL. Regulated areas shall be marked with warning signs to alert employees. Access is restricted to "authorized persons".
- Engineering controls shall be provided to reduce exposure to the lowest feasible level. If employees can demonstrate that such controls are not feasible, EXCEL shall use engineering/work controls to reduce employee exposure to the lowest levels achievable and shall supplement them with the use of respiratory protection. Respirators must be used when engineering controls and work practices cannot reduce employee exposure, during work operations where engineering controls and work practices are not feasible, and during emergencies. Respirators shall be provided in accordance with 1910.134.
- PPE shall be provided when there is a hazard from skin or eye contact—gloves, aprons, coveralls, goggles, foot covers, etc. Contaminated PPE will be removed at the end of the work shift. Employee shall clean, launder, repair, and replace protective clothing as needed. PPE will be provided to our employees at no cost.
- Surfaces shall be maintained as free as practicable of accumulation of chromium. All spills and releases of chromium shall be cleaned promptly. Methods of cleaning include HEPA-filtered vacuums, dry or wet sweeping, shoveling, or other methods to minimize exposure.
- Medical surveillance shall be provided when an employee experiences signs or symptoms of the adverse health effects of Hexavalent Chromium (dermatitis, asthma, bronchitis, etc). Medical evaluations will be provided at no cost to employees. Examinations will be performed by or under the supervision of a physician or other licensed healthcare professional.
- Any employee exposed above the PEL for any reason, such as an emergency, etc., will be removed from the exposure area, and our occupational medical director will establish medical surveillance baselines.
- EXCEL will provide change rooms for decontamination and ensure facilities prevent cross-contamination. Washing facilities shall be readily accessible for removing chromium from the skin. Workers must wash their hands and face or any other potentially exposed skin before eating, drinking, or smoking.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- EXCEL will maintain and make available an accurate record of all employee exposure monitoring, medical surveillance, and training records.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

IONIZING RADIATION POLICY

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- EXCEL's Ionizing Radiation written program contains a clear understanding of the following terms: Radiation, Radioactive Material, Restricted Area, Unrestricted Area, Dose, Rad, and Rem.

DEFINITIONS:

- Radiation: includes alpha rays, beta rays, gamma rays, x-rays, neutrons, high-speed electrons, and other atomic particles, but such term does not include sound or radio waves, visible light, or infrared or ultraviolet light.
- Radioactive Material: means any material which emits, by spontaneous nuclear disintegration, corpuscular or electromagnetic emanations.
- Restricted Area: means any area access to which is controlled by the employer for purposes of protecting individuals from exposure to radiation or radioactive materials.
- Unrestricted Area: means any area access to which is not controlled by the employer for purposes of protecting individuals from exposure to radiation or radioactive materials.
- Dose: means the quantity of ionizing radiation absorbed, per unit of mass, by the body or by any portion of the body. When the provisions in this section specify a dose during a period, the dose is the total quantity of radiation absorbed, per unit of mass, by the body or by any portion of the body during such period. Several different units of dose are currently in use.
- Rad: means a measure of the dose of any ionizing radiation to body tissues in terms of the energy absorbed per unit of mass of the tissue. One rad is the dose corresponding to the absorption of 100 ergs per gram of tissue (1 millirad (mrad)=0.001rad).
- Rem: means a measure of the dose of any ionizing radiation to body tissue in terms of its estimated biological effect relative to a dose of 1 roentgen (r) of x-rays (1 millirem (mrem)=0.001 rem). The relation of the rem to other dose units depends upon the biological effect under consideration and upon the conditions for irradiation.

POLICY

- No EXCEL employee shall possess, use, or transfer sources of ionizing radiation in such a manner as to cause any individual in a restricted area to receive in any period of one calendar quarter from sources in EXCEL's possession or control dose in excess of the limit's specified in the table below:

	Rems per calendar quarter
Whole body: Head and trunk; active blood-forming organs; lens of eyes; or gonads	1 ¼
Hands and forearms; feet and ankles	18 ¾
Skin of the whole body	7 ½

- Each project shall ensure such surveys as may be necessary for compliance with the provisions of this program survey. Survey means an evaluation of radiation hazards incident to the production, use, release, disposal, or presence of radioactive materials or other sources of radiation under a specific set of conditions. When appropriate, such evaluations shall include a physical survey of the location of materials and equipment and measurements of levels of radiation or concentrations of radioactive material present.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- EXCEL will supply appropriate personal monitoring equipment, such as film badges, pocket chambers, pocket dosimeters, or film rings, and shall require the use of such equipment.
- Symbols shall be used. Conventional radiation caution colors (magenta or purple on a yellow background). The symbol shall be the conventional three-bladed design.
- Each radiation area shall be conspicuously posted with a sign or signs bearing the radiation caution symbol with the words: "Caution - Radiation Area."
- All individuals working in or frequenting any portion of a radiation area shall be informed of the occurrence of radioactive materials and shall be instructed in the safety problems associated with exposure, precautions, and devices to minimize exposure, including but not limited to time, distance, shielding, and keeping exposure limits as low as possible (ALARA). They will also be instructed in the applicable provisions of this program for the protection of employees from exposure to radiation or radioactive materials and shall be advised of reports of radiation exposure, which employees may request a copy of their medical records.
- EXCEL will maintain records of the radiation exposure of all employees for whom personnel monitoring is required and advise each employee of their exposure on at least an annual basis.
- The signal covers all employees assigned to a specific work and shall be made familiar with the actual sound of the signal, preferably as it sounds at their work location.
- Alternative emergency alarms/signals and basic emergency plans shall be reviewed with all assigned employees prior to the commencement of the scope of work and documented on the JSA safety plan.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SILICA POLICY

POLICY

- EXCEL Companies has implemented the following policies and procedures to protect employees in the construction industry who work where dust-containing silica is present.
- Employers, safety supervisors, and foremen will work together to enforce an effective silica exposure control program.

WHAT IS SILICA?

- Crystalline silica, also called alpha silica or free silica, is silicon dioxide (SiO2). In pure, natural form, SiO2 crystals are tiny, very hard, translucent, and colorless. The three most common types of crystalline silica encountered in industry are quartz, tridymite, and cristobalite.
- Quartz content can vary greatly among different rock types. Granite can contain anywhere from 10 to 40% quartz; shales have been found to average 22%, and sandstone averages almost 70% quartz.
- Silicates, composed of SiO2, are also a source of silica. Silicates include mica, soapstone, talc, tremolite, and Portland cement.

RESPONSIBILITIES

- Employer Responsibilities
    - Establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to protect workers, including procedures to restrict access to work areas where high exposures may occur.
    - The written exposure control plan must be evaluated at least once per year and as necessary. Situations where reevaluation may be necessary include regulatory updates, changes in equipment, and exposure incidents.
    - Designate a competent person to implement the written exposure control plan.
    - Restrict housekeeping practices that expose workers to silica where feasible alternatives are available.
    - Offer medical exams—including chest X-rays and lung function tests—every three years for workers who are required by the standard to wear a respirator for 30 or more days per year.
    - Train workers on work operations that result in silica exposure and ways to limit exposure
    - Keep records of workers' silica exposure and medical exams.
- Employee Responsibilities
    - Attend all silica exposure training
    - Follow all safe practices established by the company
    - Use and maintain all necessary PPE provided by the company
    - Report any unsafe conditions or acts immediately

OCCUPATIONS AT RISK TO SILICA EXPOSURE

- About two million construction workers are exposed to respirable crystalline silica in over 600,000 workplaces. OSHA estimates that more than 840,000 of these workers are exposed to silica levels that exceed the new permissible exposure limit (PEL).
- Any job where employees are handling rock, brick, sand, drilling, quarrying, or tunneling through the earth's crust may expose workers to silica. Silica is present in almost every process where natural minerals are handled.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HEALTH EFFECTS

- Silicosis: Silicosis has taken a severe toll in the United States, attacking workers in many settings. Silicosis is lung damage caused by breathing dust containing fine particles of crystalline silica. If silica particles are inhaled, they become embedded in the lungs. The lung tissues react by developing fibrotic nodules and scarring around the trapped particles. The scar tissue makes the lungs hard and stiff. The scarring can greatly reduce the function of the lungs, making it difficult and sometimes painful to breathe.
- Not only does silica tear up the lungs, but it also reduces the body's ability to fight off infections, making workers more susceptible to developing other lung illnesses and infections. If workers smoke, silica exposure may greatly increase the risk of developing lung cancer. The incidence of tuberculosis is high among silicosis victims.

SYMPTOMS OF SILICOSIS

- Early stages of the disease may go unnoticed. Early symptoms can include:
  - Shortness of breath during physical exertion
  - Fever
  - Occasionally, bluish skin at the ear lobes or lips
- Progression of silicosis can lead to:
  - Fatigue
  - Labored breathing
  - Loss of appetite
  - Pain in the chest
  - Respiratory failure, which may cause death
- In severe cases, fibrous tissue can hinder the flow of blood in lung vessels, and the heart can enlarge in an effort to pump more blood.

TYPES OF SILICOSIS

- Chronic silicosis: The most common form of the disease may go undetected for years in the early stages. Chest X-rays may not reveal an abnormality until after 15 or 20 years of exposure. If you believe you are overexposed to silica dust, visit a doctor who knows about lung diseases. The progress of silicosis can only be stopped; it cannot be cured.
- Accelerated silicosis: A form of silicosis that shows symptoms within five to 10 years
- Acute silicosis: A form of silicosis that develops in workers exposed to very high levels of crystalline silica. Symptoms may appear within only a few weeks of an initial exposure.
- Silica dust can also irritate a worker's eyes. Goggles or safety glasses will be worn if eye irritation is a problem.

EXPOSURE LEVELS

- A new OSHA regulation took effect on June 23, 2016 (1926.1153) that reduced the silica exposure limits. This new silica regulation establishes the following provisions:
  - Reduces the permissible exposure limit (PEL) for respirable crystalline silica to 50 micrograms per cubic meter of air, averaged over an 8-hour shift
  - Requires employers to use engineering controls (such as water or ventilation) to limit worker exposure to the PEL; provide respirators when engineering controls cannot adequately limit exposure; limit worker access to high exposure areas; develop a written exposure control plan, offer medical exams to highly exposed workers, and train workers on silica risks and how to limit exposures.
  - Requires medical exams to monitor highly exposed workers and give them information about their lung health

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- After this date, companies will have one to five years to comply with most requirements based on the following schedule:
  - Construction - June 23, 2017, one year after the effective date.
  - Hydraulic Fracturing - June 23, 2018, two years after the effective date for all provisions except Engineering Controls, which have a compliance date of June 23, 2021
- The new exposure levels are:
  - Action level - A concentration of airborne respirable crystalline silica of 25 µg/m3, calculated as an 8-hour TWA
  - Permissible exposure limit (PEL) - An airborne concentration of respirable crystalline silica in excess of 50 µg/m3, calculated as an 8-hour TWA

CONTROL OF SILICA DUST EXPOSURES

- The table below lists some of the most common construction tasks and dust control methods so employers know exactly what they need to do to limit worker exposure to silica. The dust control measures listed in the table include methods known to be effective, like using water to keep dust from getting into the air or using ventilation to capture dust. In some operations, respirators may also be needed.
- Employers who follow the recommendations shown in Table 1 (below) correctly are not required to measure workers' exposure to silica and are not subject to the PEL.

Table 1: Job/Task-Specific Silica Exposure Control Methods

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
Stationary masonry saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. — When used outdoors. — When used indoors or in an enclosed area.	 None APF 10	 APF 10 APF 10

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
Handheld power saws for cutting fiber- cement board (with blade diameter of 8 inches or less)	For tasks performed outdoors only: • Use saw equipped with commercially available dust collection system. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. • Dust collector must provide the airflow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	None	None
Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. When used outdoors. When used indoors or in an enclosed area.	None APF 10	None APF 10
Drivable saws	For tasks performed outdoors only: Use saw equipped with integrated water delivery system that continuously feeds water to the blade. 'Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the airflow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	None	None
Dowel drilling rigs for concrete	For tasks performed outdoors only: • Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. • Use a HEPA-filtered vacuum when cleaning holes.	APF 10	APF 10

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector. OR Operate from within an enclosed cab and use water for dust suppression on drill bit.	None None	None None
Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. When used outdoors. When used indoors or in an enclosed area. OR Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the airflow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used outdoors. When used indoors or in an enclosed area.	None APF 10 None APF 10	APF 10 APF 10 APF 10 APF 10
Handheld grinders for mortar removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 25

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: .Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. 'Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR .Use grinder equipped with commercially available shroud and dust collection system. 'Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 'Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism. 'When used outdoors. 'When used indoors or in an enclosed area.	None None None	None None APF 10
Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the airflow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None None	None None
Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only: • Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. • Operate and maintain machine to minimize dust emissions. For cuts of four inches in depth or less on any substrate: • .Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. • Operate and maintain machine to minimize dust emissions. OR • Use a machine equipped with supplemental water spray designed to suppress dust. • Water must be combined with a surfactant. • Operate and maintain machine to minimize dust emissions.	None None None	None None None
Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab. When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None None	None None
Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica-containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions. OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None None	None None

- The key to preventing silicosis is preventing silica dust from being in the air. Employers are required to provide and assure the use of appropriate controls, including respirators, for dust containing actionable levels of respirable crystalline silica.
- When implementing the control measures specified in Table 1 above, the company will ensure:
    - Tasks performed indoors or in enclosed areas are provided an exhaust method that minimizes the accumulation of visible airborne dust

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Tasks performed using wet methods will have sufficient water at flow rates to minimize the release of visible dust
  - Methods used for work performed in a cab or booth will:
    - Be maintained as free as practicable from settled dust
    - Have door seals and closing mechanisms that work properly
    - Have gaskets and seals that are in good condition and working properly
    - Be maintained with by continuous delivery of fresh air
    - Have intake air that is filtered through an approved filter
    - Have heating and cooling capabilities
- If the company does not use the control methods in the above table, they must:
  - Measure the amount of silica that workers are exposed to if it may be at or above an action level of 25 µg/m3 (micrograms of silica per cubic meter of air), averaged over an eight-hour day
  - Protect workers from respirable crystalline silica exposures above the permissible exposure limit of 50 µg/m3, averaged over an eight-hour day.
  - Use dust controls to protect workers from silica exposures above the PEL
  - Provide respirators to workers when dust controls cannot limit exposures to the PEL
- If employees use a respirator 30 or more days a year, they will need to be offered a medical exam.
- The company will reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the action level or when the employer has any reason to believe that new or additional exposures at or above the action level have occurred.

SILICA DUST EXPOSURE CONTROL PROGRAM

- The company recognizes that exposure to silica dust can cause silicosis (a deadly lung disease) and may cause lung cancer and takes responsibility for protecting the safety and health of its employees.
- The Occupational Silica Dust Control Program includes the following parts:
  - Hazard Identification
  - Worksite Air Monitoring
  - Engineering Controls
  - Administrative Controls
  - Safe Work Practices
  - Medical Examinations and Evaluation
  - Training and Informing Workers on Hazards of Silica Dust
  - Personal Protective Equipment
  - Recordkeeping
  - Emergency First Aid Procedures for Silica Dust
  - Spill and Disposal Procedures

HAZARD IDENTIFICATION

- When any jobs/tasks performed by an EXCEL Companies employee present a silica exposure hazard, they will be protected by this Silica Dust Exposure Control Program. The Vice President of EHS is responsible for identifying silica dust exposure hazards.
- To achieve compliance with the established PEL, the company will first implement engineering controls or administrative controls whenever feasible.

WORKSITE AIR MONITORING

- When a job/task is identified as a silica dust hazard, the process and the worker's breathing zone will be monitored for silica dust concentrations. Employee exposure measurements must represent actual breathing zone exposure conditions for each employee.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Each job/task identified in part one will be monitored every four months and whenever a change is made to the process. Engineering controls will be monitored immediately after implementation and quarterly thereafter.
- The company will ensure that all monitoring equipment is maintained in good working order and that any analyzing laboratory meets the requirements as defined by OSHA regulations.
- Employees will be able to view all air monitoring records; copies of the records can be obtained from The Vice President of EHS upon request.
- Employees will be monitored, as necessary or required, to ensure safe work practices and procedures are being followed.
- EXCEL Companies will individually notify each affected employee in writing of the results of the assessment or post the results in an appropriate location accessible to all affected employees. Whenever an exposure assessment indicates that employee exposure is above the PEL, EXCEL Companies will describe in the written notification the corrective action being taken to reduce employee exposure to or below the PEL.

ENGINEERING CONTROLS

- The company will use engineering controls whenever possible to control silica dust exposures.
- The company will not use abrasives that contain more than 1% crystalline silica during blasting operations.
- The Vice President of EHS is responsible for inspecting and maintaining engineering controls at all jobs/tasks where silica exposure hazards have been identified.
- Engineering Control Methods:
    - Substitute with less hazardous materials: Do not use silica sand or other substances containing more than 1% crystalline silica as abrasive blasting materials.
    - Dust-reduction systems: During operations in which powered tools or equipment are used to cut, grind, core, or drill concrete or masonry materials, a dust-reduction system will be applied to reduce airborne particulate effectively. Exceptions include operations where it can be shown the PEL is not exceeded, roofing operations with tile, pavers, or similar materials, and during the first 24 hours of an emergency operation.
    - Dust Extraction: Wherever possible, concrete cutting and drilling equipment will be fitted with collection devices to eliminate generated dust at the source. A vacuum with a high-efficiency particle air (HEPA) filter can be used to remove dust from work areas. Wear an appropriate respirator when PELs are approached or exceeded.
    - Wet work: Where dust extraction is not practical, airborne silica dust can be minimized or reduced by applying water to the process or cleaning. When sawing or drilling concrete or masonry, use saws/drills that provide water to the blade. A respirator may still need to be worn during wet work.
    - Wet cleanup may also be used to remove dust.
    - Waste material will be stored at a designated, clearly marked location and will be removed at least weekly.
    - Isolation: Use containment methods such as blast-cleaning cabinets when sandblasting. Cabs of vehicles or machinery cutting or drilling through rock that might contain silica will be enclosed and sealed.
    - Ventilation: Use local exhaust systems to remove silica dust from industrial processes. Dilution ventilation may be used to reduce the silica dust concentration to below the PELs in large areas.
    - Adequate measures will be taken to ensure that discharge does not produce health hazards to the outside environment. A dust collector will be set up so that accumulated dust can be removed without contaminating work areas.
        - Ventilation systems will be inspected and maintained by a person designated

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Ventilation systems will be checked at least weekly to determine if they are functioning properly.

ADMINISTRATIVE CONTROLS

- Air Monitoring
  - Air monitoring must be performed to determine exposures, evaluate engineering controls, select respiratory protection, evaluate work practices, and determine the need for medical surveillance.
    - Exposure measurements will be made in the employee's actual breathing zone
    - Any appropriate combination of long-term or short-term respirable samples is acceptable
    - Total sampling time must be at least 7 hours
    - Monitoring will be repeated at least quarterly
- Restricted Areas
  - Post warning signs in areas where silica exposure already exists or is possible
  - Unauthorized employees will not be allowed in restricted areas
  - Warning signs will contain one of the following:

WARNING SILICA DUST HAZARD: RESPIRATOR REQUIRED
SILICA DUST CAN CAUSE SILICOSIS: RESPIRATOR REQUIRED

SAFE PRACTICES

- General
  - Whenever practical, working where silica dust may be created will be done:
    - In non-enclosed areas
    - Downwind from other employees
    - In regulated/restricted areas
    - When other workers are not around
- Housekeeping Procedures
  - Dry sweeping and the use of compressed air are prohibited for removing dust in jobs/tasks identified as having silica exposure hazards.
  - Supervisors are responsible for ensuring that work areas are free from dust at the end of each shift.
    - Remove dust on overhead ledges, floors, and equipment before it becomes airborne due to traffic, vibration, and random air currents.
    - Gentle wash down of surfaces is preferable if practical
    - Never dry sweep or use compressed air for cleanup of dust that may contain silica
    - Use wet methods or vacuums with a HEPA filter for cleanup
- Personal Hygiene
  - Employees working at the jobs/tasks identified as hazardous will practice good personal hygiene to avoid unnecessary exposure.
    - Hand-washing facilities will be conveniently located throughout a worksite in order to minimize worker contact.
    - Lockers will be provided for employees to store uncontaminated clothing
    - Eating/lunch areas will be located away from exposure areas
    - Employees will eat, smoke, or use smokeless tobacco in designated areas only
    - Workers will park their cars where they will not be contaminated with silica
    - Workers will shower (if possible) and change out of work clothes contaminated with silica dust before they leave the job site
    - Work clothes must not be cleaned by blowing or shaking. They will be vacuumed with a HEPA filter vacuum before removal
  - Contaminated clothing will be vacuumed with a HEPA filter vacuum to remove silica dust.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Lockers or containers will be provided to store clean clothes at the job site. Employees are required to wash their hands and shower (when feasible) before leaving the worksite.
- When worksites are located in the field away from normal operation, EXCEL Companies will provide water in portable containers for hand washing.

MEDICAL SURVEILLANCE

- All employees who work, or will work, in jobs/tasks identified as potentially hazardous will be given medical examinations at no cost to the employee and at a reasonable time and place.
- An approved healthcare provider will perform all medical examinations.
- Initial Testing - All employees who work, or will work, in jobs/tasks identified as potentially hazardous will be given an initial medical examination to establish a baseline within 30 days of assignment unless they have received an acceptable examination within the last three years. This examination will include:
  - A medical and work history regarding exposure to respirable crystalline silica, dust, and other agents affecting the respiratory system
  - A history of respiratory system dysfunction, including signs and symptoms of respiratory disease; history of tuberculosis; and smoking status and history
  - A physical examination with special emphasis on the respiratory system
  - A chest X-ray
  - A pulmonary function test
  - Testing for latent tuberculosis infection
  - Any other tests deemed appropriate by the healthcare provider
- Periodic Testing - Employees who will be required to use a respirator for 30 or more days per year.to prevent the development of silicosis. Medical examination will be performed at the start of the job assignment and every three years thereafter. Medical examinations must include:
  - Chest X-rays
  - Pulmonary function tests
  - Tuberculosis evaluation
- Employees whose chest X-rays show changes consistent with the development of silicosis are customarily removed from jobs/tasks that expose them to silica dust. Input from the attending physician will be considered in making this decision.
- Medical records will be made available to employees or their representatives upon request.
- Report cases: All cases of silicosis will be reported to state health departments and recorded on OSHA logs, as required.

TRAINING

- All employees working in the jobs/tasks identified in part one are required to complete a training course prior to working in the exposure area. Workers will be trained when first assigned to the job/task and annually thereafter.
- Training for Occupational Silica Dust Exposure will include the following topics:
  - Health hazards of silica dust exposure (including signs and symptoms of silicosis, lung cancer, chronic obstructive lung disease (COPD) and decreased lung function)
  - Operations and materials that can produce silica dust exposures
  - Engineering and work practice controls used to protect employees from exposures
  - The importance of proper use and maintenance of equipment, including dust-reduction systems and other controls
  - The importance of good personal hygiene and housekeeping practices when working near dust from concrete, cleaning up appropriately before eating, cleaning clothes appropriately, avoiding other activities that could cause exposure to airborne dust
  - Additional safe work practices and procedures, including safe handling and disposal procedures; the safe use of hazardous substances; fire protection; emergency and first aid

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

procedures; electrical safety; safety in confined spaces; and other training required under hazard-specific regulations
    - Proper use of respirators and the respirator standard
    - Recognition of poorly ventilated areas and confined spaces
    - The details of the Occupational Silica Dust Exposure Program
- In addition, supervisors must be trained:
    - To know and understand the employee-related information outlined above in this section
    - To identify tasks that may result in employee exposure to dust or other hazards and, as necessary, initiate procedures that reduce employee exposure to dust or other hazards
- A competent person will perform training. Records of attendance, dates of training, and training material will be documented and retained by the company.
- Additional training or reference material on silica dust exposure will be made available upon request to employees. The written exposure control plan must be available for examination and copying by each employee. Copies may be available electronically or physically, depending on location needs and requirements.
- Refresher Training - Documented refresher training will be conducted periodically as necessary, so the employee maintains the understanding and knowledge of initial training.
- Employees will be retrained whenever there is reason to believe the employee doesn't have the understanding and skill to recognize and avoid the hazards and safely use the equipment. Such as when:
    - Workplace, safe work practices, or equipment changes make the previous training obsolete or inadequate
    - When an employee shows inadequate knowledge of hazards at the worksite or skill to use the equipment safely

PERSONAL PROTECTIVE EQUIPMENT

- Personal Protective Equipment - Personal Protective Equipment (PPE) will only be used when engineering and administrative controls do not provide adequate worker protection and reduce the PELs below recommended limits. PPE is the last line of defense for fighting silicosis. The PPE that may be required when performing construction work includes, but is not limited to:
    - Hard Hats
    - Gloves
    - Coveralls
    - Eye Protection
    - Safety Shoes or Boots
    - Dust Masks or Respirators
- Respiratory Protection - Only when all engineering or administrative controls have been implemented, and the level of respirable silica still exceeds permissible exposure limits, can an employer rely on a respirator program to protect workers.
- When respirators are required to protect employees from silica dust exposure, the company's Respirator Program will be strictly followed. Copies of the Respirator Program will be made available to all employees upon request.
    - The respirator program will comply with the OSHA standards for respiratory protection; this includes proper respirator selection, medical evaluations, fit testing, cleaning and maintenance procedures, and training.
    - The company must select and provide an appropriate respirator that will effectively protect its employees.
    - Respirators must be approved by NIOSH for protection against the silica PEL and provide the APF as specified in Table 1 of this policy.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- When abrasive blasting is done, the type C supplied air, positive pressure, demand type abrasive blasting respirator will be worn.
- An abrasive-blasting respirator must cover the wearer's head, neck, and shoulders to protect from rebounding abrasives.

RECORDKEEPING

- Training, medical records, air monitoring, engineering control maintenance records, and injury records will be kept by the company and made available upon request.
- The Vice President of EHS or their designee is responsible for the recordkeeping program.

EMERGENCY FIRST AID PROCEDURES FOR SILICA DUST

- Eye Exposure
  - If crystalline silica dust gets into the eyes, wash immediately with large amounts of water, lifting the lower and upper lids occasionally.
  - If irritation is present after washing, get medical attention.
  - Portable eyewashes will be kept at job sites in the field away from the company locations.
- Breathing
  - If a person breathes in large amounts of crystalline silica dust, move the exposed person to fresh air immediately.
  - If breathing has stopped, perform chest compressions (if trained)
  - Keep the affected person warm and at rest
  - Get medical attention as soon as possible

SPILL AND DISPOSAL PROCEDURES

- If crystalline silica is spilled or released in hazardous concentrations, the following steps will be taken:
  - Ventilate the area of the spill or release
  - Persons doing the cleanup are required to wear appropriate respirators
  - Collect spilled material most conveniently and safely for reclamation or disposal in a secured sanitary landfill

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TRICYCLE USE AND MAINTENANCE

PURPOSE

- The purpose of this procedure is to provide steps necessary to ensure tricycles are used properly and maintained in a good, sound operating condition.

SCOPE

- This procedure is applicable to all tricycles operated by EXCEL Maintenance Inc. employees.
- The use of personal tricycles is prohibited at this job site.

RESPONSIBILITY

- Individual EXCEL Employees
  - Each tricycle/ must be assigned to an individual employee(s)* who will be responsible for completing the tricycle checklist. (Attachment 1)
  - All EXCEL employees who ride tricycles shall comply with this procedure.
  - Provide and maintain a tricycle parking area, assuring safe access/egress, standard tricycle rack, and adequate space for normal tricycle traffic.
  - A name tag corresponding to the person(s) assigned responsibility for the tricycle will identify each tricycle.
  - No personal tricycle will be allowed onsite.
- Purchasing Department
  - Assure all tricycles purchased for use meet the most current EXCEL tricycle specifications.

DEFINITIONS

- Tricycle- A vehicle with three wheels, one front and two back tandem, a steering wheel, a saddle seat, and peddles by which it is propelled.

PROCEDURE

- At the beginning of each shift, the responsible employee shall inspect the tricycle; see attachment 1.
- The following rules apply to any person riding a tricycle employed by EXCEL at this job site.
  - Always make sure the tricycle is in good riding condition.
  - Keep to the far right of the roadway.
  - Always yield to pedestrians.
    Never carry passengers.
  - Know and use hand signals.
  - Never hitch rides on other vehicles or perform stunts.
  - Keep both hands on the handlebars when riding.
  - Never let any type of material being transported inside the basket exceed the dimensions of the basket and weight restrictions.
  - Never travel in pedestrian walkways.
  - Tricycles are not to be ridden to the gate by EXCEL employees unless authorized by the Site Manager.

TRAINING REQUIREMENTS

- All employees will be trained in the use and inspection of tricycles annually.
- If an incident occurs involving a tricycle or an employee(s) abuses its use will require the employee(s) to be retrained before they are allowed to ride a tricycle. Failure to comply with this procedure in its entirety may lead to disciplinary action, including termination.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

REFERENCES

- See the owner's manual; a copy can be found in the EXCEL site/project office.

RECORD RETENTION PERIOD

- The inspection checklist will be retained for one year.
- The information and guidelines contained in the site-specific procedure are for EXCEL employees only. This document does not apply to anyone who is not an EXCEL employee.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Attachment 1

Quarterly Inspection Checklist

EXCEL Tricycle Inspection Checklist

Date_____ Tricycle No._____ Supervisor_____ Inspector_____

Item	Description	Yes/No	Corrective Action
1	Saddle (Seat) in good condition and parallel to the ground?		
2	Frame in good condition?		
3	Handlebars secured to frame?		
4	Hand grips on tight?		
5	Chain in good condition		
6	Chain adjusted snugly?		
7	Chain Lubed?		
8	Tire rims warped or misaligned?		
9	Tires properly inflated?		
10	Broken, loose, or missing spokes?		
11	Wheel Bearings lubed?		
12	Pedal bearing lubed?		
13	Pedal treads in good condition?		
14	All reflectors securely attached, in good condition, and clearly Visible?		
15	Saddle baskets securely attached and in good condition?		

- The assigned responsible employee inspects and completes the tricycle checklist.
- The assigned responsible employee should perform simple maintenance and repair work.

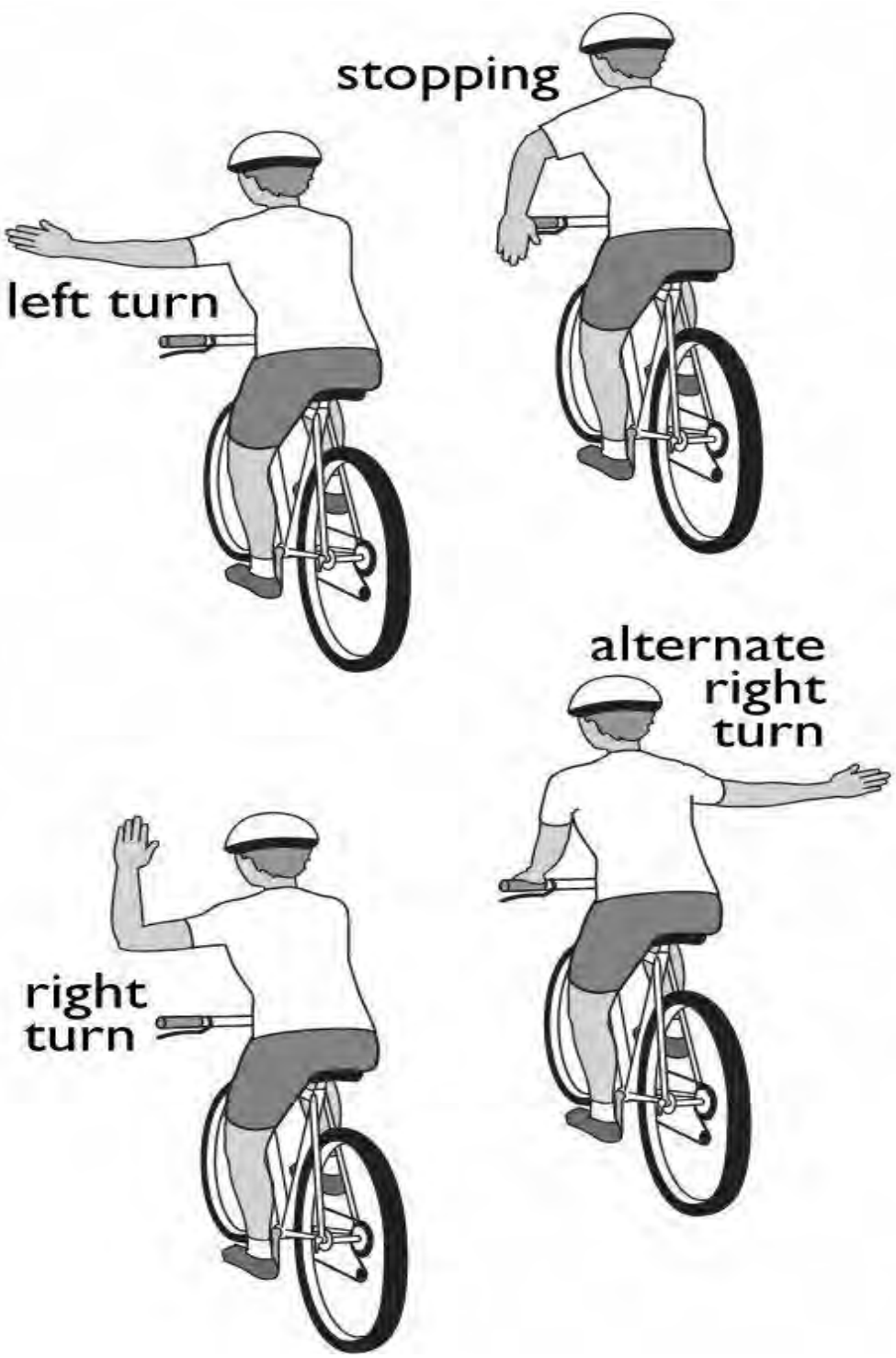
Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Safety-Related Equipment Specification
Item: WORKSMAN Industrial Newsboy Tricycle
Size: ONE SIZE
Color: OPTIONAL
Construction: Forged crank with 1/2" x 3/16" heavy-duty roller chain. Fully
lugged frame with 16-gauge tubing. Rear industrial "Sure-Stop" coaster brake.
Worksman WTC 50 psi SUP-R-TIRE
Stock Number: N/A
Comments/Details: Required - Front and Rear Reflectors Optional - Reflector Kit for additional reflectors Frame Color

Safety–Related Equipment Specification
Item: WORKSMAN Standard Platform Tricycle
Size: ONE SIZE
Color: OPTIONAL
Construction: Forged crank with 1/2" x 3/16" heavy-duty roller chain. Fully lugged
frame with 16-gauge tubing. Front Drum & Rear industrial "Sure-Stop" coaster brake.
Worksman WTC 50 psi SUP-R-TIRE. Full-width chrome fenders.
STOCK NUMBER: N/A
Comments/ Details: Required – Front and Rear Reflectors Optional – Reflector Kit for additional reflectors Frame Color

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BICYCLE HAND SIGNALS



Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

WORKPLACE PREVENTION OF COVID-19

POLICY

- This chapter assists EXCEL Companies in implementing engineering, administrative, and work practice controls, personal protective equipment (PPE), and the considerations that need to be addressed during the COVID-19 national emergency. It is intended for planning purposes. EXCEL Companies and employees should use this guidance to help identify risk levels in workplace settings and to determine any appropriate control measures to implement.
- Coronavirus Disease 2019 (COVID-19) is a respiratory disease caused by the SARS-CoV-2 (Severe Acute Respiratory Syndrome-Corona Virus 2). Depending on the severity of COVID-19's international impacts, outbreak conditions, including those rising to the level of a pandemic, can affect all aspects of life and work, including travel, trade, tourism, food supplies, and financial markets. To reduce the impact of COVID-19 outbreak conditions on businesses, workers, customers, and the public, all employers need to plan now for COVID-19. The focus here is to prevent the spread of SARS-CoV-2. Employers who have not prepared for pandemic events should prepare themselves and their workers as far in advance as possible for potentially worsening outbreak conditions. Lack of continuity planning can result in a cascade of failures as employers attempt to address the challenges of COVID-19 with insufficient resources and workers who may not be adequately trained to perform under pandemic conditions.

REFERENCES

- 29 CFR 1910 Subpart E-Exit Routes and Emergency Planning
- 29 CFR 1910 Subpart I- Personal Protective Equipment
- 29 CFR 1910.38-Emergency Action Plans
- 29 CFR 1910.134-Respiratory Protection Program
- 29 CFR 1910.1030-Bloodborne Pathogens

RESPONSIBILITIES OF EMPLOYERS

- Self-train on infectious disease propagation, accomplished through research and taking prompt action to a changing landscape.
- Consideration of Employee health on the job and exposures to SARS-CoV-2
- Develop an Infectious Disease Preparedness and Response Plan
- Protect workers through plans, policies, and training

RESPONSIBILITIES OF EMPLOYEES

- Self-train on infectious disease propagation, accomplished through research and taking prompt action to a changing landscape.
- Follow all directions of the Infectious Disease Preparedness and Response Plan.
- Consideration of self and coworkers' risk of exposure

HAZARDS

- Spread of infectious diseases
- Development of antimicrobial resistance
- Illness
- Death

SAFE PRACTICES

- Ability to Identify Symptoms from the CDC and WHO - Be prepared to identify signs and symptoms from the CDC (Centers for Disease Control) and WHO (World Health Organization) of COVID-19,

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

such as fever, cough, and shortness of breath. Symptoms will appear within 2-14 days after contraction (based on the incubation period of MERS-CoV viruses).

- EMERGENCY Warning signs (symptoms) that require medical attention immediately include:
  - Trouble breathing
  - Persistent pain or pressure in the chest
  - New confusion or inability to arouse
  - Bluish lips or face
- Follow preventative precautions from the CDC, such as:
  - Proper Hand Washing Techniques- liquid or bar soap wash for 20 seconds minimum, hand Sanitizer when not available
  - Avoid Close Contact- restricting or eliminating required business travel, avoiding in-person meetings
  - Stay home if sick-if you must go out, wear a facemask
  - Practice good cough and sneeze etiquette (cough into the inside of the elbow, sneeze into a tissue, and discard)
  - Clean and disinfect-surfaces cleaned daily at a minimum
- General Safety - Steps EXCEL Companies Can Take to Reduce the Risk of Exposure to SARS-CoV-2 at Work
- This section describes basic steps that EXCEL Companies can take to reduce the risk of worker exposure to SARS-CoV-2, the virus that causes COVID-19, in their workplace.
- Later sections of this guidance—including those focusing on jobs classified as having low, medium, high, and very high exposure risks—provide specific recommendations for EXCEL Companies and workers within specific risk categories.

DEVELOP AN INFECTIOUS DISEASE PREPAREDNESS AND RESPONSE PLAN

- Plans should consider and address the level(s) of risk associated with various worksites and job tasks workers perform at those sites. Such considerations may include:
  - Determinations of where, how, and to what sources of SARS-CoV-2 might workers be exposed, including:
    - The general public, customers, and coworkers
    - Sick individuals or those at particularly high risk of infection (e.g., international travelers who have visited locations with widespread sustained (ongoing) COVID-19 transmission, healthcare workers who have had unprotected exposures to people known to have, or suspected of having, COVID-19).
    - Non-occupational risk factors at home and in community settings.
    - Individual employee risk factors (e.g., older age; the presence of chronic medical conditions, including immunocompromising conditions; pregnancy) along with controls necessary to address those risks, such as work-from-home planning
  - Other contingency planning recommendations include:
    - The need for social distancing, staggered work shifts, downsizing operations, delivering services remotely, and other exposure-reducing measures.
    - Options for conducting essential operations with a reduced workforce, including cross-training workers across different jobs in order to continue operations or deliver services
    - Interrupted supply chains or delayed deliveries
  - Basic Infection Prevention Measures:
    - Promote frequent and thorough hand washing, emphasizing this is the primary defense (provide hand sanitizer when hand washing facilities and liquid or bar soap are not available). Provide workers, customers, and worksite visitors with a place to wash their hands. Provide alcohol-based hand sanitizer containing at least 60% alcohol.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Encourage employees to stay home if sick
  Encourage respiratory etiquette-cover coughs and sneezes
- Provide employees, customers, business partners, and the public with tissues and trash receptacles.
- EXCEL Companies should explore whether they can provide policies and procedures on flexible worksites (telecommuting) and flexible work hours (staggered shifts) to increase the physical distance between employers, employees, and customers.
- Deter workers from using other desks and/or offices as well as phones and other work tools and equipment.
- Maintain or increase regular housekeeping practices such as surface cleaning with disinfecting cleaning products. When choosing these cleaners, it is a best practice to look at EPA's (Environmental Protection Agency) approved claims against emerging viral pathogens (see REQUIREMENTS). These have proven effective against SARS-CoV-2 and follow the manufacturer's instructions for use.

o Develop Policies and Procedures for Prompt Identification and Isolation of Sick People (if appropriate)
- Prompt identification and isolation of potentially infectious individuals is a critical step in protecting workers, customers, visitors, and others at a worksite.
- EXCEL Companies should inform and encourage employees to self-monitor for signs and symptoms of COVID-19 if they suspect possible exposure.
- EXCEL Companies should develop policies and procedures for employees to report when they are sick or experiencing symptoms of COVID-19.
- Where appropriate, EXCEL Companies should develop policies and procedures for immediately isolating people (stay home) who have signs or symptoms of COVID-19 and train workers to implement them. Move potentially infectious people to a location away from workers, customers, and other visitors. Although most worksites do not have specific isolation rooms, designated areas with closable doors may serve as isolation rooms until potentially sick people can be removed from the worksite.
- Take steps to limit the spread of the respiratory secretions of a person who may have COVID-19. Provide a face mask, if feasible and available, and ask the person to wear it, if tolerated. Note: A face mask (also called a surgical mask, procedure mask, N95, or other similar terms) on a patient or other sick person should not be confused with PPE for a worker; the mask acts to contain potentially infectious respiratory secretions at the source (i.e., the person's nose and mouth).
- If possible, isolate people suspected of having COVID-19 separately from those with confirmed cases of the virus to prevent further transmission—particularly in worksites where medical screening, triage, or healthcare activities occur, using either permanent (e.g., wall/different room) or temporary barrier (e.g., plastic sheeting).
- Restrict the number of personnel entering isolation areas.
- Protect workers in close contact with (i.e., within 6 feet of) a sick person or who have prolonged/repeated contact with such persons by using additional engineering and administrative controls, safe work practices, and PPE. Workers whose activities involve close or prolonged/ repeated contact with sick people are addressed further in later sections covering workplaces classified as medium and very high or high exposure risk.

o Develop, Implement, and Communicate Workplace Flexibilities and Protections
- An internal communication process for employees who are symptomatic of COVID-19 is to self-report to their Supervisor, who will require self-quarantine and

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

possible medical care until a conformational test can be performed. If positive, the CDC's direction is for the employer to maintain confidentiality and follow medical advice. Any changes to the workplace due to COVID-19 shall be internally communicated prior to the change (if possible) to all employees and externally to any entity that requires similar information. Internal/external communication to stakeholders shall also include workforce availability (readiness) and/or any precautionary measures for employees, such as the use of certain PPE, staggered work shifts, any downsizing, or other exposure-reducing direction or any unique requirements for employees who are reporting to a project.

- Ensure that sick leave policies are flexible and consistent with public health guidance and that employees are aware of these policies.
- Talk with companies that provide your business with contract or temporary employees about the importance of sick employees staying home and encourage them to develop non-punitive leave policies.
- On employee Return To Work (RTW), the Centers for Disease Control have two guidelines to follow on discontinuation of home isolation for persons with COVID-19: a time-since-illness-onset with a time since recovery strategy (a non-test based) and a Test based strategy.
    - Time-based: Symptomatic employees shall remain at home and use self-care. They may discontinue home isolation under the following conditions: at least a 3-day (72 hours) waiting period since recovery has passed (defined as resolution of fever without the use of fever-reducing medications) and an improvement or resolution in respiratory symptoms (cough, shortness of breath) and at least 7 days have passed since symptoms first appeared.
    - Test-based: strategy is contingent on the availability of ample testing supplies and laboratory capacity as well as convenient access to testing. For those choosing a test-based strategy, the recommended protocol has been simplified so that only one swab is needed at every sampling. Persons who have COVID-19, are symptomatic and were directed to self-care at home may discontinue home isolation under the following conditions: resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms (cough, shortness of breath) and negative results of an FDA Emergency Use Authorized molecular assay for COVID-19 from at least two consecutive nasopharyngeal swab specimens collected at longer than or equal to 24 hours apart. See Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons Under Investigation (PUIs) for 2019 Novel Coronavirus (2019-nCoV) for specimen collection guidance.
    - Individuals with laboratory-confirmed COVID-19 who have not had any symptoms may discontinue home isolation when at least 7 days have passed since the date of their first positive COVID-19 diagnostic test and have had no subsequent illness.
- Maintain flexible policies that permit employees to stay home to care for a sick family member. EXCEL Companies should be aware that more employees may need to stay at home to care for sick children or other sick family members than is usual.
- Recognize that workers with ill family members may need to stay home to care for them.
- Be aware of workers' concerns about pay, leave, safety, health, and other issues that may arise during infectious disease outbreaks. Provide adequate, usable, and

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

appropriate training, education, and informational material about business-essential job functions and worker health and safety, including proper hygiene practices and the use of any workplace controls (including PPE). Informed workers who feel safe at work are less likely to be unnecessarily absent.

- Work with insurance companies (e.g., those providing employee health benefits) and state and local health agencies to provide information to workers and customers about medical care in the event of a COVID-19 outbreak.

IMPLEMENT WORKPLACE CONTROLS

- Occupational Safety and Health Professionals have a methodology to mitigate hazards known as the "Hierarchy of Controls." The best way to control a hazard is to systematically remove it from the workplace rather than relying on workers to reduce their exposure. During a COVID-19 outbreak, when it may not be possible to eliminate the hazard, the most effective protection measures are (listed from most effective to least effective) engineering controls, administrative controls, safe work practices (a type of administrative control), and PPE. There are advantages and disadvantages to each type of control measure when considering the ease of implementation, its effectiveness, and cost. In most cases, a combination of control measures will be necessary to protect workers from exposure to SARS-CoV-2.
- Engineering controls involve isolating employees from work-related hazards. In workplaces where they are appropriate, these types of controls reduce exposure to hazards without relying on the worker and can be the most cost-effective solution to implement. Engineering controls for SARS-CoV-2 may include Installing high-efficiency air filters; increasing ventilation rates in the work environment; installing physical barriers, such as clear plastic sneeze guards; installing a drive-through window for customer service; specialized negative pressure ventilation in some settings, such as for aerosol-generating procedures (e.g., airborne infection isolation rooms in healthcare settings and specialized autopsy suites in mortuary settings).
- Administrative Controls require action by the worker or EXCEL Companies. Typically, administrative controls are changes in work policy or procedures to reduce or minimize exposure to a hazard.
- Examples of administrative controls for SARS-CoV-2 include encouraging sick workers to stay at home; surface cleaning the workplace; minimizing contact among workers, clients, and customers by replacing face-to-face meetings with virtual communications and implementing telework; establishing alternating days or extra shifts that reduce the total number of employees in a facility at a given time, allowing them to maintain distance from one another while maintaining a full onsite work week; discontinuing nonessential travel to locations with Covid-19 outbreaks; developing emergency communications plans, including a forum for answering workers' concerns and internet-based communications, if feasible.
- Providing workers with up-to-date education and training on COVID-19 risk factors and protective behaviors (e.g., cough etiquette and care of PPE); training workers who need to use protective clothing and equipment, how to put it on, use/wear it, and take it off correctly, including in the context of their current and potential duties.
- Develop Safe Work Practices are types of administrative controls that include procedures for safe and proper work used to reduce the duration, frequency, or severity of exposure to a hazard. Examples of safe work practices for SARS-CoV-2 include providing resources and a work environment that promotes personal hygiene. For example, provide tissues, no-touch trash cans, hand soap, alcohol-based hand rubs containing at least 60 percent alcohol, disinfectants, and disposable towels for workers to clean their work surfaces, requiring regular hand washing or the use of alcohol-based hand rubs. Workers should always wash their hands when they are visibly soiled, and after removing any PPE, post handwashing signs in restrooms.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PPE-PERSONAL PROTECTIVE EQUIPMENT

- While engineering and administrative controls are considered more effective in minimizing exposure to SARS-CoV-2, PPE may also be needed to prevent certain exposures. While correctly using PPE can help prevent some exposures, it should not take the place of other prevention strategies. Examples of PPE include gloves, goggles, face shields, face masks, and respiratory protection, when appropriate. During an outbreak of an infectious disease, such as COVID-19, recommendations for PPE specific to occupations or job tasks may change depending on geographic location, updated risk assessments for workers, and information on PPE effectiveness in preventing the spread of COVID-19. All types of PPE shall be selected based on the hazard to the worker; properly fitted and periodically refitted (respirators); consistently and properly worn; regularly inspected; maintained and replaced as necessary. PPE should also be properly removed, cleaned, and stored or disposed of to avoid contamination.
- EXCEL Companies is obligated to provide their workers with PPE needed to keep them safe while performing their jobs. The types of PPE required during a COVID-19 outbreak will be based on the risk of being infected with SARS-CoV-2 while working and job tasks that may lead to exposure.
- Workers, including those who work within six (6) feet of patients known to be, or suspected of being, infected with SARS-CoV-2 and those performing aerosol-generating procedures, need to use respirators.
- National Institute for Occupational Safety and Health (NIOSH)-approved, N95-filtering facepiece respirators or better must be used in the context of a comprehensive, written respiratory protection program that includes fit-testing, training, and medical exams. When disposable N95 filtering facepiece respirators are not available, consider using other respirators that provide greater protection and improve worker comfort. Other types of acceptable respirators include a R/P95, N/R/P99, or N/R/P100 filtering facepiece respirator; an air-purifying elastomeric (e.g., half-face or full-face) respirator with appropriate filters or cartridges; powered air purifying respirator (PAPR) with high-efficiency particulate arrest (HEPA) filter; or supplied air respirator (SAR). For more information on respiratory protection, see REQUIREMENTS. Consider using PAPRs or SARs, which are more protective than filtering facepiece respirators, for any work operations or procedures likely to generate aerosols (e.g., cough-inducing procedures, some dental procedures, invasive specimen collection, blowing out pipettes, shaking or vertexing tubes, filling a syringe, centrifugation). Use a surgical N95 respirator when both respiratory protection and resistance to blood and body fluids are needed. Face shields may also be worn on top of a respirator to prevent bulk contamination of the respirator. Certain respirator designs with forward protrusions (duckbill style) may be difficult to wear under a face shield properly. Ensure that the face shield does not prevent airflow through the respirator.
- Consider factors such as function, fit, ability to decontaminate, disposal, and cost. OSHA's Respiratory Protection e-Tool provides basic information on respirators, such as medical requirements, maintenance and care, fit testing, written respiratory protection programs, and voluntary use of respirators, which EXCEL Companies may also find beneficial in training workers. See REQUIREMENTS. Respirator training should address selection, use (including donning and doffing), proper disposal or disinfection, inspection for damage, maintenance, and the limitations of respiratory protection equipment. The appropriate form of respirator will depend on the type of exposure and on the transmission pattern of COVID-19.

CLASSIFYING WORKER EXPOSURE TO SARS-COV-2

- Worker risk of occupational exposure to SARS-CoV-2, the virus that causes COVID-19, during an outbreak, may vary from very high to high, medium, or lower (caution) risk. The level of risk depends in part on the industry type, the need for contact within six (6) feet of people known to be, or suspected of being, infected with SARS-CoV-2, or the requirement for repeated or extended contact with persons known to be, or suspected of being, infected with SARS-CoV-2.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- To help EXCEL Companies determine appropriate precautions, OSHA has divided job tasks into four risk exposure levels: very high, high, medium, and lower risk.
- The Occupational Risk Pyramid shows the four exposure risk levels in the shape of a pyramid to represent the probable distribution of risk. Most American workers will likely fall in the lower exposure risk (caution) or medium exposure risk levels.
- Very high-exposure risk jobs are those with high potential for exposure to known or suspected sources of COVID-19 during specific medical, postmortem, or laboratory procedures. Workers in this category include Healthcare workers (e.g., doctors, nurses, dentists, paramedics, emergency medical technicians) performing aerosol-generating procedures (e.g., intubation, cough-inducing procedures, bronchoscopies, some dental procedures and exams, or invasive specimen collection) on known or suspected COVID-19 patients; healthcare or laboratory personnel collecting or handling specimens from known or suspected COVID-19 patients (e.g., manipulating cultures from known or suspected COVID-19 patients). Morgue workers performing autopsies, which generally involve aerosol-generating procedures, on the bodies of people who are known to have, or suspected of having, COVID-19 at the time of their death.
- High-exposure risk jobs are those with high potential for exposure to known or suspected sources of COVID-19. Workers in this category include Healthcare delivery and support staff (e.g., doctors, nurses, and other hospital staff who must enter patients' rooms) exposed to known or suspected COVID-19 patients. (Note: when such workers perform aerosol-generating procedures, their exposure risk level becomes very high.); Medical transport workers (e.g., ambulance vehicle operators) moving known or suspected COVID-19 patients in enclosed vehicles; Mortuary workers involved in preparing (e.g., for burial or cremation) the bodies of people who are known to have, or suspected of having, COVID-19 at the time of their death.
- Medium exposure risk jobs include those that require frequent and/or close contact with (i.e., within six (6) feet of people who may be infected with SARS-CoV-2 but who are not known or suspected COVID-19 patients. In areas without ongoing community transmission, workers in this risk group may have frequent contact with travelers who may return from international locations with widespread COVID-19 transmission. In areas where there is ongoing community transmission, workers in this category may have contact with the general public (e.g., in schools, high-population-density work environments, and some high-volume retail settings).
- Lower exposure risk (caution) jobs are those that do not require contact with people known to be, or suspected of being, infected with SARS-CoV-2 nor frequent close contact with (i.e., within six (6) feet of) the general public. Workers in this category have minimal occupational contact with the public and other coworkers. Follow the guidance on pages 1-2 on developing "Steps that all Employers Can" take to reduce workers' risk of exposure.
- Jobs Classified at the Lower Exposure Risk (Caution) To Protect Workers-Engineering Controls
    - Additional engineering controls are not recommended for workers in the lower exposure risk group. EXCEL Companies should ensure that engineering controls, if any, used to protect workers from other job hazards continue to function as intended.
- Jobs Classified at the Lower Exposure Risk (Caution) To Protect Workers- Administrative Controls
    - Monitor public health communications about COVID-19 recommendations and ensure that workers have access to that information. Frequently check the CDC COVID-19 website. Collaborate with workers to designate effective means of communicating important COVID-19 information.
    - Additional PPE is not recommended for workers in the lower exposure risk group. Workers should continue to use the PPE, if any, that they would ordinarily use for other job tasks.
- Jobs Classified at the Medium Exposure Risk (Caution) To Protect Workers-Engineering Controls
    - Install physical barriers, such as clear plastic sneeze guards, where feasible.
- Jobs Classified at the Medium Exposure Risk (Caution) To Protect Workers-Administrative Controls
    - Consider offering face masks to ill employees and customers to contain respiratory secretions until they are able to leave the workplace (i.e., for medical evaluation/care or to

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

return home). In the event of a shortage of masks, a reusable face shield that can be decontaminated may be an acceptable method of protecting against droplet transmission. Keep customers informed about symptoms of COVID-19 and ask sick customers to minimize contact with workers until they are healthy again, such as by posting signs about COVID-19 in stores where sick customers may visit (e.g., pharmacies) or including COVID-19 information in automated messages sent when prescriptions are ready for pick up. Where appropriate, limit customers and the public's access to the worksite or restrict access to only certain workplace areas. Consider strategies to minimize face-to-face contact (e.g., drive-through windows, phone-based communication, telework). Communicate the availability of medical screening or other worker health resources (e.g., onsite nurse; telemedicine services).

- Jobs Classified at the Medium Exposure Risk (Caution) To Protect Workers-PPE
    - When selecting PPE, consider factors such as function, fit, decontamination ability, disposal, and cost. Sometimes, when PPE will have to be used repeatedly for an extended period, a more expensive and durable type of PPE may be less expensive overall than disposable PPE.
    - EXCEL Companies should select the combination of PPE that protects workers specific to their workplace.
    - Workers with medium exposure risk may need to wear some combination of gloves, a gown, a face mask, and/or a face shield or goggles. PPE ensembles for workers in the medium exposure risk category will vary by work task, the results of EXCEL Companies hazard assessment, and the types of exposures workers have on the job. In rare situations that would require workers to use respirators, see the previous information on respirators and the links under REQUIREMENTS.
- Jobs Classified at the High or Very High Exposure Risk to Protect Workers-Engineering Controls
    - Ensure appropriate air-handling systems are installed and maintained in healthcare facilities. See "Guidelines for Environmental Infection Control in Healthcare Facilities" for more recommendations on air handling systems-link in REQUIREMENTS. CDC recommends that patients with known or suspected COVID-19 (i.e., persons under investigation) should be placed in an airborne infection isolation room (AIIR), if available. Use isolation rooms when available for performing aerosol-generating procedures on patients with known or suspected COVID-19. For postmortem activities, use autopsy suites or other similar isolation facilities when performing aerosol-generating procedures on the bodies of people who are known to have, or suspected of having, COVID-19 at the time of their death. See the CDC postmortem guidance under REQUIREMENTS.
    - Use special precautions associated with Biosafety Level 3 when handling specimens from known or suspected COVID-19 patients. For more information about biosafety levels, consult the U.S. Department of Health and Human Services (HHS) "Biosafety in Microbiological and Biomedical Laboratories" and Determining Biosafety Levels in REQUIREMENTS.
- Jobs Classified at the High or Very High Exposure Risk to Protect Workers-Administrative Controls
    - If working in a healthcare facility, follow existing guidelines and facility standards of practice for identifying and isolating infected individuals and for protecting workers. Develop and implement policies that reduce exposure, such as cohorting (i.e., grouping) COVID-19 patients when single rooms are not available. Post signs requesting patients and family members to immediately report symptoms of respiratory illness on arrival at the healthcare facility and use disposable face masks.
    - Consider offering enhanced medical monitoring of workers during COVID-19 outbreaks.
- Jobs Classified at the High or Very High Exposure Risk to Protect Workers-Safe Work Practices

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Provide emergency responders and other essential personnel who may be exposed while working away from fixed facilities with alcohol-based hand rubs containing at least 60% alcohol for decontamination in the field.
- Workers Living Abroad or Travelling Internationally
  - EXCEL Companies with workers living abroad or traveling on international business should consult the "Business Travelers" section of the OSHA COVID-19 webpage. See REQUIREMENTS.
  - Also, CDC travel warnings and U.S. Department of State (DOS) travel warnings. See REQUIREMENTS
  - EXCEL Companies should communicate to workers that the DOS cannot provide Americans traveling or living abroad with medications or supplies, even in the event of a COVID-19 outbreak.
  - As COVID-19 outbreak conditions change, travel into or out of a country may not be possible, safe, or medically advisable. It is also likely that governments will respond to a COVID-19 outbreak by imposing public health measures that restrict domestic and international movement, further limiting the U.S. government's ability to assist Americans in these countries. Employers and workers must plan appropriately, as these measures may be implemented very quickly in the event of worsening outbreak conditions in certain areas.

REQUIREMENTS

CDC Covid-19 Symptoms
https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html
WHO Covid-19 Symptoms
https://www.who.int/health-topics/coronavirus#tab=tab 3
CDC Covid-19 Prevention Precautions
https://www.cdc.gov/coronavirus/2019-ncov/prepare/prevention.html
OSHA COVID-19 Information for the Workplace
https://www.osha.gov/SLTC/covid-19/standards.html
CDC Interim Guidance on Business Response
https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html?CDC AA refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-business-response.html
Respirator Selection Logic
https://www.cdc.gov/niosh/docs/2005-100/default.html
NIOSH Guidance on Respirators
https://www.cdc.gov/niosh/topics/respirators/
OSHA eTool Respirator
https://www.osha.gov/SLTC/etools/respiratory/index.html
CDC/NIOSH Guidance on Optimizing Respirators
https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html
EPA list of Disinfectants for Use Against SARS-CoV-2
https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2
Guidelines for Environmental Infection Control in Healthcare Facilities
https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5210a1.htm
CDC Postmortem Guidance
https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-postmortem-specimens.html
CDC Travel
https://www.cdc.gov/coronavirus/2019-ncov/travelers/index.html
State Department Travel
https://travel.state.gov/content/travel.html

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CDC's Recognizing Biosafety Level
https://www.cdc.gov/training/quicklearns/biosafety/

TRAINING

- Training to perform work under pandemic conditions, specifically training on your Infectious Disease Preparedness and Response Plan. Training material should be easy to understand and available in the appropriate language and literacy level for all workers.
- Provide all workers with job-specific education and training on preventing transmission of COVID-19, including initial and routine/refresher training. Ensure that psychological and behavioral support is available to address employee stress and anxiety.
- Train in SARS-CoV-2 Risk Factors. Train in proper hygiene and cough/sneeze etiquette, such as coughing into the inside of the elbow, sneezing into a tissue, and discarding.
- Train in the Respiratory Protection Program and other PPE usage.
- Cross-train on mission-critical tasks should some employees not be able to perform this work.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

WORKING OVER OR NEAR WATER

POLICY

EXCEL Companies is committed to the safety and health of our employees. Therefore, the following Working Over/Near Water plan has been adopted.

RESPONSIBILITY

Employer Responsibilities

EXCEL Companies is responsible for:

- Ensuring that work safety inspections occur on a regular basis
- Providing all necessary fall protection and floatation protective equipment
- Training personnel in how to work over/near water safely
- Providing First Aid and cardiopulmonary resuscitation CPR training to all employees working over/near water
- Responding quickly to eliminate workplace hazards
- Ensuring all equipment is kept in good repair
- Ensuring employees follow safe job procedures
- Reviewing job hazard analyses whenever there is a significant change to any element of the job or there has been an injury or illness

Safety Committee Responsibilities

It is the responsibility of the Safety Committee to:

- Assist in job hazard analyses as necessary
- Assist in training employees to work over/near water
- Monitor the workplace for hazards
- Encourage employees to report hazards
- Implement appropriate controls
- Ensure corrective action is taken promptly

Employee Responsibilities

All employees working over/near water are expected to:

- Complete and sign a pre-task plan
- Follow safe job procedures
- Report hazards to a supervisor immediately

TRAINING

EXCEL Companies will ensure that all employees working over/near water are trained in the hazards, their responsibilities, and the safe work practices associated with their task.

PROCEDURES

All EXCEL Companies employees working over/near water will be provided with the necessary training for proper use of the following protective systems:

- Fall Protection (if working at heights)
- Water rescue and survival equipment

FALL PROTECTION

EXCEL Companies will ensure that a fall protection plan is developed and approved prior to the start of any work where fall protection will be required. EXCEL Companies will designate The Vice President of EHS or other competent person, to supervise enforcement of the fall protection plan.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The Vice President of EHS will ensure that all fall protection equipment meets meets OSHA requirements and is maintained in good working order.

Fall protection will be provided for all employees who will or may be required to work at heights over/near water. This fall protection will include, but is not limited to:

- Fall restraint and fall arrest systems
- Safety harnesses, lanyards, and lifelines
- Safety nets

Fall Restraint Systems
All fall protection system components will be protected from abrasions, corrosion, or any other form of deterioration.

All fall protection system components will be inspected prior to each use for wear, damage, corrosion, mildew, and other deterioration. Defective components will be permanently removed from service.

Prior to use and after any component or system is changed, workers will be trained in the application limits of the equipment, proper hook-up, anchoring and tie-off techniques, methods of use, and proper methods of equipment inspection and storage. EXCEL Companies will provide for prompt rescue of workers in the event of a fall.

- Fall protection systems will be used only for personal fall protection
- Any fall protection system subjected to impact loading will be immediately and permanently removed from service, unless fully inspected and determined by a competent person to be undamaged and suitable for reuse
- Connectors will have a corrosion-resistant finish, and all surfaces and edges will be smooth to prevent damage to interfacing parts of the system
- Connectors must be drop-forged, pressed or formed steel, or made of equivalent-strength materials
- Anchorages, including single- and double-head anchors, will be capable of supporting at least 5,000 pounds per bridge worker attached, or be designed, installed, and used under supervision of a qualified person as part of a complete personal fall protection system that maintains a safety factor of at least two

Guardrails
Where applicable, guardrails meeting the following requirements will be used.

- Top rail should be 39 to 45 inches above the working surface, and must be smooth and of a shape to permit grasping easily
- Midrail (center between riser and top rail), screen or mesh (continuous) or intermediate vertical members (not more than 19 inches apart) will be provided between the top rail and working surface
- Guardrail systems will be capable of supporting 250 pounds in the downward or outward direction at any point along the top edge
- Midrail will support a 150-pound load in the downward or outward direction
- Top rails and midrails will be at least 1/4-inch nominal thickness. Plastic or steel banding will not be used

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Fall Arrest

The Vice President of EHS will ensure that fall-restraint or fall-arrest systems are provided, installed, and implemented according to the following requirements. All fall protection systems required will conform to the following:

- Lanyards and vertical lifelines that tie off one worker will have a minimum breaking strength of 5,000 pounds
- Self-retracting lifelines and lanyards that automatically limit free fall distance to two feet or less must have components capable of sustaining a minimum static tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position
- Self-retracting lifelines and lanyards that do not limit free fall distance to two feet or less, ripstitch, and tearing and deformed lanyards will be capable of withstanding 5,000 pounds applied to the device with the lifeline or lanyard in the fully extended position
- Horizontal lifelines will be designed, installed, and used under the supervision of a competent person, as part of a complete personal fall arrest system that maintains a safety factor of at least two
- Lifelines must not be made of natural fiber rope
- Body belts may not be used as components of personal fall arrest systems
- The personal fall arrest system will limit the maximum arresting force on a worker to 1,800 pounds when used with a body harness
- The personal fall arrest system must bring a worker to a complete stop and limit maximum deceleration distance a worker travels to 3.5 feet
- Personal fall arrest systems must be strong enough to withstand twice the potential impact energy of a worker free falling a distance of six feet, or the free fall distance permitted by the system, whichever is less
- Personal fall arrest systems must be arranged so that a worker cannot free fall more than six feet and cannot contact the ground or any lower horizontal surface
- Personal fall arrest systems will be worn with the attachment point of the body harness located in the center of the wearer's back near shoulder level, or above the wearer's head
- When vertical lifelines are used, each worker must be provided with a separate lifeline
- Devices used to connect to a horizontal lifeline that may become a vertical lifeline must be capable of locking in either direction
- Dee-rings and snap-hooks will be capable of sustaining a minimum tensile load of 3,600 pounds without cracking, breaking, or taking permanent deformation
- Dee-rings and snap-hooks will be capable of sustaining a minimum tensile load of 5,000 pounds
- Snap-hooks must not be connected to each other
- Snap-hooks must be dimensionally compatible with the member to which they are connected to prevent unintentional disengagement, or be of a locking snap-hook design, to prevent unintentional disengagement
- Unless of a locking type, snap-hooks may not be engaged
    - Directly, next to a webbing, rope, or wire rope
    - To each other
    - To a dee-ring where another snap-hook or other connector is attached
    - To a horizontal lifeline; or
    - To any object that is incompatibly shaped or dimensioned in relation to the snap-hook so that unintentional disengagement could occur

Safety Nets

- Safety nets will be installed as close as practical under the walking/working surface on which employees are working, but in no case more than 30 feet (9.1 m) below such level. When nets are used on bridges, the potential fall area from the walking/working surface to the net will be unobstructed

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Safety nets will extend outward from the outermost projection of the work surface as follows:
    - Safety nets will have sufficient clearance under them to prevent contact with the surface or structures below when subjected to an impact force equal to the drop test requirements
    - Safety nets and their installations will be capable of absorbing an impact force equal to that produced by the full-body harness drop test requirements
- Safety nets and safety net installations will be drop-tested at the job site before being used as a fall-protection system. The drop-test will consist of a 400-pound bag of sand 30+2 inches in diameter dropped into the net from the highest walking/working surface on which employees are to be protected, unless the employer can demonstrate:
    - That a drop-test is not feasible or practicable
    - The net and net installation will be certified by a qualified person
- Safety nets will be inspected weekly for mildew, wear, damage, and other deterioration and defective components will be removed from service
- Materials, scrap pieces, and tools that have fallen into the safety net will be removed as soon as possible from the net, and at least before the next work shift
- The maximum size of each safety net mesh opening will not exceed 36 square inches nor be longer than six inches on any side measured center-to-center of mesh ropes or webbing. All mesh crossings will be secured to prevent the enlargement of any mesh opening
- Each safety net (or section of it) will have a border rope for webbing with a minimum breaking strength of 5,000 pounds
- Connections between the safety net panels will be as strong as integral net components and will be spaced not more than six inches apart

WATER RESCUE AND SURVIVAL EQUIPMENT

The Vice President of EHS will ensure that all necessary water rescue and protective equipment complies with OSHA and applicable U.S. Coast Guard standards.

Life Jackets and Buoyant Work Vests

EXCEL Companies will ensure that workers working over/near water with a depth of four feet or more, or where the danger of drowning exists, will be provided and will use life vests or buoyant work vests in compliance with U.S. Coast Guard requirements in 46 CFR 160.047, 160.052, and 160.053.

Prior to use and after each use, employees must inspect all flotation devices buoyant work vest or life preservers for defects that could alter their strength or buoyancy.

Defective units must not be used.

Ring Buoys

It is the determination of EXCEL Companies to provide ring buoys with at least 90 feet of line. The distance between ring buoys must not exceed 200 feet.

Life preservers will comply with U.S. Coast Guard requirements in 46 CFR 160.055.

Skiffs

Where life vests are required, at least one lifesaving skiff, inflatable boat, or equivalent device will be immediately available. If it is determined by a competent person that environmental conditions, including weather, water speed, and terrain, merit additional protection, the skiff or boat must be manned.

- The lifesaving skiff available should be able retrieve an employee from the water no more than three (3) to four (4) minutes from the time they entered the water. However, if there are any additional hazards, such as very cold water, rapids an employee could be swept into, etc., the

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

lifesaving skiff would have to be able to retrieve an employee before they sustained injuries as a result of those additional hazards

- In addition to the preceding, EXCEL Companies will comply with all other applicable standards including, but not limited to, the requirements that an injured employee be treated by medical personnel or an employee certified in first aid within three (3) to four (4) minutes from the time the injury occurred. This could mean that first aid treatment would have to begin in the lifesaving skiff

Working Alone

It is the policy of EXCEL Companies that when the danger of drowning exists employees are not permitted to work alone.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BREATHING AIR COMPRESSOR SYSTEM INSPECTION AND ISOLATION

GENERAL

- It is the intent of this procedure to ensure that Client owned utility breathing air complies and operates within the defined requirements of EXCEL's breathing air policy.
- This procedure is intended to provide an expectation for inspection of breathing air purification systems installed inside of client facilities.
- The intent of this procedure is to provide guidelines of a thorough inspection and verification of the system to ensure that safe, clean, and continuous breathing air is provided to users.
- This procedure is built based off the KAESER KBS models 15 through 375.

INSPECTION

Follow the steps below to thoroughly inspect a breathing air compressor system:

1. Permit acceptor/inspector must verify the last service date on the breathing air system and make sure that it is current.
2. Permit acceptor/inspector must verify that the compressor is supplying air to the receiver tank with the valves locked open and that the receiver tank is reading over 100PSI but no more than 150PSI.
3. After verifying that the receiver tank is within allowable PSI, locate bleed offs on the tank, these must be confirmed they are locked closed. (also ensure that if there is a PSV that it is not leaking by if applicable)
4. The next step is to make sure that any valves from the receiver tank to the breathing air purifier system (filters/desiccant dryers/catalytic converter) are locked open to ensure air is feeding the purifier and cannot be shut off.
5. Inspection of the breathing air system will require the following:
    - Verify lights on control panel are not showing any **red** lights.
    - Verify that filter identifier lights are not flashing **amber** lights.
    - Verify that the operating pressure on the control panel of the purifier does not exceed 150PSI.
6. After the inspection of the breathing air purification system verify that the outlet valve to the header is locked open.
7. Next step is to inspect the header PSI gauge to ensure line has pressure. The valve to the PSI gauge must be locked open. If there is a bleed attached to the header gauge, it must be locked closed. **Prior to locking the bleed closed, the inspector must bleed off pressure to ensure that the compressor turns back on before dropping to 100PSI.**
8. Once you have inspected the breathing air system the next step is to inspect your breathing air utility drop.
    - Confirm the header valve feeding the connection point is locked open.
    - Verify that the utility drop connection point bleed valve is locked closed.
    - Verify that all connection points move freely and are not seized up or leaking by.
9. After the inspection of the complete breathing air system. You will begin the connections of the breathing air equipment to be used. This includes these items.
    - Having a working regulator with a low-pressure alarm attached to the utility drop connection point.
    - From the regulator a hose will be used to connect to the manifold.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- From the manifold breathing air users will connect their airlines to the manifold.
- The inspector must use a gas meter to ensure that the oxygen (O2) readings are no less than 19.5% but no greater than 23.5% is coming out of the respirator facepiece.
- Breathing air users must at minimum use a 5-minute escape pack in conjunction with their respirators.
- A bottle watch trained individual must be monitoring the regulator in the event of an alarm.

10. Through this inspection the inspector must complete the excel breathing air compressor system inspection and Isolation checklist.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

BREATHING AIR COMPRESSOR SYSTEM INSPECTION & ISOLATION

Date: _____ **Permit/Work Order No.:** _____

Location/System Model: _____ **Inspector Name:** _____

Use the form below by marking **"S" – Satisfactory "U" – Unsatisfactory**

(At Any Item Checked "U" Equipment Must not be used until it can meet Satisfactory conditions)

OPERATING SYSTEM INSPECTION	S	U
Verify systems service/PM has been completed and is up to date. **Last Service Date:** _____	☐	☐
Verify compressor is functioning	☐	☐
Verify compressor Begins rebuilding Pressure on Prior to bleeding to 100 PSI	☐	☐
Verify valves from compressor to tank are locked open	☐	☐
Verify tank bleed off valve is locked closed	☐	☐
Verify that tank is holding pressure (and PSV is not bleeding off air if applicable)	☐	☐
Verify the valve from tank into air purification unit is locked open	☐	☐
Verify that lights on control panel of air purification system unit show good operation (Not Showing Red or Amber Alarm Lights)	☐	☐
Verify that filters Light Indicators are not On or Flashing	☐	☐
Verify that air supply outlet valve is locked open	☐	☐
Bleed Off Air Pressure at the Header Pressure Reading Gauge to Verify Compressor Turns on Prior to depleting to 100 PSI.	☐	☐

UTILITY LINE INSPECTION	S	U
Verify header pressure gauge valve is locked open	☐	☐
Verify that header pressure gauge bleed is locked and closed	☐	☐
Verify that breathing air utility drop valve is locked open	☐	☐
Verify utility drop valve bleed off is locked shut (if applicable)	☐	☐

FRESH AIR EQUIPMENT INSPECTION	S	U
Inspect breathing air hosing to be used	☐	☐
Inspect Regulator, Manifold and manifold pressure gauge	☐	☐
After Connection to System Set Regulator to 120psi and Confirm Flow.	☐	☐
Use Gas Meter to Verify 19.5% to 23.5% Oxygen content being supplied to the respirator	☐	☐
Inspect respirator and 5-min/10-min/15-min escape pack	☐	☐

Comments/Concerns: _____

Fresh Air Users – Print Name and Signature

_____ _____

_____ _____

_____ _____

_____ _____

Inspector Signature **Supervision / Safety Signature**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EYE PROTECTION

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- As basic eye protection, Clear Z-87 industrial standard safety glasses with ANSI-approved side shields are considered as minimum protection.
- Approved eye protection (safety glasses) shall be required on all construction and maintenance projects.
- Approved eye protection may be required in work atmospheres other than construction and maintenance as the hazard dictates.
- Approved eye protection with GREATER than 50% lens tint will not be worn on any job site or work assignment.
- Approved eye protection with GREATER than a 50% tint shall never be worn indoors, nor shall they be worn during low-light or nighttime hours.
- If an employee wears prescription glasses that are not Z87, then “Cover” Glasses must be worn over them.

CONTACT LENS

- Contact lenses are not considered approved eyewear for construction or maintenance projects. Exemptions may be given upon approval by a physician and authorization by the Site Safety Representative.

IMPACT-TYPE GOGGLES

- Goggles will now be worn for all activities that require a face shield, with the exception of flame cutting by the use of oxy/act.
- Goggles should not be worn in conjunction with basic eye protection because a good seal cannot be obtained. They may be worn in conjunction with a face shield. Such may be recommended for certain tasks.

CHEMICAL (SPLASH-PROOF) GOGGLES

- Approved chemical goggles shall be provided to ensure eye protection from hazards associated with the handling of irritant chemicals.
- Irritant chemical operations may include hazards from:
    - Irritant dust
    - Irritant mist/sprays
    - Irritant splashes
    - Working with melted metal or tar
- The Site Safety Representative and hazard communication SDS information can provide specific use information.
- Basic eye protection and chemical goggles shall not be worn at the same time, but a face shield may be worn in conjunction with chemicals and may be required for certain operations.

FACE SHIELD

- An approved face shield shall be worn to provide face protection to the employee from flying particles, splashes, or mist.
- It must be noted that a face shield provides only protection to the face and eyes from direct impact objects, and additional eye protection must be worn in conjunction with a face shield.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Tasks which dictate the use of a face shield include:
  - Chipping
  - Scraping
  - Blowing
  - Hot tar work
  - Liquid metal work
  - Sawing
  - Grinding
  - Pneumatic tool use
  - Pouring of irritants

BURNING GOGGLES

- Approved burning goggles shall be worn to provide employee protection from ultra-violet radiation (a Number 6 shade of lens is considered adequate).
- Burning goggles shall be worn when an oxy-gas torch is used for cutting or burning.

WELDING HOOD

- A welding hood with a filtered lens of Number 10 shade or darker shall be used to provide protection from ultra-violet rays produced during electric arc welding.
- Approved safety glasses with side shields shall be worn in conjunction with the welding hood to ensure protection from popping hot slag when the hood is raised.
- A welding hood with a “slip-up” window and a secondary clear lens shall be considered to provide greater protection to the welder.
- A welding hood attached to an ANSI-approved hard hat must be worn where hard hats are required. NO SOFT CAPS

INSPECTION

- All eye protection shall be inspected by the wearer on a daily basis to ensure adequacy with worn or broken parts replaced.

GENERAL NOTES

- Articles noted within this policy refer to task user items. The same eye protection (i.e., face shield, goggles, burning goggles, etc.) as worn by the task performer should be considered as appropriate eye protection for the nearby worker.

TRAINING

- All employees shall be educated in the eye protection requirements of this section and the specifics dictated by the project.
- In addition, this training shall include:
  - Proper fit and/or adjustment
  - Inspection
  - Anti-fogging applications

REFERENCE

- The following pages include OSHA requirements for eye/face protection.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Eye and Face Protection Selection Guide

WELDING GOGGLES
Eyecup Type, Tinted Lenses

WELDING GOGGLES
Coverspec Type, Tinted Lenses

WELDING HELMETS

WELDING GOGGLES
Coverspec Type, Tinted Plate Lens

Welding Operation	Shade Number
Shielded metal-arc welding 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	10
Gas-shielded arc welding (nonferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	11
Gas-shielded arc welding (ferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	12
Shielded metal-arc welding 3/16-, 7/32, 1/4-inch diameter electrodes	12
5/16-, 3/8-inch diameter electrodes	14
Atomic hydrogen welding	10-14
Carbon-arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, over 6 inches	5 or 6
Gas welding (light), up to 1/8-inch	4 or 5
Gas welding (medium), 1/8-inch to 1/2-inch	5 or 6
Gas welding (heavy), over 1/2-inch	6 or 8

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

Eye Selection Chart Based on Hazard Involved

Operation	Hazard	Recommended Protectors
Acetylene - Burning Acetylene - Cutting Acetylene - Welding	Sparks, Intense Rays, Molten Metal Flying Particles	7, 8, 9
Air Operated Power Tools	Flying Particles	4, 5, 6 (10 in severe cases)
Chemical Handling	Splash, Acid burns, Fumes	2, 10 (for severe exposure, add 10 over 3)
Chipping	Flying Particles	1, 3, 4, 5, 6, 7A, 8A
Chop Saw	Flying Particles	1, 10
Electric Arc Welding	Sparks, Intense Rays, Molten Metal	9, 11 (11 in combination with 4, 9, 6 in tinted lenses advised
Furnace Operations	Glare, Heat, Molten Metal	7, 8, 9 (for severe exposure, add 10)
Grinding - light	Flying Particles	1, 3, 4, 5, 6, 10
Grinding - heavy	Flying Particles	1, 3, 7A, 8A, 10
High-Pressure Water Blasting	Flying Particles Splash	1, 2, 3, 10
Jack Hammering	Flying Particles	1, 10
Laboratory	Chemical Splash Glass Breakage	2 (10 when in combination with 4, 5, 6)
Machining	Flying Particles	1, 3, 4, 5, 8, 10
Molten Metal	Heat, Glare Sparks, Splash	7, 8 (10 in combination with 4, 5, 6 in tinted lenses)
Spot Welding	Flying Particles, Sparks	1, 3, 4, 5, 6, 10
Steam Cleaning	Flying Particles, Sparks	1, 2, 3, 10

Legend:

1. Goggles, Flexible Fitting, Regular Ventilation
2. Goggles, Flexible Fitting, Hooded Ventilation
3. Goggles, Cushioned Fitting, Rigid Body
4. Spectacles, Metal Frame with Rigid Side Shields
5. Spectacles, Plastic Frame with Rigid Side Shields
6. Spectacles, Metal - Plastic Frame with Rigid Side Shields
7. Chipping Goggles, Eyecup Type, Clear Safety Lenses
8. Welding Goggles, Coverspec Type, Tinted Lenses

8A. Chipping Goggles, Coverspec Type, Tinted Lenses

9. Welding Goggles, Coverspec Type, Tinted Plate Lenses
10. Face Shield (Available with Plastic or Mesh Window)
11. Welding Helmets

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

Filter Lenses for Protection Against Radiant Energy

Operations	Electrode Size	Arc Current	Min. Shade
Shielded metal arc welding	Less than 3 3 - 5 5 - 8 More than 8	Less than 60 60 - 160 160 - 250 250 - 550	7 8 10 11
Gas metal arc welding and flux arc welding		Less than 60 60 - 160 160 - 250 250 - 550	7 10 10 10
Gas Tungsten arc		Less than 50 50 - 150 150 - 500	8 8 10
Air Carbon Arc Carbon	Light Heavy	Less than 500 500 - 1,000	10 11
Plasma Arc Welding		Less than 20 20 - 100 100 - 400 400 - 800	6 8 10 11
Torch Brazing Torch Soldering Carbon Arc Welding			3 2 14

Operations	Plate Thickness (inches)	Plate Thickness (millimeters)	Min. Shade
Gas Welding			
Light Medium Heavy	Under 1/8 1 to 6 Over 6	Under 3.2 3.2 to 12.7 Over 12.7	4 5 6
Oxygen Cutting			
Light Medium Heavy	Under 1 1 to 6 Over 6	Under 25 25 to 150 Over 150	3 4 5

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HEAD PROTECTION

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Approved hard hats include both plastic and fiberglass hats, which meet ANSI 289.1 standards for Class I and II only. Metal hard hats or bumper caps are not considered approved head protection.
- Approved hard hats shall be the appropriate head protection on all construction and maintenance projects.

ISSUANCE OF BASIC HEAD PROTECTION

- An approved hard hat shall be issued to all employees upon hire in the event the employee does not have the appropriate hard hat.
- The decision to charge a fee for the initial hard hat shall depend on the requirements of the individual project.

COLOR CODING

- Color coding of the hard hats will be at the discretion of the individual project.

INSPECTION

- Hard hats shall be inspected regularly by the individual worker to ensure the head protection is in safe condition.
- Supervisors shall ensure that the hard hats worn by their employees are approved and meet the guidelines within this policy.

GENERAL NOTES

- It shall be forbidden for the employees to:
    - Drill holes in the shell of the hard hat
    - Alter the shape of the hat or bill
    - Remove the suspension straps or cut/alter them in any way
    - Routinely wear hard hats backwards
    - Removal of hard hats shall not be permitted unless the Excel Variance Process has been completed.

TRAINING

- Employees shall be educated in the requirements of this section and the specifics dictated by the project.
- Employees shall additionally be educated in the inspection requirements of this section concerning use and inspection methods.

DOCUMENTATION

- Documentation shall be maintained on training and the type of head protection utilized.
- The safety representative shall maintain documentation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HEARING CONSERVATION PROGRAM

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- It is the policy of EXCEL to establish and maintain an effective Hearing Conservation Program (HCP) designed to eliminate or control exposure to harmful noise levels and to prevent occupational noise-induced hearing loss to employees. EXCEL shall provide a place of employment that is safe and healthful and will not subject its employees to avoidable hazards associated with harmful noise levels.
- EXCEL shall make every effort to identify high noise level areas in the workplace and shall take steps to make them readily identifiable to personnel who work in these areas. Protective measures shall be provided by means of engineering controls, administrative controls, and or by providing personal protective equipment when necessary. Employees whose 8-hour time-weighted average noise level exposure equals or exceeds 85 decibels will be enrolled in a hearing conservation program.
- EXCEL shall provide at no cost to employees a hearing examination designed to provide safe job placement of employees, satisfactory maintenance of employee hearing levels, and to ascertain the effectiveness of noise control methods.

PURPOSE

- The purpose of this program is to provide workers, supervisors, and management with an understanding of the seriousness of the threat posed by industrial noise and to explain what companies must do, by law, to control occupational noise exposure.

RESPONSIBILITIES

- Corporate Safety Office
    - Coordinates the company's Hearing Conservation Program, providing consultation to departments according to their specific needs.
    - Conducts noise surveys in response to department requests or upon Corporate Safety Office initiative.
    - Provides hearing conservation training to employees enrolled in the hearing conservation program.
    - Assist job sites in developing methods for noise abatement reduction or control.
    - Approves personal protective devices considered for purchase by job sites.
    - Establishes and conducts audiometric testing programs for appropriate employees, providing consultation and notification of exam results.
    - Maintains and makes available records of exposure measurements and audiometric tests.
    - Prior to the establishment of a baseline audiogram, at least 14 hours without workplace noise was observed.
    - Maintains records of general training activities.
    - Provides company departments with updated and current regulatory information with regard to hearing conservation.

JOB SITES AND SITE MANAGERS

- Ensure that noise control is considered when procuring equipment, machinery, and tools.
- Identify areas that may overexpose employees to harmful levels of noise and notify the Corporate Safety Office.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- An evaluation shall be made to evaluate hearing protection for the specific noise environments in which the protector will be used.
- Plan for implementation methods for noise abatement, reduction, or control.
- Provide and arrange for hearing conservation training for employees covered by the Hearing and Conservation Program; ensure that they read, understand, and comply with all appropriate safety procedures, whether written or oral.
- Ensure that appropriate personal protective equipment is procured and provided to appropriate employees; enforce the use of such devices when required; and ensure that such devices are kept in good repair and maintained in a sanitary manner.
- Make information regarding occupational hearing conservation and other relative health and safety data available to all employees.

EMPLOYEES

- Report any suspected high-noise areas to your supervisor.
- Use common sense and good judgment at all times; the number of potential hazards that may exist or be created in the workplace is sometimes unpredictable.
- Request and expect to receive (within a reasonable time frame) information regarding health and safety.
- Read, understand, and comply with all appropriate safety procedures, whether written or oral, while performing assigned duties.

SOUND LEVELS

- The table below shows some common equivalents of sound levels in decibels (dB). Decibels are units of measure for sound. Exposure to noise with a loudness of 80 dB is annoying. It is roughly equivalent to the noise level of an alarm clock about two feet away from your ear. Exposure to 90 dB can cause physical damage to the ear. Noise, at about 120 dB, can actually be painful and permanently damaging.

Common Equivalents of Sound in Decibels	
140 db	Fireworks, gun shots, custom car stereos
130 db	Jackhammers, ambulance
120 db	Jet planes during take off
110 db	Concerts, car horns, sporting events
100 db	Snowmobiles, headphones at full volume
90 db	Lawnmowers, power tools, blenders, hair dryers
80 db	Alarm clocks
70 db	Traffic, vacuums
60 db	Normal conversation, dishwashers
50 db	Moderate rainfall
40 db	Quiet library
30 db	Whisper
20 db	Leaves rustling

EFFECTS OF OVEREXPOSURE

- The ear has three sections.The outer ear helps to direct sound into the auditory canal (Ear Canal). The middle ear, separated from the outer ear by the eardrum, consists of three connected bones that transmit the vibrations of the eardrum to the inner ear. In the inner ear, a snail-shaped organ, the cochlea, transforms the vibrations into nerve impulses for transmission to the brain along the auditory nerve. The cochlea is lined with cells equipped with tiny hairs and is filled with liquid. As the liquid moves in response to the vibrations of the bones of the middle ear, the hairs move,

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

sending nerve impulses to the brain for decoding. The effect of continued overexposure to the noise is the destruction of the hair cells and permanent loss of hearing.

- The first warning of hearing loss is often the inability to hear high-frequency sounds. People with hearing deficiencies caused by overexposure to noise can lose sensitivity to sound at about 4,000 Hz, the approximate frequency of a voice on the telephone. If the overexposure continues, the damage will gradually be extended until the entire hearing range is affected. As more and more hair cells of the inner ear are destroyed, the ability to hear is progressively and permanently reduced. Damaged hair cells cannot be repaired or replaced. As a person loses sensitivity to higher frequencies, sounds become distorted. He/she may be able to hear a conversation but not be able to understand it. The use of a hearing aid makes the sound louder but not clearer. The sound will still be distorted.
- Overexposure to noise affects the entire body. It is associated with tinnitus (ringing in the ears), increased pulse rate, hypertension, increased secretion of certain hormones, tiredness, nervousness, sleeplessness, and other symptoms of stress.
- Common indications of overexposure to noise are:
    - Difficulty in hearing normal speech in the work area.
    - Raised voice levels for communication at normal distances.
    - Ringing in the ears after leaving the work area.
- If you suspect that there is a noise problem, the next step is to request a noise survey in writing to your supervisor. The purpose of the survey is to:
- Measure the noise levels for an area or work task.
- Identify the source of the noise.
- Determine what corrective measures to take.

NOISE SURVEY

- Noise surveys are technically complicated and require expensive equipment. The Corporate Safety Office has the necessary equipment to conduct noise level surveys. If a noise survey is needed, the affected employee may inform his / her supervisor, who will, in turn, request this service from the Corporate Safety Office. Noise surveys fall into two broad categories.
    - Preliminary noise survey
    - Detailed noise survey
- The preliminary noise survey, for all practical matters, is not a real survey; rather, it is an assessment of the noise types and levels in a given area. This survey is useful in determining if potential noise problems exist.
- The detailed noise survey involves the collection of specific data during three main steps.
    - Area Measurements
    - Workstation measurements
    - Exposure duration
- There are four reasons for the detailed survey
    - To obtain specific information from a workstation
    - Develop guidelines for establishing controls.
    - Define areas where hearing protection is required.
    - Determine the need for employee inclusion in a hearing conservation program.

CONTROLLING NOISE

- The most effective controls are engineering controls introduced at the time a structure or machinery is being designed or installed. When the facilities have been built, and machinery is already in place and operating, such controls are likely to be more expensive.
- If the noise survey reveals a potentially high noise problem, there are usually many alternative ways to reduce the exposure to within acceptable limits. The Corporate Safety Office should be able to

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

help the department choose a method that is not only effective but also the most economically feasible.

ADMINISTRATIVE CONTROLS

- These may also be referred to as operational controls. Administrative controls include adjusting work schedules to reduce exposure time, limiting machine-operating time, or restricting equipment purchases to a specified maximum sound level.

ENGINEERING CONTROLS

- Engineering controls include barriers, damping, and isolation: musing, noise absorption, mechanical isolation, variations in force, pressure, or driving speed, and combinations of these and other means of reducing noise. Engineering controls, which regulate noise at its source, often involve customized equipment modifications. The cost for these controls can be expensive. However, depending on the situation, a combination of Administrative and Engineering controls can be effective and affordable.

PERSONAL PROTECTIVE EQUIPMENT

- When Engineering and/or administrative controls either fail to reduce to within acceptable limits or are not technologically feasible, hearing protectors must be used.
- When either earmuffs or earplugs are used as dictated by requirements of a particular site location, the department should have a sufficient variety to ensure that workers can get a good fit. Protective devices should be both effective and comfortable. Earplugs are made of soft, flexible materials that will conform to the shape of the wearer's ear canal.
- When earmuffs are used, make sure that the seal between the muff and the head is tight. Long hair, glasses, and other obstructions may diminish the effectiveness of the device.

CONTROL OF NOISE EXPOSURE

- The following is a summary of the General Industry Safety Orders regulating the exposure of workers to occupational noise.
- When workers are exposed to an 8-hour time-weighted average (TWA) of 85 decibels or greater, EXCEL shall institute a hearing conservation program that includes monitoring exposure, audiometric testing, and evaluation of the audiogram results for all exposed workers.
- Required audiometric testing must be conducted by a licensed audiologist, otolaryngologist, qualified physician, or trained technician, and the test made available to employees. Annual audiograms are compared with the baseline audiogram to determine if there has been any deterioration of the worker's hearing (threshold shift). If a worker suffers a significant threshold shift, EXCEL must fit or refit the worker with hearing protectors, train or retrain him/her, and make sure they are used, or remove the employee for the area in which the overexposure exists. Testing to establish a baseline audiogram shall be conducted for at least 14 hours without exposure to workplace noise. Hearing protection may be used to meet the requirement. Employees shall also be notified to avoid high levels of noise. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift, the employee shall be informed of this fact in writing within 21 days of the determination.
- OSHA's Hearing Conservation Amendments specify that Hearing Protectors (HP) must be made available to employees when their TWA daily noise exposure exceeds 85 dB and mandate the use of HP when exposures exceed 90 dB.
- Workers must wear hearing protectors when:
    - They are exposed to a sound level of 85 dB or greater and have had a significant threshold shift in hearing.
    - They are exposed to noise in excess of the limits set in the table below.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Permissible Noise Exposures	
Duration per day, hours	**Sound level dBA slow response**
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

- Site Managers are responsible for offering workers a variety of suitable hearing protectors, training workers in the use and care of the devices, and ensuring the proper initial fit.

TRAINING PROGRAM

- Departments that employ workers who are exposed to noise at or above 85dbA shall include those employees in an annual training program and shall ensure employee participation in such program. The topics will include the following:
  - The effects of noise on hearing
  - The purpose and effectiveness of hearing protectors
  - The purpose and explanation of audiometric testing
- The site manager must make the OSHA regulations (CFR 1910.95) on exposure to noise available to workers.

RECORD KEEPING AND RECORD ACCESS

- The Corporate Safety Office will maintain records of:
  - Exposure measurements of at least 2 years
  - Audiometric tests for the duration of the affected employee's employment
  - Audiometric test rooms for the same period
- These records must be made available to Employees. The appropriate forms must be completed in order to obtain this information.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAND PROTECTION

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- This policy is intended to provide an expectation for glove usage and aid in the selection and use of gloves.
- This policy shall apply to all construction work, construction projects, turnaround, and maintenance. At a minimum, impact/cut-resistant leather gloves must be worn while all personnel are inside a work area unless the wearing of the glove would hinder the performance of the job task or would create a hazard.
- A glove clip is required to secure gloves on your person at all times.
- Impact/cut-resistant leather gloves must be worn while performing hands-on work unless the wearing of the impact/cut-resistant leather gloves would hinder the performance of the job task or would create a hazard.
- Where jobs are identified that pose a higher risk from using Impact/Cut Resistant leather gloves and are not listed on the exemptions list, these tasks must be identified explicitly on the Pre-Task Analysis, JSA, or Safety Task Analysis Card (STAC) and submitted to the Project Manager / Site Safety Representative for approval. Submittal to the exemption list does not guarantee exemption.

EXEMPTIONS

- Examples of activities during which Impact/Cut Resistant leather glove use is not generally advised due to the possible increase in hazard are:
    - Working with high torque rotating equipment while in operation (does not include handheld power tools that may also rotate, such as side grinders)
    - Gloves of any kind shall not be worn when working with stationary rotating equipment. Refer to the equipment owner's manual for more information.
    - Equipment operation (cranes, fork trucks, etc.)
    - Working with small parts requiring high dexterity
    - NDT testing where chemical hazards are not present
    - Driving nails
    - Using a sledgehammer (certain applications)
    - Scaffold material handling from level to level in wet conditions
    - Driving motor vehicles
    - Administrative jobs
    - Using measuring instruments
    - Using a skill saw
    - Climbing ladder
    - Thermal plastic welding
    - Trawling brick mortar

EXEMPTION REQUEST

- Exemption requests should be sent to the EXCEL Corporate Safety Department. In some cases, exemption requests will require client/owner approval and must be submitted and approved.

DETERMINING TYPE OF GLOVE TO USE

- Specific gloves appropriate to the job hazard may be required for certain high-risk jobs. If the type of glove is not specified in the job procedure, impact/cut-resistant leather gloves are preferred.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Please use the following chart as a guide to select the proper glove.

JOB	HAZARD	GLOVE TYPE
General Purpose / Everyday Use	Cuts/Bumps/Pinches	Impact/cut-resistant leather gloves
Rigging	Pinches/Sharp Edges	Impact/cut-resistant leather gloves
Sheet Metal	Extremely Sharp Edges	Kevlar Gloves and Kevlar Sleeves
Welding/Oxy Acetylene Cutting	Burns/Sharp Edges/Heat Flames	Welder Gloves
Jack Hammer/Impact Type Equipment	High Vibration	Padded or Shock-absorbing
Boiler/Pipe Shop	Burns/Sharp Edges/Heat Flames	Impact/cut-resistant leather gloves
Carpenters	Pinches/Cuts/Bumps	Impact/cut-resistant leather gloves
FRP	Cuts/Bumps/Solvent	Kevlar / Impact/cut-resistant leather gloves
Scaffold Builder	Wood Slivers/Pinches	Impact/cut-resistant leather gloves
Insulators	Dust/Dirt	Impact/cut-resistant leather gloves
Knives	Sharp Edges	Impact/cut-resistant leather gloves See Site-specific Knife Policy
Chemicals	Chemical Hazards	Chemical resistance specified on the appropriate SDS
Masonry	Cement Exposure	Rubber lined
Electrician	Cuts/electrocution	Impact/cut-resistant leather gloves /Kevlar/High Voltage

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FOOT PROTECTION

BASIC FOOT PROTECTION

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- ANSI-approved hard-toe shoes are required.
- Only closed-top footwear is approved for use.
- Sneakers, sandals, tennis shoes, high heels, and thongs shall not be considered approved as industrial or construction footwear.

SPECIAL PURPOSE FOOTWEAR

- Special-purpose footwear, i.e., rubber boots, shall be selected to provide maximum protection to the employee. Strong consideration should be given to such footwear, which incorporates a steel shank and steel toe.
- Whenever employees are exposed to atmospheres where there may be possible exposure to corrosives or irritant chemicals, all employees working in the area must be wearing the appropriate special-purpose footwear in accordance with 29 CFR 1926.28 and 29 CFR 1926.95.

FOOT PROTECTORS

- Employees who are performing tasks that expose them to extreme foot injury hazards (i.e., operating ground tamper or chipping concrete with a jackhammer) shall wear metal foot protectors.

INSPECTION

- All foot protection shall be inspected to ensure it is in good repair free of rips, tears, or holes.

TRAINING

- Employees shall be educated in the basic footwear requirements as well as the special purpose foot protection and inspection procedures.
- The Safety Representative shall maintain documentation of foot protection training.

TASK/ACTIVITY	HAZARD	REQUIREMENTS
Climbing	Slip, Trip, Fall	Defined heel 1/4" min. - 1-1/2" max.
Welding, Cutting (Hot Work)	Burns from hot sparks/metal	Leather footwear or equivalent
Moving, carrying, rigging heavy materials	Crush from falling or rolling objects	ANSI Approved hard toe shoes
Jack Hammering	Crush injury from tool/material impact	Shin and metatarsal guards
Any walking/work in chemically contaminated areas	Slip, trip, fall, chemical burns, potential skin irritations, hazardous exposure to chemicals	Refer to Chemical Protection Selection Guide in Section 7.4 or SDS for a particular chemical

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAIR POLICY

GENERAL

- It shall be the scope of this policy to ensure the safety and health of workers who may be exposed to hazards due to the existence of facial hair or the length or positioning of cranial hair.

FACIAL HAIR

- Client safety policies may prohibit long hair and restrict the length or positioning of facial hair worn by the employee. (This will be covered further in the Respiratory Protection section).

SCALP HAIR

- Because of the hazards that it may create for the employee, exceptionally long hair shall be secured/restrained underneath the hard hat.
- All residual hair shall be restrained inside of the shirt.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CLOTHING POLICY

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

- Personal protective equipment for employee protection includes both special clothing and standard work clothing. The scope of this policy is to educate the employee on the usage of both types of clothing.

STANDARD WORK CLOTHING

- Employees performing tasks on construction/maintenance projects shall ensure their clothing is designed for such work.
- Cotton is the best all-around material to wear. Synthetic materials are not recommended because they melt easily, and some may burn rapidly when exposed to minor flames.
- Pants should fit properly and not have bell bottoms, large cuffs, or frayed bottoms.

STANDARD WORK CLOTHING REQUIREMENTS (CONSTRUCTION/MAINTENANCE)

- Clothing in good repair must be worn. Frayed or tattered clothing can be a hazard to the employee. Tank tops or sleeveless shirts are not allowed. If dictated by the client, long-sleeved shirts will be required.
- Shirts must be worn tucked in at all times unless the employee is flame-cutting or welding.
- Neckties, gauntlet-type gloves, and baggy, loose, or ragged clothing must not be worn around or when working with moving machinery.
- The wearing of jewelry such as rings, watchbands, necklaces, earrings, or the like can cause or contribute to accidents; therefore, the wearer should take proper precautions. No jewelry will be allowed. Refer to jewelry policy 6.20 in the safety manual.

SPECIAL CLOTHING

- Because of the task situations that may arise, special protective clothing will be required to protect the employee from exposure to hazardous materials.
- Materials which employees may be exposed to and protected against may include:
    - Corrosives
    - Heat
    - Irritants
    - Toxics
    - Fire
    - Sensitizers

TRAINING

- Employees shall be educated on the clothing requirements of the project during the initial orientation, and reinforcement will be through safety meetings.
- Documentation of such training shall be maintained.

DOCUMENTATION

- In addition to maintaining documentation of training provided, a listing of the types and applications of the special protective clothing shall be maintained by the Safety Representative.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PPE HAZARD ASSESSMENT POLICY

GENERAL

- EXCEL has implemented this safety program in compliance with 29 C.F.R. § 1910.132 to ensure the protection of personnel from hazards on the job, which may be safeguarded against by the proper use of Personal Protective Equipment (PPE).
- PPE will be provided at no cost for all work required by EXCEL, and employees are required by company policy to use only company-approved PPE at all times on the job or on company property. Failure to use PPE will result in disciplinary action against the violating employee.
    - Site/Safety Management will ensure all employee-owned, company-approved PPE used will be adequate for the application, properly maintained, and kept in a sanitary condition.
    - PPE will be issued and fitted to each affected employee individually. Employees must demonstrate proficiency in donning and doffing equipment and proper techniques of cleaning and maintaining their respective equipment.
    - Defective or damaged PPE will NOT be used. Defective or damaged PPE will be immediately tagged "OUT OF SERVICE," removed from service and replaced with serviceable equipment. PPE will be inspected by the individual employee at the beginning of each work shift
    - PPE must be used, stored, and maintained in a sanitary condition. All PPE must be cleaned and/or disinfected and stored according to the manufacturer's recommendations.

TRAINING

- Site/Safety Management will ensure all employees are properly trained in the recognition and assessment of hazards, the proper selection and use of PPE required for the hazard, and how to control the hazards.
- PPE training will include when it is necessary, what is necessary, how to don, doff, adjust, and wear PPE, the limitations, proper care, maintenance, useful life, and disposal of PPE.
- Retraining of employees is required when the workplace changes, making the earlier training obsolete; the type of PPE changes; or when the employee demonstrates a lack of use, improper use, or insufficient skill or understanding.
- Employees will be trained on initial hiring to use, maintain, clean, disinfect, store, and service PPE properly. Employees will receive refresher training on PPE at least annually or as work requirements, changing job assignments, changing equipment, or environment warrants it. Any employee who demonstrates a lack of knowledge or understanding of any aspect of PPE use or maintenance will be retrained. An employee must verify his/her understanding of training content as a condition of employment.
- All training will be documented and will include the employee's name, the dates of training, and the certification subject.
- Site/Safety Management will perform a written hazard assessment using a standard EXCEL Jobsite Hazard Assessment Form of each job site prior to commencement of work to ascertain if hazards are present or likely to be encountered, what engineering controls may be implemented to minimize hazards, and what PPE is necessary for the performance of the job. As part of the EXCEL Site Specific Safety Plan (SSSP), each site management team will review their client's PPE Hazard Assessment and incorporate it into their own job site hazard assessment and training with EXCEL employees. The hazard assessment will include the certifier's name, signature, date(s), and identification of assessment documents. Affected employees will be notified of hazards, engineering controls needed, and PPE required.
- See below the Master PPE Hazard Assessment and Equipment Selection Certification

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZARD ASSESSMENT GUIDELINES

- The following steps should be taken to assess the need for PPE:
    - Survey. Conduct a walk-through survey of the areas in question. The purpose of the survey is to identify sources of hazards to workers and co-workers. Consideration should be given to the basic hazard categories:
        - Impact
        - Penetration
        - Compression (roll-over)
        - Chemical
        - Heat
          Harmful dust
        - Light (optical) radiation
    - Sources. During the walk-through survey, the safety officer should observe:
        - Sources of motion, i.e., machinery or processes where any movement of tools, machine elements, or particles could exist, or movement of personnel that could result in collision with stationary objects;
        - Sources of high temperatures that could result in burns, eye injury, or ignition of protective equipment, etc.;
        - Types of chemical exposures;
            - Sources of harmful dust;
            - Sources of light radiation, i.e., welding, brazing, cutting, furnaces, heat treating, high-intensity lights, etc.;
            - Sources of falling objects or potential for dropping objects;
            - Sources of sharp objects which might pierce the feet or cut the hands;
            - Sources of rolling or pinching objects that could crush the feet;
            - Layout of workplace and location of co-workers; and
            - Any electrical hazards.
            - In addition, injury/accident data should be reviewed to help identify problem areas.
    - Organize data. Following the walk-through survey, it is necessary to organize the data and information for use in the assessment of hazards. The objective is to prepare for an analysis of the hazards in the environment to enable proper selection of protective equipment.
    - Analyze data. Having gathered and organized data on a workplace, an estimate of the potential for injuries should be made. Each of the basic hazards (paragraph 3.a.) should be reviewed, and a determination made as to the type, level of risk, and seriousness of potential injury from each of the hazards found in the area. The possibility of exposure to several hazards simultaneously should be considered.

GENERAL REQUIREMENTS

- PPE devices should be relied on as the final protection against hazards, used in conjunction with guards, engineering controls, and sound manufacturing practices. It is necessary to consider certain general guidelines for assessing the foot, head, eye, face, skin, respiratory, ionizing radiation hazard, and hand hazard situations that exist in an occupational operation or process and to match the protective devices to the particular hazard. It is the responsibility of Site/Safety Management to exercise common sense and appropriate expertise to accomplish these tasks.
- After completion of a Hazard Assessment, the general procedure for the selection of protective equipment is to:
    - Become familiar with the potential hazards and the type of protective equipment that is available, and what it can do, i.e., splash protection, impact protection, etc

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Compare the hazards associated with the environment, i.e., impact velocities, masses, projectile shape, and radiation intensities, with the capabilities of the available protective equipment
- select the protective equipment that ensures a level of protection greater than the minimum required to protect employees from the hazards with reference to the selection charts provided below
- fit the user with the protective device and give instructions on care and use of the PPE. It is very important that end users be made aware of all warning labels and limitations of their PPE.

SPECIAL SITUATIONS

- Work in petrochemical facilities and refineries may require EXCEL personnel to perform tasks such as, but not limited to, line opening and confined space entry, where specialized PPE is required. In such situations, the task-specific JSA and/or the site work permit system will be used to identify the specific type and level of PPE required.
- Should EXCEL personnel be assigned tasks normally performed by the host employer, such as loading or unloading tank trucks or rail cars, EXCEL Site/Safety Management will work with the host employer to identify the specific types and levels of PPE required for each task. Note: The task-specific PPE requirements may be included in the standard operating procedure (SOP) or the task-specific work instructions. In doing so, EXCEL personnel will work closely with the host employer to identify the appropriate level of protection and materials for construction.

PERSONAL WORK CLOTHING

- The minimum work clothing acceptable is long pants, good work shoes or boots, and a shirt that completely covers the worker's shoulders (minimum 4-inch sleeves) and provides adequate protection against such hazards as concrete splash, abrasions to the skin, oil or grease spills, and slag from welding or cutting.
- Welders should be cautioned against wearing any type of highly combustible clothing, such as polyesters, double-knits, etc. Wool and specially treated cotton are two natural fibers that are fire-resistant and comfortable. Heat-resistant material, such as leather, is used to protect against dry heat, flames, and molten material. Fire-resistant clothing also protects from high workplace temperatures and electrical operations.
- For the most part, construction workers should wear clothing that is reasonably snug, particularly about the neck, wrists, and ankles. Employees will not wear loose clothing, rings, watches, necklaces, or long hair, all of which may be caught in power-driven equipment.
- Rubber and rubberized fabrics, neoprene, and plastics protect against some acids and chemicals. Disposable chemical suits are used to protect against dusty materials and materials that splash. For materials that are extremely toxic, a fully encapsulated suit may be necessary.
- Arc-rated clothing that has been identified to present an arc flash potential will be worn during work activities. The clothing will be rated for the arc flash potential of the task. Such clothing may include long-sleeved FR shirts, FR pants, face shields, and appropriate class rubber gloves. The employee will not wear synthetic fiber clothing under fire-resistant clothing. Refer to the Electrical Safety and Arc Flash policy for clothing required for arc flash potential posed by the task and equipment.

EYE AND FACE PROTECTION

- To prevent possible eye and face injuries, suitable eye protection will be worn. Potential eye and face injuries occur from flying objects, liquid chemicals, acids or caustic liquids, molten metal, chemical gases or vapors, and light radiation. Eye protection will provide adequate protection, be reasonably comfortable, fit snugly, be durable, capable of being disinfected and cleaned, kept sanitary, and in good repair. When selecting eye and face protection, consider what kind and

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

degree of hazard is present. For the use of chainsaws, chop saws, or any other type of high rpm saws, approval from corporate and site safety management will be required. All PPE will be dependent upon the tools to be utilized and the specific job to be performed.

- Eye or face protection will comply with American National Standards Institute (ANSI) Z87.1- 2003. If you have questions about eye or face protection, ask your supervisor or refer to the manufacturer's instructions. (See below for eye and face protection charts)

FOOT & LEG PROTECTION

- Most foot injuries occur from employees not wearing protective footwear. The typical foot injury is caused by objects falling fewer than 4 feet. For protection from falling or rolling objects, sharp objects, molten metal, hot surfaces, and slippery surfaces, employees will use appropriate foot guards, steel-toe safety shoes, steel-toe safety boots, metatarsal guards, and leggings. Leggings protect the lower leg and feet from molten metal and welding sparks. For the use of chainsaws, chop saws, or any other type of high rpm saws, approval from corporate and site safety management will be required. All PPE will be dependent upon the tools to be utilized and the specific job to be performed. Leather work shoes/boots are required, and safety shoes are recommended for use by all employees. Safety shoes should be sturdy, have an impact-resistant toe, and have puncture-resistant soles. Protective footwear will comply with ANSI Z41-1991. (See below for the foot protection selection chart)
- When working with wet concrete, workers will wear impervious boots.
- Shoes and boots will be kept in good repair, and those with worn heels or thin or worn soles should not be permitted. In addition, the wearing of sneakers, sandals, or shoes that have been slit or have holes cut in them will not be permitted.

HAND & ARM PROTECTION

- Arm and hand protection are used to prevent skin contact and absorption with potentially harmful materials to prevent bums, cuts, abrasions, pinches, electrical shock, and exposure to other hazards. Where needed, workers should wear work gloves in good condition, which are suited to the type of work involved. Some of the factors taken into account when gloves were selected are the toxic properties of chemicals handled by employees, the degree of dexterity required, duration, frequency, degree of exposure to the hazards, and physical stress that will be applied. The company relies on the manufacturers' standard test procedures for hand and arm protection performance characteristics. Refer to Attachment C for guidelines for glove selection.
- Employees who are required to operate or work around drill presses, power saws, and similar rotating machinery will not wear gloves.
- For the use of chainsaws, chop saws, or any other type of high rpm saws, approval from corporate and site safety management will be required. All PPE will be dependent upon the tools to be utilized and the specific job to be performed.
- Special gloves such as neoprene or rubber to handle chemicals will be issued to those employees who need them. Welders will wear gloves during welding operations.

HEAD PROTECTION (HARD HATS)

- Employees will wear protective helmets when working in areas where there is a potential for injury to the head from falling objects and overhead bump hazards. Protective helmets designed to reduce electrical shock hazards will be worn by each affected employee when near exposed electrical conductors that could contact the head.
- All employees who wear company-issued hard hats will wear them at all times when working on construction projects or areas of an existing facility that have been designated as "Hard Hat Areas." This includes visitors, subcontractors, engineers, inspectors, and anyone else who has authorization to be on the project site.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Head protection will be worn properly with the brim in front unless approved by site safety management for specific job tasks, and the head protection must be designed to be worn with the brim to the back. Hard hats that have been altered by drilling or cutting will not be permitted, nor will those hats that have been altered by the addition of any items on the outside of the hat other than safety or site stickers. When it is necessary to use additional personal protective equipment, which will be attached to the hard hat, only those hard hats designed for this purpose may be used.
- For the use of chainsaws, chop saws, or any other type of high rpm saws, approval from corporate and site safety management will be required. All PPE will be dependent upon the tools to be utilized and the specific job to be performed.
- Protective hard hats will meet ANSI requirements. Personal Protection-Protective Headgear for Industrial Workers Z89.1-2009. Electrical workers will wear hard hats that are rated for the voltage of the equipment where work is being performed.

RESPIRATORY PROTECTION

- Company-approved respiratory protective devices appropriate for the hazard will be used where airborne contaminants, such as fibers, dust, smoke, vapors, and mists, exist and may exceed acceptable levels. Respiratory protective devices will be used in accordance with OSHA 1910.134 requirements and NIOSH recommendations. See EXCEL's respiratory protection policy located in the EXCEL Safety Manual section 6.4

HEARING PROTECTION

- Hearing protection will be worn in areas that exceed 85 dB. Refer to HSE Policy Chapter 28, Occupational Noise Exposure Program.

FULL BODY HARNESS AND LANYARDS

- Harnesses with lanyards in use will be worn by all employees who are working at elevated levels that are not protected by standard handrails or when working from suspended scaffolds.
- Employees are required to wear and use full-body harnesses to protect them from falling when they are exposed to falls from heights of five feet or more. If they are working on powered platforms or over machinery, moving equipment or objects posing an impalement hazard, or in the case of entering a confined space with an attended lifeline, 100% fall protection is required. This might include the need for two lanyards per belt. All harnesses and lanyards will be inspected, and each inspection will be documented with the harness serial number. Inspections will be performed by supervision. Quick-release belts will only be used when working over bodies of water. Lanyards will have locking snaps that require two actions to open. Refer to the Fall Protection Program for complete requirements.

FLOTATION VESTS

- US Coast Guard-approved flotation vests will be worn by all employees when working on barges, floating pipelines or plants, or on structures extending over water that are not protected by adequate standards. Handrails.
- In addition, any employee who is working over the side of a vessel or structure that is extended over water or in any area where a drowning hazard exists will wear an approved flotation vest.

TRAFFIC VESTS

- Employees will wear, as a minimum, an ANSI Class II fluorescent orange or lime traffic safety vest when working within 15 feet of a roadway or in a parking lot. Vests will also be used when directing traffic on all EXCEL sites.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EYE AND FACE PROTECTION SELECTION GUIDE

WELDING GOGGLES
Eyecup Type, Tinted Lenses

WELDING GOGGLES
Coverspec Type, Tinted Lenses

WELDING HELMETS Lens

WELDING GOGGLES
Coverspec Type, Tinted Plate

Welding Operation	Shade Number
Shielded metal-arc welding 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	10
Gas-shielded arc welding (nonferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	11
Gas-shielded arc welding (ferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	12
Shielded metal-arc welding 3/16-, 7/32, 1/4-inch diameter electrodes	12
5/16-, 3/8-inch diameter electrodes	14
Atomic hydrogen welding	10-14
Carbon-arc welding	**14**
Soldering	
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, over 6 inches	5 or 6
Gas welding (light), up to 1/8-inch	4 or 5
Gas welding (medium), 1/8-inch to 1/2-inch	5 or 6
Gas welding (heavy), over 1/2-inch	6 or 8

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FILTER LENSES FOR PROTECTION AGAINST RADIANT ENERGY

Operations	Electrode Size	Arc Current	Min. Shade
Shielded metal arc welding	Less than 3 3 - 5 5 - 8 More than 8	Less than 60 60 - 160 160 - 250 250 - 550	7 8 10 11
Gas metal arc welding and flux arc welding		Less than 60 60 - 160 160 - 250 250 - 550	7 10 10 10
Gas Tungsten arc		Less than 50 50- 150 150 - 500	8 8 10
Air Carbon Arc Carbon	Light Heavy	Less than 500 500 - 1,000	10 11
Plasma Arc Welding		Less than 20 20- 100 100 - 400 400 - 800	6 8 10 11
Torch Brazing Torch Soldering Carbon Arc Welding			3 2 14

Operations	Plate Thickness (inches)	Plate Thickness (millimeters)	Min. Shade
Gas Welding: Light Medium Heavy	 Under 1/8 1 to 6 Over 6	 Under 3.2 3.2 to 12.7 Over 12.7	 4 5 6
Oxygen Cutting: Light Medium Heavy	 Under 1 1 to 6 Over 6	 Under 25 25 to 150 Over 150	 3 4 5

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

EYE SELECTION CHART BASED ON HAZARD INVOLVED

Operation	Hazard	Recommended Protectors
Acetylene - Burning Acetylene - Cutting Acetylene - Welding	Sparks, Intense Rays, Molten Metal Flying Particles	7, 8, 9
Air Operated Power Tools	Flying Particles	4, 5, 6 (10 in severe cases)
Chemical Handling	Splash, Acid burns, Fumes	2, 10 (for severe exposure, add 10 over 3)
Chipping	Flying Particles	1, 3, 4, 5, 6, 7A, 8A
Chop Saw	Flying Particles	1, 10
Electric Arc Welding	Sparks, Intense Rays, Molten Metal	9, 11 (11 in combination with 4, 9, 6 in tinted lenses advised
Furnace Operations	Glare, Heat, Molten Metal	7, 8, 9 (for severe exposure, add 10)
Grinding - light	Flying Particles	1, 3, 4, 5, 6, 10
Grinding - heavy	Flying Particles	1, 3, **7A, 8A, 10**
High-Pressure Water Blasting	Flying Particles Splash	1, 2, 3, 10
Jack Hammering	Flying Particles	1, 10
Laboratory	Chemical Splash Glass Breakage	2 (10 when in combination with 4, 5, 6)
Machining	Flying Particles	1, 3, 4, 5, 8, 10
Molten Metal	Heat, Glare Sparks, Splash	7, 8 (10 in combination with 4, 5, 6 in tinted lenses)
Spot Welding	Flying Particles, Sparks	1, 3, 4, 5, 6, 10
Steam Cleaning	Flying Particles, Sparks	1, 2, 3, 10

Legend:

1. Goggles, Flexible Fitting, Regular Ventilation
2. Goggles, Flexible Fitting, Hooded Ventilation
3. Goggles, Cushioned Fitting, Rigid Body
4. Spectacles, Metal Frame with Rigid Side Shields
5. Spectacles, Plastic Frame with Rigid Side Shields
6. Spectacles, Metal - Plastic Frame with Rigid Side Shields
7. Chipping Goggles, Eyecup Type, Clear Safety Lenses
8. Welding Goggles, Coverspec Type, Tinted Lenses

8A. Chipping Goggles, Coverspec Type, Tinted Lenses

9. Welding Goggles, Coverspec Type, Tinted Plate Lenses
10. Face Shield (Available with Plastic or Mesh Window)
11. Welding Helmets

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Hand Protection

Gloves must be worn while performing hands-on work unless the wearing of the glove would hinder the performance of the job task or would create a hazard.

JOB / HAZARDS / GLOVE TABLE

Job Types	HAZARD	Glove Type
General Purpose /Everyday Use	Cuts/Bumps/Pinches	Leather or vinyl-impregnated
Rigging	Pinches/Sharp Edges	Leather
Sheet Metal	Extremely Sharp Edges	Kevlar Gloves and Kevlar Sleeves
Welding/Oxy Acetylene Cutting	Burns/Sharp Edges/Heat Flames	Welder Gloves
Jack Hammer/Impact Type Equipment	High Vibration	Padded or Shock-absorbing
Boiler/Pipe Shop	Burns/Sharp Edges/Heat Flames	Hot Mill Gloves or Welder Gloves
Carpenters	Pinches/Cuts/Bumps	Leather
FRP	Cuts/Bumps/Solvent	Kevlar/Leather/Rubber
Scaffold Builder	Wood Slivers/Pinches	Leather
Insulators	Dust/Dirt	Cotton or Leather
Knives	Sharp Edges	See Site Specific Knife Policy
Chemicals	Chemical Hazards	Chemical Resistant Specified in Department PPE Program
Masonry	Cement Exposure	Rubber lined
Electrician	Cuts/electrocution	Leather/Kevlar/High Voltage

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Performance Grid for Standard Work Gloves

	General Duty, Rough Objects, Chips Sparks	Highly Abrasive (Carrying Masonry)	Extremely Sharp Edges, Glass, Sheet Metal, Knife Blades	Heat and Flame (Welding, Cutting)	High Vibration (Jack Hammer, Impact Wrench)	Low Hazard (To Keep Hands Clean)	Chemical Hazard (See Chemical Resistance List)
Cotton 8 oz. Canvas	E	F	P	P	P	E	
Cotton 10 oz Plastic Dot Cotton	E	F	P	P	P	E	P
10 oz. Cotton Flannel	E	F	P	P	P	E	P
Reversible String Knit	E	F	P	P	P		
Medium Weight Reversible String Knit	E	F					
Heavy Weight Reversible String Knit	E	E	P	F	P	E	P
Hot Mill 24 oz.	E	E	P	E	F	E	P
Kevlar String Knit	E	E		F	F		
Anti Vibration Glove	F	F	F	P	E	P	P
Denim Back Leather Palm Work Glove	E	E	F	F	F	E	P
Starched Safety Cuff Leather Palm Work Glove	E	E	F	F	F	E	P
Rubberized Safety Cuff Leather Palm Work Glove	E	E	F	F	F	E	P
Double Palm Work Glove	E	E	F	F	F	E	
Plywood Puller's Glove	E	E	F	F	F	E	P
Drivers Glove	E	E	F	P	F	E	P
Welding glove	F	F	F	E	P	E	P
Vinyl Impregnated Work Glove	E	E	P	P	P	E	P
Chemical Gloves (See Below)**							

P=POOR F=FAIR E=EXCELLENT

AU Gloves are rated for abrasion or Heat performance. Dexterity must be determined prior to the selection of the Correct Glove.
** For chemical-resistant gloves, refer to the manufacturer's recommendations, chemical-specific SDS, and or owner requirements for the specific chemical to be handled.
(1) The toxic properties of the chemical(s) must be determined; in particular, the ability of the chemical to cause local effects on the skin and/or to pass through the skin and cause systemic effects;
(2) Generally, any "chemical-resistant" glove can be used for dry powders. For mixtures and formulated products (unless specific test data are available), a glove should be selected on the basis of the chemical component with the shortest breakthrough time since it is possible for solvents to carry active ingredients through polymeric materials and
(3) Employees must be able to remove the gloves in such a manner as to prevent skin contamination.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Exemptions

Examples of activities during which glove use is not normally advised due to the possible increase in hazard are:

- Working with high torque rotating equipment while in operation (does not include handheld power tools that may also rotate, such as side grinders)
- Equipment operation (fork trucks, etc.)
- Using a sledgehammer (certain applications)
- Scaffold material handling from level to level in wet conditions.
- Driving motor vehicles.
- Administrative jobs.
- Using measuring instruments.
- Using a skill saw.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FOOT PROTECTION

TASK/ACTIVITY	HAZARD	REQUIREMENTS
Climbing	Slip, Trip, Fall	Defined heel 1/4" min. - 1-1/2" max.
Welding, Cutting (Hot Work)	Bums from hot sparks/metal	Leather footwear or equivalent
Moving, carrying, and rigging heavy materials	Crush from falling or rolling objects	ANSI Approved hard toe shoes
Jack Hammering	Crush injury from tool/material impact	Shin and metatarsal guards
Any walking/work in chemically contaminated areas	Slip, trip, fall, chemical bums, potential skin irritations, hazardous exposure to chemicals	Refer to the Chemical Protection Selection Guide in Section 7.4 or SDS for a particular chemical.

** For chemical-resistant shoes, refer to the manufacturer's recommendations, chemical-specific SDS, and or owner requirements for the specific chemical to be handled.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

Master PPE Hazard Assessment and Equipment Selection Certification

Completed by:	**Certification Date:**
Rev. Date:	**Modified for:**
Jobsite:	**Site Management:**
Date:	**Job number:**

HAZARD CATEGORIES	SOURCES OF HAZARD	PERSONAL PROTECTIVE EQUIPMENT
Potential extreme temperatures that could result in burns or eye injury		
Potential types of chemical exposures		
Potential sources of harmful dust		

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZARD CATEGORIES	SOURCES OF HAZARD	PERSONAL PROTECTIVE EQUIPMENT
Potential sources of ionizing radiation		
Potential source of falling objects or potential for dropping objects. Potential hazards to the head		
Potential sources of sharp objects that could pierce or cut		
Potential source of rolling and/or pinch points		
Potential sources of electrical hazards		

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZARD CATEGORIES	SOURCES OF HAZARD	PERSONAL PROTECTIVE EQUIPMENT
Potential sources of noise		
Potential elevated work areas		
Potential Confined Spaces		
Potential sources of flying fragments, objects or particles		

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HAZARD CATEGORIES	SOURCES OF HAZARD	PERSONAL PROTECTIVE EQUIPMENT
Other potential hazards for which personal protective equipment is required / may be necessary		

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RIGGING AND LIFTING/PICK AND CARRY REQUIREMENTS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Pick and Carry is defined as lifting a load with the crane and then transporting the load by driving the carrier. This is a task that requires caution and skill. In addition to the manufacturer's instructions, the following precautions should be considered:
    - Boom Considerations
        - The boom should be as short as possible.
        - Boom to be carried in line with the direction of travel.
        - Boom to be "over the front" on rough terrain cranes (carrier engine at the rear), "over the rear" on carrier mounts, and "over the idler end" on crawlers.
        - Boom to be as low as possible with the load close to the carrier.
    - Load Considerations
        - The maximum load should not exceed 75% of the load rating for the "on tires" load chart or, if provided, the "pick and carry" load chart. Check load chart notes and quadrants carefully to see whether travel is permitted and what precautions to follow.
        - The load should be close to the ground.
        - The load should be as close to the crane as possible.
        - The load should be tied back to the carrier (never the boom) if possible or controlled with taglines.
        - Avoid sudden stops or starts. If a crane's travel begins with a sudden start, the load's inertia will tend to keep it at rest, and the carrier may actually drive into the load. If a sudden stop was to occur, the load may swing beyond the allowed radius.
        - The machine should be placed in 4-wheel drive low to ensure smoother starts and stops, and in case ground conditions change, such as inclines/declines, the machine will not have to strain to perform the task at hand. REMEMBER: if the machine is placed in 4-wheel drive after the task is complete, take the machine out of 4-wheel drive.
    - Route Considerations
        - The route should be smooth, firm, and level. If not, de-rate the crane's capacity by 50% of the rubber chart, as ground irregularities will subject the carrier, boom, and suspension ropes to shock loads.
        - Do not move the carrier until everyone is clear of the path of travel.
        - Maximum speed to be per manufacturer's instructions.
        - Move towards the load. Otherwise, the radius will tend to increase.
        - Watch for power lines, underground structures, bad ground conditions, and other hazards. For example, firewater lines, drainage lines, and manways.
    - Tire Considerations
        - Tire size and type must be per the crane manufacturer's specifications.
        - The tires must be in good condition.
        - Tires are to be installed per the crane manufacturer's specifications for lifting.
        - Proper tire inflation is required.
    - Swing Brake Considerations
        - The swing brake must be set.
        - Exercise caution to avoid undesired free swing when releasing the swing brake prior to engagement. Engage the swing brake clutch before releasing the brakes.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Some manufacturers recommend setting the swing lock (house lock) as well as the swing lock because the brake is not positive and may allow the upperworks to swing. Doing so, however, may create problems if it is necessary to swing the upperworks. It may not be possible to release the lock easily.

- Unlevel Ground Considerations
  - De-rate the crane's capacity by 50% of the rubber chart, as ground irregularities will subject the carrier, boom, and suspension ropes to shock loads.
  - Move the load in stages. Pick up the load, boom it out, lower it to the ground, then move the unloaded crane up to the load and repeat the procedure. (This is called leapfrogging.)
  - The load should always be on the uphill side of the crane.
  - Do not swing the crane unless necessary to keep the boom facing uphill. Remember that the boom is very sensitive to side loading.
  - If a swing is necessary, stop the carrier, put the machine in neutral, apply the parking brake, and then swing.
  - Block the tracks on crawler cranes when moving uphill, and be sure the tracks are blocked to prevent downhill movement before shifting the steering clutches.
  - Try to place loads on the uphill side of the crane, but be very careful to ensure that neither the boom nor the crane becomes unstable upon release of the load. Its weight might be the only thing preventing the boom or the crane from toppling or tipping backward.
- Escorting Requirements
  - All travel routes shall be escorted, and a flagman/spotter shall be used to assist in the safe movement. Multiple flagmen/spotters may be necessary due to the size of the load, length, and roadway congestion. All flaggers/spotters must have, as a minimum, an orange vest, flag, and either a whistle or an air horn.
- Environmental Considerations
  - Refer to the owner's manual of the crane or the policy of the plant for a more in-depth view of the environmental considerations pertaining to safe crane operations (inclement weather, wind speed). Abide by the more stringent of the two.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CRANE OPERATION AND CONTROL

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

CRANE SAFETY

- Rated load capacity charts, recommended operating speeds, special hazard warnings, and other essential information must be conspicuously posted on all cranes, hoists, and other equipment. Follow them at all times. Employees shall comply with the manufacturer's specifications and limitations applicable to the operation of any and all cranes and derricks. Where manufacturer specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a qualified engineer competent in this field, and such determinations will be appropriately documented and recorded. Attachments used with cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer. Instructions or warnings shall be visible to the operator while he/she is at the control station.
    - Never attempt to lift more than the rated capacity of the machine or its rigging.
- Operators must take signals from only one person. In an emergency, however, anyone can give a STOP signal.
    - Only standard hand signals will be acknowledged. Hand signals to crane and derrick operators shall be those prescribed by the applicable ANSI standard for the type of crane in use. An illustration of the signals shall be posted at the job site or on the machine.
- Routine maintenance, fueling, or repairs must not be performed while the equipment is in use.
    - Check the load line thoroughly. In the running line, if there are six randomly distributed broken wires on one lay or three broken wires in any one standard in one lay, the line should be taken out of service. If there is wearing of one-third of the original diameter, kinking, crushing, bird caging, or other distortion of the rope structure, the rope should be taken out of service.
    - Certification records, which include dates of inspection and the signature of the person who performed the inspection, shall be kept and maintained. The identification of the rope inspected will be included in the records. Ex: Monthly Crane Inspection and Monthly Hook Inspection
- Accessible areas within the swing radius of all cranes must be barricaded to prevent employees from being crushed by the counterweight.
- A fire extinguisher, rated at least 5 BC, must be located in the cab of each crane.
- Safety latches are required on all crane hooks. Taglines are mandatory when handling loads.
- No crane or other equipment shall be operated within 20 feet of electrical transmission or distribution lines.
    - For a line over 50 KV, the minimum clearance between the lines and any part of the crane or load must be twenty (20) feet plus 0.4 inches for each 1 KV over 50 KV.
    - A designated employee must observe clearance of the equipment and give timely warning for all operations where the operator's vision is obstructed.
    - Any overhead line must be considered energized unless it is disconnected and physically grounded.
- The operator must avoid swinging loads over workmen's heads.
- When machines are equipped with outriggers, they must be extended fully to realize the machine's full capacity. Outrigger mats shall be used during all lifting operations.
- Never leave your machine with a load suspended unless in an emergency situation or evacuation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- When all outriggers are fully extended, the rig must be completely off the ground, or the rubber chart MUST be used.
- A competent person shall be designated to inspect and document all machinery and equipment prior to use and on a monthly basis to make sure that it is in safe operating condition. All safety devices shall be in working order before operations begin. Any defective equipment will be repaired before continued use. A record of the results of this inspection will be maintained by the Rigging Superintendent or Site Superintendent and must be on record at the project.
- Before repairs are started, "Out of Order" signs must be placed on the crane to be worked on.
- Certification records, which include the date of inspection and the signature of the person who performed the inspection, shall be kept and maintained.
- A thorough, annual inspection of all hoisting equipment will be made by a competent person or by a government or private agency recognized by the U.S. Department of Labor, and a record of the date and result of this inspection must be maintained in job site records with a copy given to the Human Resource Department. (Annual OSHA Inspection)
    - Cranes used in marine applications require annual certification by a government-licensed instructor.

OPERATOR HEALTH QUALIFICATIONS

- The operator may have no physical impairment or otherwise limiting characteristics.
- Operators must meet the physical qualifications, pass a physical and written examination, understand and be able to use a load chart and calculate loads for the crane type.
- Whenever an internal combustion engine exhausts in an enclosed space, tests shall be made and recorded to see that employees are not exposed to unsafe concentrations of toxic gases or oxygen-deficient atmospheres.

CRANE SELECTION

- The crane must be of sufficient capacity and proper type (crawler or transit, mechanical, or hydraulic) to fulfill all requirements of the work without endangering personnel or equipment. All crawler, truck, or locomotive cranes in use shall meet the applicable requirements for design, inspection, construction, testing, maintenance, and operation as prescribed in the ANSI B30.5-1968, Safety Code for Crawler, Locomotive, and Truck Cranes. The certification records, which include the date the crane items were inspected, the signature of the person who inspected the crane items, and a serial number or other identifier for the crane inspected, shall be prepared.

CRANE ASSEMBLY AND DISASSEMBLY

- One must comply with all manufacturer specifications regarding assembly and disassembly.
- The work will be directed by an A/D (Assembly/Disassembly) director. The A/D director must meet the criteria for both a "competent person" and a "qualified person" or must be a "competent person" assisted by a "qualified person."
- The A/D director must understand the applicable procedures.
- The A/D director must review the procedures immediately prior to beginning work unless they understand the procedures and have used them before for that equipment type and configuration.

CRANE SET-UP

- The equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the equipment manufacturer's specifications for adequate support and degree of level of

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

the equipment are met. The requirement for the ground to be drained does not apply to marshes/wetlands.

- If the lift director or the operator determines that ground conditions do not meet the requirements, the supervisor must have a discussion with the controlling entity regarding the ground preparations that are needed so that, with the use of suitable supporting materials/devices (if necessary), the requirements can be met. If there is no controlling entity for the project, the requirement must be met by the employer that has authority at the site to make or arrange for ground preparations needed to meet the requirements.

CRANE OPERATIONS

- Only NCCCO or NCCER-qualified/certified operators will be allowed to operate cranes for EXCEL.
- The operator must comply with all manufacturer procedures applicable to the operational functions of equipment, including its use with attachments.
- Crane operation will only be conducted by qualified persons.
- All outriggers on all mobile cranes will be set, and the crane will be leveled for all lifts. (Exceptions to this must be approved by the Rigging Department.)
- "Walking" of suspended loads should be avoided. Where necessary to do so, the following applies:
    - Investigate the route to be followed for solid and level footing.
    - Tie the load to the frame of cranes or use tag lines.
- The procedures applicable to the operation of the equipment, including rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions, annual OSHA inspection, and operator's manual, must be readily available in the cab at all times for use by the operator.
- The weight of the load must be positively identified prior to handling. Check brakes and machine stability when the load is still only inches above the ground.
- The operator has the authority to stop the lift when he feels conditions are inadequate or unsafe. Once this has happened, a qualified person shall determine that safety has been assured.
- Spreader bars, pad eyes, personnel baskets, and lifting devices of all kinds will be submitted to engineering for approval and stamps.
- All lifting and hoisting equipment should be assigned to or through the Rigging Department. No modifications or additions that affect the safe operation of the equipment may be made without written approval from the manufacturer or a registered professional engineer.
- When leaving the control station of a machine, the following precautions should be observed.
    - Disengage the master clutch or shut off the engine.
    - Lower the bucket or crane load to the ground.
    - Set safety pawls on all drums where these are manually operated.
    - Set the swing brake and both traction brakes and/or locks to prevent machine movement.
    - Do not get on or off a machine when it is in motion. Adjustments, repairs, or lubrication are not permitted on moving machinery.
    - No toolboxes, oil cans, choker racks, water coolers, or similar additions may be placed in the barricaded radius of the swing or the counterweight where a person could conceivably be crushed. (Swing radius barricades must be in place).
- All crawler-type equipment shall not be moved unless a designated flagman is in full view of the operator giving signals. This person (s) shall have an orange flag, vest, whistle, and an air horn if in a loud area. Flashlights will be used at night if need be as a visual aid for the operator.
- Accessible areas within the swing radius and that of the superstructure of the crane will be barricaded to prevent an employee from being struck or crushed.

CRANE WORK NEAR OVERHEAD ELECTRICAL DISTRIBUTION AND TRANSMISSION LINES

- Before beginning equipment operations, you must identify the work zone by:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Demarcating boundaries (such as with flags or a device such as a range limit device or range control warning device) and prohibiting the operator from operating the equipment past those boundaries or defining the work zone as the area 360 degrees around the equipment, up to the equipment's maximum working radius.
- When it is determined that any part of the equipment, load line, or load (including rigging and lifting accessories), if operated up to the equipment's maximum working radius in the work zone, could get closer than 20 feet to a power line. If so, you must meet the requirements in the following options.
  - Option (1) – De-energize and ground. Confirm from the utility owner/operator that the power line has been de-energized and visibly grounded at the worksite.
  - Option (2) – 20 foot clearance. Ensure that no part of the equipment, load line, or load (including rigging and lifting accessories) gets closer than 20 feet to the power line by implementing the measures specified in paragraph (b) of this section.
  - Option (3) – Table A clearance.
- Table A – Minimum Clearance Distances Voltage (nominal, kV, alternating current) Minimum clearance distance (feet)
  - up to 50 - 20'
  - over 50 to 200 - 25'
  - over 200 to 350 - 30'
  - over 350 to 500 - 35'
  - over 500 to 750 - 40'
  - over 750 to 1,000 - 50'
  - over 1,000 (as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution)
  - Note: The value that follows "to" is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.
  - In this event, the Lift Director or his designated representative, the Project Superintendent or his designated representative, and the Manager of Safety are to be contacted.
  - The same applies to subcontractors, except the approval will come from the inspector following the work of the contract, the Electrical Department Superintendent or his designated representative, the General Superintendent of the area in which the work is to be performed, and the appropriate Client personnel.
  - When working around power lines and other electrical sources, a nonconductive rope should be used as a tagline.

HANDS SIGNALS

- A signal person is required for all crane and lifting activities.
- It is important that the operator and his signalman work together as a team. The operator must pay close attention to the signalman.
- Quick and understandable communication between the signalman and the operator is required for safe and efficient operation.
- The standard hand signals are shown on the following page. Both the operator and the signalman should know them.
- Use radios if needed for working in blind areas. Radios must be on a clear and separate channel with no outside interference. If interference is observed at any time, all activity is to be stopped until it is deemed safe to continue with the lift.

DEFINITIONS OF CRITICAL OR PERMITTED LIFT

- Lift which exceeds 75% of the rated capacity of equipment, as determined by the load chart. (This is the net load.)
- Any lift made over or adjacent to an operating unit or pipe rack (i.e., fuel, feed, or product lines)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Any lift made where personnel is hoisted in a personnel basket (must have a personnel basket checklist completed prior to issuing or being issued a permit.
- Lifts over 25 tons.
- All jib lifts over 10 tons (lattice) and 5 tons (hydraulic), or 75% of the chart.
- Lifts requiring two or more cranes.
- Lifts involving walking loads over 10 tons.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

THE FORMAL LIFT PACKAGE CONSISTS OF THE FOLLOWING:

COVER:

- Description of lift
- Weight of lift
- Date of lift

INSIDE COVER:

- Plot Plan Drawing
- Crane Data
- Rigging Diagram

FIRST TAB:

- EXCEL Critical Lift Sheet
- Copy of crane load chart
- Copy of crane annual OSHA
- Copy of hook inspection
- Copy of operator certs: i.e., NCCCO or NCCER

BACK OF FIRST TAB:

- Rigging Data with Certs.
- Rigging Capacities
- Certificate of Inspections

SECOND TAB:

- Load Drawings
- Weight Documentation
- Lug Calculations
- PT Reports

REMAINDER OF TABS: MISC. INFO.

* Once ALL paperwork is signed, DO NOT deviate from the original lift plan. All Critical Lifts must be sent in for approval 1 week before the actual lift for review. ANY deviation from the lift plan must be approved before continuing. Once it's signed, this is a legally binding document.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Mobile Equipment Spotter and Escort Policy

The following policy applies to the movement of all mobile equipment, including but not limited to aerial lifts, forklifts, and cranes. Failure to follow these procedures could result in disciplinary actions up to and including termination.

PLANT ROADWAY MOVEMENT

1. Be present at all times while the mobile equipment is in operation to ensure all clearances are maintained and to prevent personnel injury and property damage. Shall use an orange vest, flag, whistle, or air horn in noisy environments while performing these tasks
2. Ensure that the mobile equipment has been inspected for defects and is capable of performing the job intended. If any deficiencies are found, they must be reported and corrected before continued use.
3. Have and understand the signals and communication with the operator.
4. Ensure that the work area (ground level and lift platform) is free of obstruction and debris.
5. Make sure that other personnel are not working underneath or inside a barricaded area.
6. Maintain and keep up barricaded area and barricade equipment.
7. Signal operator for direction when moving, especially in or around tight corners.
8. Make the operator aware of hazards not visible to him.
9. Maintain visual contact with the operator at all times.
10. Before moving cones and barricades, the operator must be made aware.
11. It is the duty of the escort/spotter to know and be able to properly operate the ground controls of any mobile equipment equipped as such.
12. Be able to quickly locate and use emergency fire equipment (fire extinguisher).
13. The spotter shall have the final determination about when it is safe to move or relocate the mobile equipment along roadways.
14. Traffic cones and barricade tape shall be used to isolate the mobile equipment once it is in place and prior to the beginning of elevated work. A perimeter shall be established by the use of four traffic cones (minimum), with barricade tape completely surrounding the equipment, using the cones as the barricade support.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

STEEL ERECTION AND DISMANTLING

SCOPE

- This procedure will apply to all employees and subcontractors of EXCEL.

GENERAL REQUIREMENTS

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- A 100% fall protection means no exposure to any fall without protection by means of lifelines, etc., or catch platforms. It is required for all jobs when workplaces are more than 5 feet above grade or lower levels.
- Safety harnesses will be used and inspected in accordance with this manual.
- Section 10.20 on Floor/Wall Openings will be strictly adhered to during all phases of steel erection and/or dismantling.
- Proper eye protection will be worn whenever there is an eye hazard job being performed.
- Containers will be used for storing any loose materials (bolts, drift pins, tools, etc.), and the container will be tied off to prevent falling.
- “DANGER - MEN WORKING ABOVE” signs and barricades (if applicable) will be erected on lower exposed levels to keep unauthorized personnel out of the area.
- Impalement hazards such as rebar must be removed or covered if they endanger persons working in elevated areas.
- Impact wrenches must be provided with a locking device for retaining the socket.
    - At no time will groundwork be allowed directly below any steel erection and/or dismantling operation.
    - Tools will be tethered and secured to the structure if dropping them would endanger persons below.

    When bolts or drift pins are being knocked out, some means will be provided to keep them from falling.

STRUCTURAL STEEL ASSEMBLY AND ERECTION

- During the installation of structural members, the load will not be released from the hoisting line until the member is secured at each connection with at least two bolts, wrench tight.
    - It is feasible to attach a free-standing lifeline to structural steel members while still on the ground. This allows 100% fall protection.
- Tag lines will be used to control loads.
    - A “Christmas Tree” load, or having several structural members suspended one below the other, is not a safe work practice.
    - Wind loading on large structural members must be considered for the safety of the tagline holder.
- Turnbuckles used to assist “plumbing-up” shall be secured to prevent unwinding while under stress.
    - Plumbing-up guys and related equipment shall be removed only under the supervision of a competent person.

FLOORING REQUIREMENTS

- The permanent floors shall be installed as the erection of structural members progresses.
- At no time will there be more than four floors (or 48 feet) of unfinished bolting or welding above the foundation or uppermost permanently secured floor.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- A safety cable of 1/2” wire rope (or equal) shall be installed 42” high with a middle rail around all temporary planked or decked floors during steel erection.
    - Visibility streamers (12” pieces of barricade tape work well) will be tied to cable handrails approximately every 10 feet.
    - Extreme caution must be used on partially completed stairways. If any steps are in place, you must have a substantial barricade (scaffold bar, 2x4, etc.) in place until the stairs are completed and safe for general use. The barricade must be properly tagged to identify the hazard and who installed the barricade.
- All unused openings in floors (permanent or temporary) must be protected.

DISMANTLING STEEL STRUCTURES (GENERAL)

- When more than one crew is to be involved in a dismantling job, the responsible superintendent must appoint one foreman as coordinator.
    - Each foreman must be certain that his men know exactly what part each plays in the operation.
- If a bolt crew prepares the structure for a dismantling crew, they must leave at least two bolts in each connection in a pattern that prevents rolling when walked on.
- If partial cutting of structural members is to be done prior to actual dismantling, the superintendent or coordinating foreman must approve (and supervise) the amount to be cut.
- Tag lines are recommended to be on both ends of beams being removed from structures until the center of gravity is found.
- Only a very slight strain should be taken on a load line before burning off (or unbolting) completely.
- Load falls must always be kept plumb.
    - With men in the structure, while dismantling, the chance of the beam swinging because the falls are out of plumb must be avoided.
    - “DANGER - MEN WORKING ABOVE” and ground barricades must be used during any dismantling job.
- NOTE: These are basic ironworking safety regulations only. Competent supervision or the Safety Department should be contacted for additional requirements.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RIGGING

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

LIFTING WITH HOISTING EQUIPMENT (DO'S AND DON'TS)

DO'S	DON'TS
DO give safety first consideration in all handling of materials.	DON'T neglect to put safety first in all material handling.
DO know the weight of the piece being lifted.	DON'T lift a piece without knowing its weight.
DO know the capacity of lifting equipment and the method it is to be used.	DON'T make a lift without knowing the capacity of lifting equipment and the method it is to be used.
DO familiarize yourself with the types of slings available for the safest lifting.	DON'T try to make one type of sling do everything.
DO inspect lifting equipment before and after it is used to make certain it is in good condition.	DON'T take maintenance inspection for granted.
DO report any lifting equipment that appears to be unsafe. Tag it out and take it out of service.	DON'T leave lifting equipment that appears to be unsafe where someone else can use it.
DO remove damaged lifting equipment so it cannot be used to make another lift.	DON'T use lifting equipment that is damaged to lift loads lower in capacity than the original rate of capacity of the equipment.
DO report all accidents causing damage to lifting equipment, operating equipment, and products.	DON'T neglect to report accidents even though you might feel there is no danger.
DO store lifting equipment in proper racks and places so it does not become damaged. Take it out of the weather.	DON'T leave lifting equipment at locations where it can be accidentally damaged by bending, cutting, or crushing.
DO have the operator refuse to move a load if he is not satisfied with the way the load is attached.	DON'T let anyone overrule the judgment of the operator. Higher authority should be considered. Remember, the operator has the final say.

PROPER USE OF CHAIN AND WIRE ROPE (DO'S AND DON'TS)

DO'S	DON'TS
DO protect the sling from cutting action in making a lift by using padding, blocks, or corner protectors. Secure all softeners so they do not fall to the ground or damage the rigging or equipment.	DON'T subject the sling to cutting action by making contact with sharp edges.
DO avoid tip-loading hooks.	DON'T point load (tip load) standard sling hooks.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DO choose a sling one size larger where conditions will subject the sling to severe wear, abrasion, impact, or corrosive conditions.	DON'T underestimate the conditions a sling might be subjected to.
DO select the proper style hook or attachments. Do make sure the safety latches are working properly.	DON'T subject hooks or attachments to a bending action.
DO stand clear while a sling is being drawn from beneath a load. Hooks and slings may catch and suddenly fly free or tip the load.	DON'T let the load lay directly on a sling wrapped around a load (lower the load on proper blocking).
DO, when making choker hitches, always face the hood opening out and away from the pull of the sling.	DON'T assume in a choker hitch that the hook is going to stay in place when slack is being taken out of the sling.

FITTINGS - HOOKS, SHACKLES (DO'S AND DON'TS)

DO'S	DON'TS
DO check fittings for cracks, nicks, bending, or excessive wear.	DON'T use any fitting that shows cracks, nicks, bending, or excessive wear.
DO check the hook throat opening to determine if the hook has been point-loaded or overloaded.	DON'T use a hook that appears to have been spread open. An increase in the hook opening should be reported, and the hook should be removed from service.
DO avoid tip-loading hooks.	DON'T ever point load a standard eye hook or sling hook. (This reduces the safe working load drastically.)
DO not use any hook that has been welded or burned in any way. Report the condition immediately, tag it out, and take it out of service.	DON'T weld anything to a hook.

SHACKLES (DO'S AND DON'TS)

DO'S	DON'TS
DO make certain the bolt in a screw pin shackle turns easily, and then tighten it. (Clean the threads with a wire brush and use oil on the threads.)	DON'T use any screw pin shackle where the bolt is very difficult to turn. (The pin is either bent due to overload or the threads have been damaged.)Tag out and take out of service.
DO use safety shackles wherever possible. (They are safer.)	DON'T use round pin shackles in preference to safety shackles or screw pin shackles.
DO use the largest bearing surface possible on the shackle pin. This will reduce the bending movement on the pin.	DON'T use a bearing surface that is too small in the center of a shackle pin. Remember the D/d ratio.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PROPER USE OF NYLON WEBBING SLINGS (DO'S AND DON'TS)

DO'S	DON'TS
DO inspect the surface and stitching of the sling for cuts and abrasions.	DON'T attempt to inspect the inside nylon fibers of the webbing. This is not necessary because these fibers are protected by the outside fibers, and it may damage the sling.
DO use nylon slings in the presence of oils, greases, hydrocarbon, and degreasing solutions.	DON'T use nylon slings in acid pickling solutions and concentrated alkaline solutions. (Dacron or Polypropylene webbing slings are normally used in these solutions.)
DO use nylon slings or wire cloth slings for higher temperatures.	DON'T use nylon slings at temperatures above 250°F.
DO inspect hoist hooks to make certain they are smooth.	DON'T use nylon slings that are gouged or nicked on hoist hooks. (There could be sharp edges that could cut the sling.)

INSPECTION OF WIRE ROPE

- Wire rope inspections should never be routine, casual, or superficial. One of the difficult problems confronting the inspector is deciding when a wire rope has reached the limit of its safe usage and when it must be discarded. Naturally, it is poor economy to discard an expensive hoisting rope before it is necessary. Likewise, it is dangerous and may prove even more expensive to continue its use beyond a certain stage.
- The following illustrates the major classifications of wire rope abuses. The effects and causes are not complete but serve to indicate general areas where the most damaging situations exist.

EFFECT	CAUSE
Crushed or bruised	Crossover on drums Poor drum winding practices Pinching of rope Peening against equipment
Doglegs and kinks	Jumping sheaves Operating over small diameter sheaves Pulling out loops in line when slack, causing either open or tight kinks Lifting sharp-cornered objects without corner protection Bad drum winding Dividers on drums
Corrosion and rust	Lack of lubrication Corrosive fluids Atmosphere
Popped core	Momentary compression force on the rope which pushes strands apart Hitting the fluid in a well at high speed Bending over small sheaves Crushing on drum
Excessive abrasion	Improper reeving Pinching grooves Improper alignment of sheaves

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

	Presence of abrasive material
Broken wires	Fatigue from excessive bending over small sheaves Martensive developed from sliding or striking rope against some object which causes sparking Surface wear (creep) Collapse of core due to overloading Either small sheaves or reverse bends Restriction of movement of strands due to pinching grooves Vibrations set up by faulty bearings Broken sheaves or drums Excessive rope speeds Corrugated sheaves
Bird Caged	Too sudden release of load
High strands	The condition starts in some localized area such as dogleg, crushed section, improperly attached end fittings, or splices
Failure at socket	Poor socket design, wrong size wedge used or socket deformed from consistent overloading
Marked reduction in diameter	Excessive abrasion External or internal corrosion Overloading
Cut or sheared wires	Mechanical abuse caused by agents outside the installation or by something abnormal or accidental on the installation itself
Slide wear on the rope	Roper operated with sheaves or drums out of proper alignment
Overstressing	Sudden application of load to slack rope Too rapid acceleration of the load Jerking Impact from the sudden stopping of the load
Increase in the lay	Overloading Load allowed to rotate freely

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

APPLYING WIRE ROPE CLIPS

- The U-bolts of all clips should always be on the short (dead) end of the rope. Tighten nuts evenly to the manufacturer's recommended torque. Before lifting, be sure that all clips have been torqued. After lateral lifts, retorque all clips.

Number and Spacing of U-Bolt Wire Rope Clips

Improved plow steel, Rope diameter inches	Drop Forged	Other Material	Minimum Spacing (inches)
1/2	3	4	3
5/8	3	4	3-3/4
3/4	4	5	4-1/2
7/8	4	5	5-1/4
1 - 0	5	6	6
1-1/8	6	6	6-3/4
1-1/4	6	7	7-1/2
1-3/8	7	7	8-1/4
1-1/2	7	8	9

GENERAL PRECAUTIONS FOR RIGGERS

- Know the safe working capacity of all rigging and equipment. Do not exceed this limit.
- Know the load weight - this includes the weight of the rigging. Avoid sudden snatching, swinging, or stopping of loads.
- Inspect all rigging before use and, as a necessity, remove any defective equipment from service. When not in use, rigging equipment shall be removed from the immediate work site.
- When the temperature is below freezing, extreme caution must be exercised to prevent shock loading any rigging. Brittle fracture of the steel can occur at these temperatures.
- The most frequent killer in the rigging department is electrocution caused by contacting overhead power lines. Always maintain at least a twenty (20) foot safe working distance from any power line. Discontinue operations during thunderstorms.
- Always keep the load line plumb to maintain a stable load.
- When using slings:
    - Never use kinked or otherwise damaged slings.
    - Each sling should be marked with its rated capacity. If there is no tag, take it out of service.
    - Never sharply bend a sling -- it will kink it, permanently weakening it. Remember the D/d ratio.
    - Whenever two or more rope eyes are placed over a hook, use a shackle with the shackle pin resting on the load hook. This will prevent the spread of the sling legs from opening the throat of the hook. The maximum angle on a shackle is 120 degrees.
- Loads must be kept under control at all times. Tag lines should be used to stop spinning or guide the load.

- Loads must be safely landed and stable before unhooking. Chocks, blocks, or other means must be used to prevent the movement of materials while hooking or unhooking.
- Stay clear of slings when they are being pulled out from under a load. The hook may catch and suddenly fly free.
- Do not give signals to the operator unless it is an emergency stop or you are the designated signalman.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Always use a double sling when rigging loads like pipe, rebar, or lumber over 12 feet long.
- Never ride the load or headache ball.
- Stay out from under-suspended loads.
- Do not swing a load over someone.
- Keep your hands off suspended loads whenever possible.

RIGGING COMPLIANCE CHECKLIST

- Safety is a continuing concept, requiring daily attention to every detail. It takes only an instant to become "unsafe," and this very instant may cause an accident or injury. The following rigging checklist is an important tool in your daily safety efforts and establishes the minimum requirements to be followed prior to making a lift. All work must be performed in a safe manner. Your safety and the safety of others depend on YOU.
    - Lifting equipment in general condition - Inspect all equipment for proper working condition. Check for damaged cables, safety devices, fluid levels, and operator qualifications.
    - Verify load weight - Know the weight of the load to be lifted. Check vendor drawings or equipment tags for shipping weights. If necessary, estimate weights from material weight charts or do a material weight take-off.
    - Check equipment capacity - Calculate motorized equipment capacity from approved load charts. Check equipment tags for rated capacity. If not legible, take out of service.
    - All outriggers are down and locked. Be sure all equipment outriggers are down and locked on mobile cranes. Check for proper outrigger matting when required.
    - All safety latches and guards are in place. Inspect safety latches for proper operation, eliminating the hook throat opening. Be sure all guards are in place.
    - Shackle capacity - Verify shackle size, which is imprinted on the side of the shackle. Use your shackle chart to determine adequate safe load capacity.
    - Rig load for proper balance - Calculate load center of gravity. When in doubt, use multiple sling rigging. When doing so, if chain falls or come-a-longs are used, make sure to use a back-up sling that is close to the length of the chain fall or come-a-long that is being used at the needed length and needed capacity to match.
    - Position load line overload center - The load line position should be such that the load cannot swing into personnel or equipment.
    - Secure the load from swinging free - When lifting a load free from a previously anchored position, such as cutting out piping that has been in service, removing equipment from foundations, or dismantling structural members, attach a security device such as a come-a-long chain fall, rope, or all thread with nuts.
    - Tag line installed and manned - Have a tag line installed and adequately manned before attempting to swing or transport any load. It must be free of any knots.
    - Plan the sequence of the work - Have your lift planned, including the swing path and lay-down area. Review this work sequence with your flagman, operator, and tagline personnel. Make sure all involved fully understand the sequence of events prior to making the lift.
    - Be sure to maintain at least a 20-foot clearance from any electric service lines. If you need to get closer than 20 feet, permission must be obtained from the electrical department, and distance and voltage must be verified before continuing.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CHAIN FALLS AND COME-A-LONGS

SCOPE

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Workers have to rely on special lifting, hoisting, and equipment moving tools to handle and control loads. Much of our work requires moving equipment and materials that can seldom be lifted by hands alone.
- These portable hand hoists are very useful. Knowledge of the following portable hoisting tools and their safe use can save you much time in performing work duties and make lifting and pulling bulky items an easier task.

GENERAL

- Chain falls and come-a-longs are designed to be operated by one person only. If it takes two to raise or move a load, chances are the load is greater than the capacity of the lifting device or the device has malfunctioned. Never wrap the chain around the load.
- Know the weight of the load and capacity of the lifting device. DO NOT EXCEED!

CHAIN FALLS

- Lifting chain falls are low-speed, geared for precision lifting, and have built-in, no-slip breaks. There are two lifting hooks; one swivel hook is mounted on the housing, and the other is located at the end of the lifting chain. Chain falls are available in a variety of weight capacities ranging from 1/4 ton to 10 tons with assorted pulling chain lengths for longer reaches to the work area.
- Chain falls are designed primarily for vertical lifting. The lifting hooks on the housing and chain are tempered but can be bent or partially straightened and must, therefore, be provided with a safety clip latch to prevent hooks from being dislodged. Before making a lift with the chain fall, be sure the load is rigged properly, and the lift area is barricaded and free of personnel. Make all lifts true vertically to prevent shifting, swaying load, and undue wear on the hoist. Never use a chain fall for a horizontal pull. The designed chain sprocket engagement will not be obtained.

COME-A-LONGS

- This compact hoist offers use in close quarters, toolbox-size storage, and versatility in almost any lifting and pulling situation.
- The come-a-long is more popular because of its heavy-duty construction and greater lifting ability. The lifting chain or cable is moved by a ratchet lever. The lever has three positions: Forward for lifting or pulling, neutral for free gear travel, and reverse for lowering or releasing tension.
- Come-a-longs have one hook attached to the gear housing and one at the end of the lifting chain or cable. They are available in various lifting chains and cable lengths for longer-reaching pulls and lifts. They range in capacities from 1/4 ton to 6 tons.

USE

- Considered the most versatile of the hand-operated hoists, the come-a-long can be used in vertical lifting, pulling, and binding on any plane and in tugging heavy objects. Pulling or releasing is accomplished by a ratchet movement of the hand lever, even under tension. Therefore, if it takes two men to crank the hand lever, the hoist is overloaded for the job. Avoid using cable-type lever hoists if the cable is frayed or damaged. Never use a cheater bar on the handle of the come-a-long.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RIGGING AND LIFT PLAN / PROCEDURE REQUIREMENTS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The purpose of this procedure is to provide Excel employees with minimum requirements for completion of a Rigging and Lifting Plan.
- It shall be the policy of all Excel employees to adhere to all safe work practices associated with load rigging as outlined in this policy and any other Company, OSHA, client, or federal policy that may apply.
- Because of the serious consequences that result from a load being mishandled, persons responsible for rigging procedures must take into consideration all factors of each job before starting the lift.
- Basic rigging requirements can be found in the OSHA standards of subpart C.C. as specified in 1401, 1404, 1425, and 29 CFR 1926.
    - Compliance with the OSHA standards alone is not sufficient for best rigging and good risk management.
    - Compliance with the ANSI / ASME standards and the manufacturer's recommendations are critical as well.
- Determining factors of a lift are as identified below:
    - The task to be performed
    - The sequence of actions necessary to perform the task
    - The procedure(s) required
    - The person responsible for the task
    - The location of lifting and/or moving tasks
    - The tools and equipment required to perform the lift
- Rigging and lifting of loads shall be performed by qualified personnel only.

RESPONSIBILITIES

- It shall be the responsibility of the site supervisor to ensure the requirements of this policy and/or any other policy that may apply are met.
- In addition, it shall be the responsibility of each company employee to practice safe work habits and comply with the requirements of this procedure.

RIGGING AND LIFT PLANS

- Lifts are to be planned so personnel involved with the lift are aware of the lifting sequences and the hazards associated with lifting with a pre-lift meeting.
- Loads greater than 25 tons in net weight require the development of a formal, written lift plan.
- Loads exceeding 75% of the crane's rated capacity and lifts requiring the use of more than one crane required the development of a written lift plan not to exceed 95% of crane capacity. Above 95%, a larger crane must be utilized. Any lift greater than 1,000 tons will require third-party review before lifting. All critical lift plans must be turned in a week before the lift for review.
- Lifting personnel basket requires the development of a written and approved lift plan.
- The site supervisor shall assign the responsibility of preparing and monitoring lift plans to a specific individual in charge of all lifting operations (Lifting Supervisor / Competent Person).
    - This person shall be a company supervisor and shall be responsible for the safe handling and rigging of all loads and verifying the information on the lift plan. (Ex. Radius, boom length, counterweight, rigging, etc.)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - This individual shall be a qualified rigging person as deemed by the company based on previous experience and training.
  - The lifting supervisor shall prepare a separate lifting plan for each different type of lifting operation, which covers each specific lifting operation.
- The lifting plan shall include but not be limited to the identification of each piece of operating equipment to be used by type, rated capacity, and identification number, i.e., serial number.
- In addition to Item "E" above, the basic lifting plan shall include the following information:
  - Identification of slings, lifting bars, and other lift accessories/assemblies by serial number.
  - List all rigging accessories/materials with serial numbers identified by type and capacity, which are required in the lift (Ex. Chain falls and come-a-longs, shackles, turnbuckles, etc.)
  - Identification and description of the item to be lifted with weight, dimensions, the center of gravity (Ex. Vendor drawings, shipping tickets), and method of calculation of the center of gravity and total hook load.
  - Rigging sketches showing all lifting points, load vectors, sling angles, accessories, methods of attachments, boom angles, crane orientations, limitations to be applied on any equipment or rigging accessories, and any other factors affecting the capacity of equipment and accessories to be used in the lift.
  - The lifting plan shall also include instructions to be given to equipment operators, which shall include, but not be limited to, boom and swing angles, sequence of equipment moves, coordination with movement of other equipment at each step of the lift, weights of loads, etc.
  - Identification of persons who will have field responsibility for supervising and monitoring the lift.
  - Requirements for specific tests to be made before, during, and after the lift, i.e., load tests or practice lifts, ground compaction, dye check, PT reports, insulations of electrical lines, etc.
  - Surveillance procedures, checkpoints, instruments, and indicators will be used to ensure the lift proceeds according to plan, and the capacity of the equipment has not been exceeded.
  - Inspection and test certification period of the equipment to be used for the lift. (Ex. Crane's annual OSHA inspection, hook dye test, cable inspection, and crane's daily inspection.)
  - The presence of any hazardous materials, i.e., electrical lines or pressurized pipelines in the lift area, both underground and above ground, etc.
- The lifting supervisor shall hold a meeting to review the lifting plans with all personnel associated with or affected by the lift, including, but not limited to, company employees and client personnel.
- The lifting supervisor shall confirm that all equipment operators and riggers involved with the lift are fully trained, qualified, and capable of performing the tasks assigned.
- A new lift ticket shall be completed every time the crane moves location. All lifts less than or equal to the most critical lift performed during the duration of the shift may be covered under the lift ticket of the most critical lift performed during that shift. A new lift ticket will be completed if the need arises for a more critical lift (weight, radius, or rigging changes).

DOCUMENTATION

- The Rigging & Lift Plan form on the following pages of this section shall be used for lift planning. Upon completion of the lift, this form shall be completed and filed in the project files at the job site.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RIGGING AND LIFT PLAN

Location: _____ **Date of Lift:** _____

Load Description: _____

Lift Description: _____

Does this lift involve lifting personnel? **Yes** ____ **No** ____ **If yes, explain.** _____

A. WEIGHT

1.	Weight of Equipment	lb.
2.	Weight of Headache Ball	lb.
3.	Weight of Load Block	lb.
4.	Weight of Lifting Bar	lb.
5.	Weight of Slings & Shackles	lb.
6.	Weight of Jib	lb.
7.	Weight of Cable (Load Fall)	lb.
8.	Allowance for Unaccounted Material in Equipment (10% of Equip. Weight)	lb.
9.	No. of People Lifted (____) x 250lb.	lb.
10.	Other: _____	lb.
	TOTAL WEIGHT	

Source of Load Weight: _____

Weight Verification By: _____

B. JIB

		_____ **Erected**	_____ **Stowed**
1.	Length of Jib		
2.	Angle of Jib		
3.	Rated Capacity of Jib (From Chart)		

C. SIZING OF SLINGS / SHACKLES

1. Sling Selection
   - a. Type of Arrangement _____
   - b. Number of Slings in Hookup _____
   - c. Sling Length _____
   - d. Rated Capacity of Slings _____
2. Shackle Selection
   - a. capacity (tons) _____
   - b. Number of Shackles _____

D. CRANE

1. Type of Crane: _____
2. Crane Capacity ____ Tn.
3. Lifting Arrangement
   - a. Max radius _____
   - b. Length of Boom _____
   - c. Angle of Boom at Pickup _____
   - d. Angle of Boom at Set _____
4. Rated capacity of crane under most severe lifting conditions:
   - a. Over Rear ____ lb.
   - b. Over Front ____ lb.
   - c. Over Side ____ lb.
5. Rated Capacity of Crane Lift ____ lb.
6. Max Load on Crane ____ lb.
7. Lift is _____% of Crane's Rate Capacity _____

E. CRANE PLACEMENT

1. Smooth Solid Foundation in Area? Yes__ No __

   If No, Explain: _____
2. Electrical Hazards in Area? Yes__ No __

   If Yes, Explain: _____
3. Obstructions/Obstacles to Lift/Swing? Yes__ No __

   If Yes, Explain: _____

F. CABLE

1. Number of Parts of Cable _____
2. Size of Cable _____
3. Permissible Line Pull ____

G. WEATHER

1. Condition: Cloudy Clear Sunny Overcast Foggy
2. Current Wind Speed / Direction ___ Allowable Speed ___

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Rigging and Lift Plan (con't) – PRELIFT CHECKLIST

A. CRANES(s)

1.	Mechanical Condition checked and OK	Yes__	No __	9.	Load Block per Rigging Sketch	Yes__	No __
2.	Fuel Level checked and OK	Yes__	No __	10.	Load line reeving per rigging sketch	Yes__	No __
3.	Wire rope condition checked and OK	Yes__	No __	11.	Counterweights per rigging load charts	Yes__	No __
4.	Load charts checked	Yes__	No __	12	Block Pinned?	Yes__	No __
5.	Load charts in crane(s)	Yes__	No __	13.	Operator qualified and certified?	Yes__	No __
6.	Crane(s) rating per rigging sketch	Yes__	No __	14.	Swing clearances adequate?	Yes__	No __
7.	Boom(s) per rigging sketch	Yes__	No __	15.	Headroom adequate?	Yes__	No __
8.	Outriggers fully extended	Yes__	No __	16.	Experienced rigger	Yes__	No __

B. RIGGING

1.	Rigging installed per rigging sketch	Yes__	No __	3.	Sling proof load cert. (1 ½" & larger)	Yes__	No __
2.	Rigging specialties approved	Yes__	No __	4.	Shackle NDT Test (100T & Larger)	Yes__	No __

C. GENERAL

1.	Lift weight per rigging sketch	Yes__	No __	5.	Prerequisites complete/rigging sketch	Yes__	No __
2.	Ground preparations suitable	Yes__	No __	6.	Prelift meeting complete	Yes__	No __
3.	Crane mats required	Yes__	No __	7.	Signalman assigned and briefed	Yes__	No __
4.	Lifting attachments checked	Yes__	No __	8.	Weather/wind conditions:	Yes__	No __

D. When critical lift involves a personnel basket, the personnel basket checklist shall be attached to critical lift plan.

E. NOTES / COMMENTS / SPECIAL INSTRUCTIONS: _____

_____

_____

F. CRANE INSPECTED BY: _____ DATE: _____

G. FUNCTIONAL TEST OF CRANE BY: _____ DATE: _____

Multiple crane lifts require a separate lift plan for each crane. Any changes in the configuration of the crane, placement, rigging, lifting scheme, etc., or changes in any calculations require that a new lift plan be developed.

H. REQUIRED SIGNATURES:

_____	_____	_____	_____
Crane Operator	Date	Competent Rigger	Date
_____	_____	_____	_____
Site Superintendent	Date	Site Safety	Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

H. REQUIRED SIGNATURES:

Crane Operator	Date	Competent Rigger	Date
Site Superintendent	Date	Site Safety	Date

H. REQUIRED SIGNATURES:

Crane Operator	Date	Competent Rigger	Date
Site Superintendent	Date	Site Safety	Date

H. REQUIRED SIGNATURES:

Crane Operator	Date	Competent Rigger	Date
Site Superintendent	Date	Site Safety	Date

H. REQUIRED SIGNATURES:

Crane Operator	Date	Competent Rigger	Date
Site Superintendent	Date	Site Safety	Date

H. REQUIRED SIGNATURES:

Crane Operator	Date	Competent Rigger	Date
Site Superintendent	Date	Site Safety	Date

H. REQUIRED SIGNATURES:

Crane Operator	Date	Competent Rigger	Date
Site Superintendent	Date	Site Safety	Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BULL RIGGING GUIDELINES

POLICY

EXCEL Companies is committed to the safety and health of our employees. Therefore, the following Bull Rigging Guideline document has been adopted.

RESPONSIBILITY

Management

- Ensure rigging equipment is maintained in proper working condition.
- Provide quality rigging for assigned task.
- Provide employee training.
- Provide equipment repair or replacement.
- Ensure that all rigging certification is kept on file for all rigging being used (purchased or rented).

Supervisors

- Ensure all employees have EXCEL rigging training.
- Ensure employees are selecting the proper rigging for the job.
- Ensure employees use rigging correctly and safely.
- Inspect employee rigging to ensure acceptable conditions.
- Regularly inspect rigging.
- Remove defective or damaged rigging from service.
- Determine the weight of pipe or equipment to be suspended.
- Select trained personnel to conduct rigging and bull rigging activities. Evaluate personnel by the Designated Competent Person or Craft Evaluator.

Employees

- Must have EXCEL Rigging and Mobile Crane Hand Signal Test before any rigging activity can be performed.
- Be a Qualified Bull Rigger trained in “Bull Rigging”. For rigging activities involving crane, forklift, excavator, the employee must be a Qualified Rigger. For both, employee shall follow proper rigging safety.
- Determine the weight of the load and center of gravity prior to lifting or pulling material.
- Select required rigging based on rated capacities, load limits, and hitch configuration.
- Utilize ANSI approved hand signals to communicate the load navigation directions to the crane / equipment operator. EXCEL Mobile Crane Hand Signal Test required.
- Warn personnel, prior to lifting load, evacuate and / or barricade the lifting and swing radius area to ensure equipment clearance and to prevent lifting over personnel.
- Conduct pre-use inspection on all rigging. Report all rigging damages, defects and malfunctions and take out of service and tagged “Danger – Do Not Use / Operate”.
- Report all incidents and near misses to your Supervisor and Safety.

EHS Department

- Audit rigging and bull rigging practices.

DEFINITIONS

- **Bull Rigging** is using “manual” rigging equipment to attach or suspend a load to or within a structure by use of a chain fall, come-a-long, snatch block, etc.
- **Center Of Gravity** is the point in the object around which its weight is evenly distributed. If you could put a support under that point, you could balance the object on the support.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- **Rated Capacity** – The maximum load weight a sling or piece of hardware or equipment can hold or lift. Also known as lifting capacity, working capacity, working load limit (WLL), and safe working load (SWL).

RIGGING MATERIAL

Use only domestic brand rigging – No "China" or foreign rigging allowed!
Acceptable materials include:

- Shackles: Crosby, Columbus McKinnon, Skookum and Green Pin Holland
- Rigging (wire rope, nylon and polyester): Domestic Only!

- All tags on rigging must have legible serial number and rated capacity of each hitch clearly marked.
- Properly store rigging when work is complete. Do not alter or modify rigging.
- Select anchor point for lifting or pulling that is capable of safely supporting the load.
- Utilize a tagline to control the load during lifting.
- Beware of minimum clearance distance requirements of electrical lines.
- Be aware of the maximum angle that rigging can be pulled to.

Inspection

- Yearly annual inspection of all rigging is required.
- Only employees that are Rigger Qualified are permitted to conduct rigging activities. They must ensure that all rigging is inspected prior to use on each shift and as necessary during its use to ensure that it is in a safe condition.
- Employees must follow the rejection criteria (ASME B30.9) to determine when to remove an object or device from service because it is no longer safe.
- Inspection of rigging and equipment shall include:
  - Permanently affixed and legible identification markings by the manufacturer that indicate the recommended safe working load, rated capacity for hitch type.
  - Visible signs of damages, excessive wearing, and / or defects such as:
    - Kinking, crushing, bird caged
    - Change in shape, cracks, distortion, elongated
    - Warning yarn visible, cuts, snags, punctures, tears, burns / melting – charring (chemical or temperature)
    - Safety latch must be in working order
- Deficiencies, damages or defects that are discovered through operational use or inspection should be reported immediately to the jobsite supervisor. Defective rigging shall be immediately placed out of service. A "Danger – Do Not Use / Operate" tag shall be affixed.

If any rigging is taken out of service, find the rigging certification for that particular piece of rigging and write on the certification the date in which the piece was taken out of service.

Usage

- Rigging shall be used only in accordance with manufactured design, instruction and for the intended use. Rigging shall not be altered, modified or enhanced in any manner.
- Rigging or rigging hardware and components shall not be loaded beyond the manufacturer's safe working ratings.
- Softeners shall be used to protect chokers / slings from sharp edges to prevent cutting or damage.
- All material shall be set on cribbing (blocking or dunnage) to support equipment and materials, distribute loads, and to allow rigging to be pulled from under loads by hand power only. Rigging shall never be pulled from under the load with the crane or lifting device.
- Chain falls shall be used for vertical lifts only – as per manufacturers' restrictions.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Shackle with a choker shall be used to lift all portable equipment fitted with lifting lugs.
- NOTE: Attaching a crane hook directly to a piece of equipment is prohibited.
- All hooks shall have in place, an operating latch that eliminates the throat opening.
- Watch your hand placement to avoid pinch points, caught between or under loads. Don't place your hands on the load – use a tag line.
- Always use the correct size lifting devices on every lift.
- No employee shall be allowed under suspended loads.
- Defective rigging or rigging that develops a defect during use shall immediately be removed from service.
- Employees shall not use rigging or equipment unless properly trained and authorized to do so.
- Select an anchor point that is capable for lifting or pulling the load. This includes, but not limited to:
    - Block and tackle
    - Air tugger / Winch
    - Chain fall
    - Come-a-long / Ratchet hoist
- All chain falls and come-a-longs shall have a backup sling attached in the event of mechanical failure.

Storage

- Proper storage of rigging in conjunction with correct usage can prolong the lifespan of the material while maintaining its safety factor.
- Upon completion, used rigging shall be cleaned and stored in a manner that would:
    - Not cause damage
    - Be protected from weather
    - Not create trip hazard or housekeeping issues
    - Provide proper lubrication and clean of dirt and debris

Bull Rigging

- Qualified Bull Riggers will be utilized for "Bull Rigging" activities. They will be trained in bull rigging. It is critical that personnel engaged in bull rigging understand rigging principles.
- Testing will be given to all Mechanic A, Mechanic B, Foreman, and General Foremen
- NCCER (National Center for Construction Education and Research) basic, intermediate, nor advanced rigging credentialing CAN NOT be substituted for this certification.
- Bull Rigging is hoisting and maneuvering materials by manual rigging equipment to attach or suspend a load to or within a structure using a chain fall, come-a-long, ratchet hoist, etc. primarily to receive and move piping through pipe racks, to position for welding and / or get onto designated coordinates, shoes, pads, etc.

Rigging

- NCCER (National Center for Construction Education and Research) intermediate, or advanced rigging credentialing CAN BE substituted for this certification depending on job description.

Using Multiple Slings

- When more than one eye goes to a chain fall or come-a-long / ratchet hoist, the preferred method is to use a shackle or a D- ring to gather all the eyes to prevent point loading or rolling out the hook.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SITE COMMISSIONING PROCEDURE

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

- This procedure shall apply when the commissioning and turnover of a project commences.

1. Each craft should have a supervisor in charge of permits and verifying the isolation of all systems being worked and turned over to the client.

2. These supervisors should coordinate with all commissioning and start-up personnel to include the client in identifying these isolation points before work commences on the system being turned over.

3. There will be no blanket permits during these operations.

4. When the POTENTIAL for stored energy is present in ANY system we are working on, the EXCEL Lock-out/Tag-out procedure will be followed, regardless of the circumstance or client direction to the contrary. The types of stored energy could be electricity, water, steam, air, or chemicals involved in process piping, electrical systems, and machinery.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

MOBILE EQUIPMENT SPOTTER AND ESCORT POLICY

GENERAL

- The following policy applies to the movement of all mobile equipment, including but not limited to aerial lifts, forklifts, and cranes. Failure to follow these procedures could result in disciplinary actions up to and including termination.

PLANT ROADWAY MOVEMENT

1. Be present at all times while the mobile equipment is in operation to ensure all clearances are maintained and to prevent personnel injury and property damage. Shall use an orange vest, flag, whistle, or air horn in noisy environments while performing these tasks.
   Ensure that the mobile equipment has been inspected for defects and is capable of performing the job intended. If any deficiencies are found, they must be reported and corrected before continued use.
2. Have and understand the signals and communication with the operator.
3. Ensure that the work area (ground level and lift platform) is free of obstruction and debris.
4. Make sure that other personnel are not working underneath or inside a barricaded area.
5. Maintain and keep up barricaded area and barricade equipment.
6. Signal operator for direction when moving, especially in or around tight corners.
7. Make the operator aware of hazards not visible to them.
8. Maintain visual contact with the operator at all times.
9. Before moving cones and barricades, the operator must be made aware.
10. The escort/spotter has to know and be able to properly operate the ground controls of any mobile equipment equipped as such.
11. Be able to quickly locate and use emergency fire equipment (fire extinguisher).
12. The spotter shall have the final determination about when it is safe to move or relocate the mobile equipment along roadways.
13. Traffic cones and barricade tape shall be used to isolate the mobile equipment once it is in place and prior to the beginning of elevated work. A perimeter shall be established by the use of four traffic cones (minimum), with barricade tape surrounding the equipment, using the cones as the barricade support.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Vehicle or Equipment Spotting Pre-Task Hazard Analysis

The operator and the spotter must view and/or walk through the route prior to performing the task to assess the following:

Yes	No	Question	Actions Taken
☐	☐	Can the distance of reversing the equipment be eliminated or minimized?	
☐	☐	Are there any hazards along the route that would interfere with safe completion of the job?	
☐	☐	Can the route be modified to make the task safer?	
☐	☐	Can the route be cleared of workers/pedestrians within 8ft of the moving equipment? If not, proceed to get supervisor's approval.	

If any of the following agreed upon communication plan or individual's responsibilities are not met, STOP IMMEDIATELY

Obtain 2nd level Supervisor approval if ANY of the responsibilities CANNOT be met

Communication Plan for ALL Spotting Activities

Verbal only communication is not an acceptable method. Apart from verbal communication, the operator and the spotter must agree to communicate via one of the following:

- ☐ Hand signals (consider high visibility gloves)
- ☐ Two-way radios (if allowed)
- ☐ Lights
- ☐ Noisemaking equipment (especially for loud areas)
- ☐ Other: _____

For All Motorized Equipment

A spotter(s) shall be used while operating:

- In congested areas
- Live units
- Close proximity (10') of overhead powerlines
- When blind spots are present

The spotter:

- Must wear high visibility vest
- Must use orange flag
- Must have a way to communicate with operator

Actions for spotter / equipment operator:

- Determine comm. plan between spotter and operator **AND**
- Identify noisemaking equip to notify operator of potential contact

Spotter's Responsibilities

As the Spotter on this job, I WILL:

- Position myself to enable the operator to maintain visual contact with me
- Never cross the path of travel of **moving** equipment
- Maintain a minimum 8ft distance from **moving** equipment
- Wear a high visibility safety vest and utilize a high visibility flag
- Wear PPE required for the area
- Communicate to the driver to **STOP** immediately if I spot any unexpected hazards
- Never ride on the vehicle while it is moving
- Keep the route free of people that do not need to be there

I understand the communication plan and my responsibilities.

Spotter's Name: _____ Date:_____

Operators Responsibilities

As the operator on this job, I WILL:

- **STOP** immediately if I lose visual/verbal contact with the spotter
- **STOP** immediately if instructed by the spotter
- **STOP** immediately if anyone comes within 8ft of my equipment
- Operate the equipment so speed does not exceed the pace of the spotter
- Turn my radio and any other distractions off in the cab of my vehicle
- Maintain established communications with spotter at all times
- Make sure windows and mirrors are clean/clear to ensure good visibility
- Make sure windows are open to receive spotter communication

I understand the communication plan and my responsibilities.

Operator's Name: _____ Date:_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

AERIAL LIFTS

GENERAL

- This procedure outlines the rules and requirements for the safe operation of personnel lifts.
- Only qualified and authorized personnel shall operate the lift.
- Only C-Class Journeymen and up may operate aerial lifts.
- C-Class Apprentices and under who will ride in the aerial lift will receive awareness/emergency operation training.
- Welders who will operate aerial lifts will receive certification based on knowledge, experience, and competence. In addition, he or she shall receive a passing score on the written test and complete a hands-on verification of the specific aerial lift.
- While traveling, the basket must always follow behind the boom and must always be in a down position. Equipment shall have a working backup alarm or use a spotter when backing.
- Lift controls should be tested daily prior to use to determine that controls (both primary and secondary controls) are in safe working condition.
- Controls should be clearly marked as to function.
- Wheel chocks shall be installed before using a lift in an inclined position.
- When in the basket, persons must tie off safety belts to the boom tip or, if not possible, to the frame of the basket.
- Employees should always stand firmly on the floor of the basket and not climb or sit on the edge of the basket for a work position.
    - Ladders should not be used in the basket for additional reach.
- Belting off to an adjacent pole, structure, or equipment while working shall not be permitted.
- The basket is not to rest on support for stability but instead be self-controlled/supported.
- It is the foreman's responsibility to be certain that the route of the lift has stable footing.
- The Dead Man Control Switch must be operable by the person operating the equipment and not wired in the "on or open" position.
- The engine must be able to be started from the controls in the basket as well as from controls on the engine compartment.
- A copy of the operator's manual must be available and read by each operator before use.

OPERATOR CERTIFICATION

- The Aerial Lift Operator Certification Procedure is designed to verify the competence of employees prior to their assignment as operators of aerial lifts (including extensible and articulating boom platforms, aerial ladders, vertical towers, scissor lifts, etc.).
- All aerial lift operators must be certified by a designated competent person. Manufacturer's representatives are recognized as experts on their equipment and may be considered competent persons for this procedure.
- All operators must be re-certified annually.
- Aerial lifts acquired for use on or after January 22, 1973, shall be designed and constructed in conformance with the applicable requirements of the American National Standards for " Vehicle Mounted Elevating and Rotating Work Platforms," ANSI A92.2-1969, including appendix. Aerial lifts acquired before January 22, 1973, which do not meet the requirements of ANSI A92.2-1969, may not be used after January 1, 1976, unless they have been modified to conform with the applicable design and construction requirements of ANSI A92.2-1969. Aerial lifts may be "field modified" for uses other than those intended by the manufacturer, provided the modification has been certified in writing by the manufacturer or by any equivalent entity.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SAFETY REQUIREMENTS

- Belting off to an adjacent pole, structure, or equipment while working from an aerial lift is not permitted.
- All employees in aerial lifts must wear a safety belt/harness and lanyard attached to the boom or basket while working from the aerial lift.
- Boom and basket load limits specified by the manufacturer shall not be exceeded.
- An aerial lift cannot act as the sole means of access or egress when employees are working in more than one location.
- Lift controls shall be tested each day prior to use to determine that they are in safe working condition. Controls shall be plainly marked as to their function.
- Articulating boom and extensible boom platforms shall have both upper (platform level) and lower (ground level) controls. Lower controls shall override upper controls but shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.
- Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders, or other objects to gain a work position or as a climbing device.
- For lines rated 50kv or below, minimum clearance between the lines and any part of the aerial lift shall be 10 feet.
- Refer to the owner's manual of the aerial lift or the policy of the plant for a more in-depth view of the environmental considerations pertaining to safe aerial lift operations (inclement weather, wind speed). Abide by the more stringent of the two.

CERTIFICATION OUTLINE

- Review the video "Aerial Lift Safety" by Summit Training Systems and discuss specifics that apply to your job and equipment.
- Written Examination
    - All prospective operators must score at least 90% on the written exam to proceed to the skills portion of the procedure.

  Operator Skills Demonstration
    - The skills portion of this procedure is designated to verify that the prospective operator possesses the actual skills required to operate specific types of aerial lifts. A designated competent person shall administer the practical skills portion of this procedure in a safe environment and under controlled conditions. This exercise shall be performed in the equipment the prospective operator is to be authorized to operate.

  Documentation
    - Completed quizzes shall remain in the job site files. Copies may be forwarded to the safety and personnel departments.
    - Operator Qualification forms shall be completed for all operators and shall be kept in the job site files. Copies may be forwarded to the safety and personnel departments.
    - Personal certification pocket cards should be issued to all employees who successfully complete this training.

RESPONSIBILITIES OF AERIAL LIFT OPERATOR

1. Must be certified by a competent person to be able to operate an aerial lift.
2. The Aerial lift operator's sole responsibility is to ensure the safety of himself and those around him while operating an aerial lift or any other mobile equipment. It shall also be determined prior to use and indicated on the JSA the appropriate size and specific equipment to be used for that task.
3. Maintain constant communication and visual contact with his escort/spotter when moving on roadways.
4. Ensure that the machine has been inspected and that the operator and the escort/spotter have both signed the inspection log prior to initial use.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5. Maintain proper barricade (traffic cones and tape) around the aerial lift when equipment is in position and prior to operating the boom.
6. 100% tied off while inside and operating aerial lift.
7. Make sure that other personnel are not working underneath or inside a barricaded area at any time while the machine is occupied or in use.
8. Once in position (boom and basket in place or extended), the engine will be shut off, and the traffic cones and barricades will be installed. Work will then be performed with the engine off.
9. While moving equipment (traveling), the operator will give pedestrians the right of way. The operator shall maintain a minimum distance of 10 feet between the equipment and the spotter while traveling with the equipment. The spotter will not walk directly in front of the moving equipment but to the side of the equipment. The operator will maintain visual contact with his spotter at all times while traveling or moving the equipment.

OPERATOR DISCIPLINE

1. The operator shall evaluate the conditions of the work area and predetermine the best possible method of moving the equipment in and around the work area.
2. The equipment shall be used as designed and intended.
3. Proper use of equipment, i.e., booming versus traveling, shall be determined and practiced.
4. The basket is not to rest on support for stability but instead be self-controlled and supported.
5. When in the basket, you must tie off your safety harness to the anchor point or, if possible, to the frame of the basket.
6. Tools and materials must not exceed the width or length of the basket.
7. Boom and basket load limits specified by the manufacturer shall not be exceeded.
8. Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders, or other objects to gain a work position or as a climbing device.

AERIAL LIFT PROTOCOL

- It shall be the sole responsibility of the operator and escort/spotter to perform the following duties before and during the operation of aerial lifts and mobile equipment:
- NOTE: Escort/spotter required when moving on plant roadways and within an operating unit.

1. To obey and follow all company/manufacturer rules and regulations for the safe operation of aerial lifts and mobile equipment.
2. The operator shall inspect the aerial lifts before use. It is also required that the operator sign the inspection sheet. Any and all deficiencies shall be noted and corrected before the lift is allowed to be operated. Defective lifts shall be tagged and placed out of service.
3. All aerial lifts moved on plant roadways shall have a designated and trained escort/spotter.
4. All signals and communications shall be made clear and understood by both the escort/spotter and the operator before the operation of any aerial lift.
5. Mobile equipment will only be operated in the slow/low drive mode while in the unit area (battery limits).
6. The operator shall demonstrate and understand the ground controls of the equipment.
7. The spotter shall have the final determination about when it is safe to move or relocate the mobile equipment along roadways.

- Traffic cones and barricade tape shall be used to isolate the mobile equipment once it is in place and prior to the beginning of elevated work. A perimeter shall be established by the use of 4 traffic cones (minimum), with barricade tape completely surrounding the equipment, using the cones as the barricade support.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

RESPONSIBILITIES OF ESCORT/SPOTTER

1. Be present at all times while the aerial lift is in operation to ensure all clearances are maintained and to prevent personnel injury and property damage.
2. Ensure that the aerial lift has been inspected for defects and is capable of performing the job intended.
3. Have and understand the signals and communication with the operator.
4. Ensure that the work area (ground level and lift platform) is free of obstruction and debris.
5. Make sure that other personnel are not working underneath or inside a barricaded area.
6. Maintain and keep up barricaded area and barricade equipment.
7. Signal operator for direction when moving, especially in or around tight corners.
8. Make the operator aware of hazards not visible to him.
9. Maintain visual contact with the operator at all times.
10. Before moving cones and barricades, the operator must be made aware.
11. It is the duty of the escort/spotter to know and be able to properly operate the ground controls of the aerial lift.
12. Be able to quickly locate and use emergency fire equipment (fire extinguisher).

- Violations of these procedures will result in termination of employment.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BASIC AERIAL LIFT OPERATOR QUIZ

Name: _____ Designated Competent Person:

SSN: _____ _____

Date: _____ Job Number:_____

1. What should be done with a malfunctioning machine?
   a. drive it slower
   b. tag it "do not use," and report it to your supervisor
   c. tell your supervisor and continue using it

2. What is the minimum safe distance to exposed power lines or energized parts of 50,000 volts or less?
   a. 50 feet
   b. 35 feet
   c. 20 feet
   d. 10 feet

3. When driving a self-propelled boom lift from one area to another, the boom should always be centered over the rear or (drive) axle and be below horizontal.
   a. True
   b. False

4. If you must relocate the lift, the best practice is to _____ the boom, move the lift to your next location, then reposition the basket to your work location.
   a. swing
   b. lower
   c. raise

5. The load limitations specified by the manufacturer shall not be exceeded.
   a. True
   b. False

6. All the controls on an aerial lift must be clearly marked as to their function, no matter how old the machine is.
   a. True
   b. False

7. When the lift is shut down or parked, the boom should be completely _____ and completely_____.
   a. lowered, retracted
   b. extended, raised
   c. retracted, raised
   d. extended, lowered

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

8. How many traffic cones are required to properly barricade an aerial lift in position?
    a. 2 – one at the front and one at the rear
    b. 4 – one at each wheel
    c. 3 – in a triangle

9. All electrical lines and conductors should be treated as if they are:
    a. energized
    b. de-energized
    c. old and no longer in service
    d. new and not yet in service

10. If it is necessary to transfer from the platform to the structure and vice versa, always use extreme caution and make sure you are _____ at all times.
    a. cautious
    b. tied off
    c. watching for foreman
    d. telling the ground man what you need

11. If you are driving the machine to a work location in the high drive mode and you elevate the platform above horizontal, what will occur?
    a. the machine will continue to travel fast
    b. the machine will stop
    c. the machine will automatically slow down
    d. the engine will shut down

12. Never allow ground personnel in the area below the elevated platform.
    a. True
    b. False

13. When driving an aerial lift, you should always look in the same direction that you are traveling.
    a. True
    b. False

14. It is okay to use boxes, ladders, etc., inside the platform to help increase your reach.
    a. True
    b. False

15. Aerial lifts can be used like a “Picker” by shackling a choker from the bottom of the platform down to the load. This is a good practice when a piece of hoisting equipment is not available.
    a. True
    b. False

16. Only the operator must sign off on the aerial lift inspection.
    a. True
    b. False

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

17. If your machine is stuck, you should never try to free it by pushing it with the boom.
    a. True
    b. False

18. The escort/spotter must wear an orange vest and have a whistle in order to be in compliance with this procedure to escort an aerial lift.
    a. True
    b. False

19. A safety belt/harness is required when working from an aerial lift basket.
    a. True
    b. False

20. Both the operator and the escort/spotter must be able to operate the aerial lift ground controls in case of an emergency.
    a. True
    b. False

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BASIC AERIAL LIFT OPERATOR QUIZ
ANSWER KEY

1. B
2. D
3. A
4. B
5. A
6. A
7. A
8. B
9. A
10. B
11. C
12. A
13. A
14. B
15. B
16. B
17. A
18. A
19. A
20. A

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Mobile Equipment Spotter and Escort Policy

The following policy applies to the movement of all mobile equipment, including but not limited to aerial lifts, forklifts, and cranes. Failure to follow these procedures could result in disciplinary actions up to and including termination.

PLANT ROADWAY MOVEMENT

1. Be present at all times while the mobile equipment is in operation to ensure all clearances are maintained and to prevent personnel injury and property damage. Shall use an orange vest, flag, whistle, or air horn in noisy environments while performing these tasks.

2. Ensure that the mobile equipment has been inspected for defects and is capable of performing the job intended. If any deficiencies are found, they must be reported and corrected before continued use.

3. Have and understand the signals and communication with the operator.

4. Ensure that the work area (ground level and lift platform) is free of obstruction and debris.

5. Make sure that other personnel are not working underneath or inside a barricaded area.

6. Maintain and keep up barricaded area and barricade equipment.

7. Signal operator for direction when moving, especially in or around tight corners.

8. Make the operator aware of hazards not visible to him.

9. Maintain visual contact with the operator at all times.

10. Before moving cones and barricades, the operator must be made aware.

11. It is the duty of the escort/spotter to know and be able to properly operate the ground controls of any mobile equipment equipped as such.

12. Be able to quickly locate and use emergency fire equipment (fire extinguisher).

13. The spotter shall have the final determination about when it is safe to move or relocate the mobile equipment along roadways.

14. Traffic cones and barricade tape shall be used to isolate the mobile equipment once it is in place and prior to the beginning of elevated work. A perimeter shall be established by the use of four traffic cones (minimum), with barricade tape completely surrounding the equipment, using the cones as the barricade support.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FORKLIFT SAFETY

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

PRIOR TO USE

- The first person to use a forklift each day must thoroughly check the unit out. This check must be complete and include the motor, transmission, and hydraulic oil levels, water level, and condition of the battery. Light, horn, backup alarm, and both normal and emergency brakes must be tested. Make sure the operating controls function properly, there are no visible hydraulic oil leaks, and the overhead guard appears stable and not altered. The tires should not be excessively damaged or under-inflated to an extent that creates a hazard.

OPERATING RULES

- When backing up, always proceed more slowly as it is more awkward to operate the controls in this position, and reaction time is increased.
- The backup alarm should sound at all times when the unit is in reverse.
- When moving forward empty, always move at a moderate rate of speed.
- When moving, forks should be about 6" off the floor and tilted back slightly.
- Always sound your horn before rounding corners, entering, or exiting doorways.
- When you approach the load, slow down gradually, stop, and adjust the forks to the proper height, and then slowly proceed under the load.
- Note: Be very cautious that the forks do not puncture the load due to improper positioning of the fork height.
- When traveling with a full load, forks should be adjusted to about 6" from the floor after picking up the load.
- Always travel at slow to moderate speed.
- If the size of the load creates a problem with forward visibility, the load should be moved in reverse. This should be done slowly because of the difficulty in operating the controls, but greater visibility makes this more desirable and safer.
- Turn corners very slowly.
- Drivers should wear a seat belt.
- When moving a load on an incline, you should ALWAYS move down the incline in REVERSE and up the incline going forward. In other words, always have the load on the upgrade site of the forklift.
- You should never raise the load while on the way to the destination. As you approach the destination, slow down, stop, raise the load, and proceed to set it in place slowly.
- Be extremely careful about overhead clearance. This is difficult to judge if the load is being raised very high.
- Brakes should always be applied slowly except in emergencies.
- After placing the load, slowly back up until the forks are clear of the stack, then stop and lower the forks to within 6" of the floor.
- Always look behind you before you start to back up. Slowly back away from the stack and proceed to the next destination.
- NEVER move a load that is loosely stacked or poorly positioned. A load should be tied down if that is the only way to secure it.
- When parking the forklift, always set the hand brake.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Lower the forks until they are FLAT on the floor. If these are raised at all, they are serious tripping hazards.
- Always stop the engine and remove the ignition key.

TRAINING

- Only properly trained personnel will operate a forklift. Documentation will be maintained at the project, and a copy should be sent to the Human Resources Department.
- Forklift training courses will be set up as needed by the Human Resources Department.

OPERATOR CERTIFICATION

- This Forklift Operator Certification Procedure is designed to verify the competence of prospective forklift operators employed by this company. This procedure applies to all standard mobile forklifts; however, crane-style forklifts, such as "sky lifts," may require additional training as determined by the designated competent person or the safety department.

GENERAL CERTIFICATION REQUIREMENTS

- This procedure may only be implemented by competent persons as designated by the site manager and safety department. Documentation of competent persons must be kept on file at the project. The Designated Competent Person form, contained in Section 5.4 of this manual, has been included at the end of this procedure. Training will be conducted by persons who have the knowledge, training, and experience to train forklift operators and evaluate their competence. This training will be documented by a written examination and evaluation and will be kept on-site.
- All operators must be certified through this procedure before they are allowed to operate forklifts.
- All operators must be re-certified annually. Recertification of company operators who have not had a break in service of more than three (3) months will consist of a written examination and updated medical questionnaire, at a minimum. Operators who have had a break in service in excess of three (3) months must also complete the skills demonstration requirements.
- All prospective operators must complete the "Medical Questionnaire for Equipment Operators" (training program Attachment A). Medical questionnaires must be reviewed by the competent person. Any health deficiencies or positive responses on the medical questionnaire must be reviewed by the safety department before the operator is certified to operate forklifts.
- This certification procedure consists of two (2) parts: the written training program with corresponding video and exam and the operator skills demonstration. Prospective operators must successfully complete the written training program and exam prior to proceeding to the skills demonstration.

WRITTEN EXAMINATION

- The written examination consists of twenty-five (25) questions worth four (4) points each. Prospective operators must score at least 90% on the exam (they can miss no more than two (2) questions). All questions must be reviewed by the competent person. For questions that are missed, the student must complete the test question review form found at the end of the quiz.
- Prospective operators who fail to score 90% on the written exam are not eligible for certification and may not proceed to the skills demonstration portion of the program. They may be given study material (such as the written training program) and allowed to retest at a later date, as determined by the competent person and the safety department.
- Prospective operators who pass the written examination may proceed to the skills demonstration portion of the program.
- Copies of all written exams must remain on file and may not leave the custody of the competent person unless released by the safety department.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

OPERATOR SKILLS DEMONSTRATION

- The Operator Skills Demonstration is designed to verify that prospective operators possess the skills necessary to operate similar types, sizes, etc. of forklifts. This phase of the procedure is conducted as follows:
    a) Select a time and location in your facility that is not busy with heavy traffic.
    b) Establish a training course. You may cordon off a special area or use the actual work area; however, make sure that whichever you choose is free from hazards and simulates the actual conditions the operators will face during a day's work.
    c) Review and show the proper procedures for inspecting the forklift and completing the "Daily Safety Checklist" (training program Attachment B).
    d) Review the forklift controls, ensuring students fully understand each one and its purpose.
    e) Review the demonstration course, covering the specific activities they are to complete and how this should be accomplished. The competent person or his designee should then complete the course for the students, demonstrating the proper operating methods to use.
    f) Have each student complete the course. Utilize the attached "Forklift Operator Skills Evaluation" form to evaluate each student's performance. Immediately after each student has completed the course, review their score with them. Give specific details involving any incorrect practices you may have observed and explain the proper practice. If any practices are observed that might endanger the safety of the operator, co-workers, equipment, etc., the test must be stopped immediately. Examples of these may include the operator forgetting to ensure the wheels of a trailer are chocked, driving too fast, driving with the load raised in an unsafe position, forgetting to secure the dock plate, failing to secure the seat belt, etc.
- Students must score 100% on the skills evaluation to receive certification. The attached "Forklift Operator Skills Evaluation" form will be utilized to evaluate performance. It consists of twenty-five (25) criteria, which you may add to if necessary. Students will be graded using a four-point grading system: 1 = Poor, 2 = Fair, 3 = Good, and 4 = Excellent.
- Students who fail to score 100% on their first attempt are not eligible for certification. Their deficiencies will be reviewed with them, and they may be allowed to repeat the course at the discretion of the competent person.
- Students who fail to score 100% on their second attempt must receive "one-on-one" training with the competent person before being allowed to repeat the course a third time. If, after the "one-on-one" training, the student fails to achieve 100%, they may not repeat the course and may not be certified until the present evidence of successful completion of a "third party" forklift operator course (such as trade school, vo-tech, union, etc.) After evidence of successful completion of a "third party" course has been submitted, the site manager or competent person may allow the student to repeat the company's forklift operator certification procedure.
- Students who successfully complete the skills demonstration portion of the program are now eligible for certification and may operate specific forklifts on company projects.
- A company certification card should be issued to all operators who successfully complete this procedure. All documentation, including the operator's written exam, skills evaluation, and medical questionnaire, must be maintained on file at the project.

REVOCATION OF CERTIFICATION

- Company-issued certifications may be revoked at any time for reasons determined by the safety department. Examples of reasons for revocation of certification might include the operator not following established safety practices or the operator being involved in an accident.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

FORKLIFT OPERATOR SKILLS EVALUATION

Driver's Name: _____ SSN: _____

Grading Scale: 1 = Poor 2 = Fair 3 = Good 4 = Excellent

Prospective operators must score 100 for successful completion.

____	1.	Conducted a proper inspection.
____	2.	Shows familiarity with the controls.
____	3.	Planned route of travel.
____	4.	Clear view of the direction of travel.
____	5.	Slowed down at intersections.
____	6.	Sounded horn at intersections.
____	7.	Turned corners slowly, aware of rear end swing.
____	8.	Yielded to pedestrians.
____	9.	Drove under control and within traffic lane.
____	10.	Approached load slowly and squarely.
____	11.	Positioned forks properly under load.
____	12.	Lifted load properly.
____	13.	Maintained a balanced load.
____	14.	Maneuvered with load properly.
____	15.	Traveled with load properly.
____	16.	Lowered load smoothly.
____	17.	Stacked loads properly.
____	18.	Placed load within the designated area.
____	19.	Drove straight up and straight down inclines.
____	20.	Inspected bridge plates and dock boards.
____	21.	Made sure wheels were chocked.
____	22.	Smooth stops and starts.
____	23.	Obeyed all signs.
____	24.	Parked properly.
____	25.	Used seat belt.

TOTAL SCORE: _____

COMPETENT PERSON: _____

DATE: _____

EQUIPMENT: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Powered Industrial Truck (Forklift) Training Program

I. INTRODUCTION

II. SCOPE

III. SAFE OPERATIONAL PRACTICES

- A. Pre-operation Inspection
- B. Basic Forklift Operations
- C. General Safety Requirements

IV. PROPER MATERIAL HANDLING

- A. Lifting and Transporting Loads
- B. Lowering and Positioning Loads

V. ENTERING PROCESS AND REGULATED AREAS

VI. PERSONNEL BASKET/PLATFORM USE

VII. REFUELING AND RECHARGING

- A. Gasoline and Diesel
- B. Liquefied Propane Gas
- C. Battery Charging and Changing

VIII. STOPPING AND PARKING

IX. SUMMARY

Attachment A - Medical Questionnaire for Equipment Operators

Attachment B - Daily Safety Checklist

Attachment C - OSHA Standard 1910.178, Powered Industrial Trucks

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

POWERED INDUSTRIAL TRUCK (FORKLIFT) TRAINING PROGRAM

I. INTRODUCTION

The Powered Industrial Truck (forklift or lift truck) plays an important role in the material handling process. Its uses are almost unlimited, from offloading flatbed trailers to stacking pallets of products and transporting material and equipment to job locations. Because of its many uses, the forklift is one of the most common pieces of equipment in industry today. In addition to being one of the most widely used, forklifts are also involved in a large percentage of workplace accidents. Far too often, these accidents result in serious injury or death to forklift operators as well as co-workers and pedestrians.

As a prospective forklift operator, you hold the key to accident and injury prevention. Although safe equipment and safe working conditions will help to prevent accidents, it is the operator who is relied on to perform all of his duties safely. For these reasons, this program has been developed. Your attention to the material and implementation of the safe work practices described will help ensure you are a safe, well-trained, and qualified forklift operator.

II. SCOPE

The forklift operator training program must be successfully completed by all employees whose job functions may require them to operate forklifts. The program consists of two (2) parts: a written portion with corresponding video and exam and the operator skills demonstration. After successful completion of the written program, the subsequent exam, and the operator skills demonstration, you will be allowed to operate **specific** types of forklifts on company projects.

The following topics will be addressed during this program:

- Safe Operating Practices
- Proper Material Handling
- Entering Process and Regulated Areas
- Personnel Platform Use
- Refueling/Recharging

III. SAFE OPERATIONAL PRACTICES

A. Pre-operation Inspection

- Each day, prior to operating your forklift, you must conduct an inspection to ensure it is in proper working order. A form entitled the "Forklift Daily Safety Checklist" (Attachment A) must be utilized to document this inspection.
- Check your brakes, steering apparatus, horn, lift mechanism, controls, fluid levels, tires, backup alarm, lights, etc. Also, carefully look around and under the forklift for any evidence of fluid leaks. Any problems or defects found on your inspection must be immediately reported to your supervisor. Don't take chances operating a forklift that is in need of repair. A seemingly minor defect could be the one that causes an accident.

B. Basic Forklift Operations

- A forklift operates on a three-point suspension system and has a high center of gravity due to the counterweight in the back and its narrow wheelbase. The three points are the two front wheels and a pivot pin located in the center of the rear axle. This is known as the stability triangle. As long as the center of the weight of the load and the weight of the forklift remains within the triangle, the forklift will not tip; however, if the center of gravity moves outside the triangle due to sharp turns, unstable loads, sudden stops, etc., the likelihood of the forklift overturning is greatly increased. For this reason, stable loads, smooth stops and starts, and smooth turns are strict safety practices that must be followed.
- Another interesting aspect of the forklift involves steering. On most forklifts, the rear wheels are the ones that are used for steering. This rear-wheel steering causes the rear of the forklift to swing out in the opposite direction of the turn; thus, when turning a corner, you not only have to watch the front of the forklift but also the rear to ensure you don't swing out into something.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

C. General Safety Requirements

- As stated earlier, forklifts are involved in a significant portion of industrial accidents each year. For this reason, it is imperative that only the safest operational practices be used, and only the safest operators be allowed to operate forklifts. The following basic safety requirements have been established to ensure that both forklifts and operators meet the safety requirements necessary for a safe and accident-free work environment.
  - Never operate a forklift unless you have been properly trained and authorized to do so.
  - Never operate a defective forklift. If trouble develops on the job, stop and notify your supervisor at once.
  - Know the capacity of the forklift you are operating and never exceed this capacity. Exceeding the capacity may result in damage to the hoisting mechanism or, worse yet, in someone getting hurt.
  - Always wear your seat belt.
  - Obey all traffic regulations.
  - Always plan your route of travel and know the condition of the surface on which you will be traveling. Avoid driving over rough/uneven surfaces and debris, if possible. These items may cause the forklift to shift, resulting in overturning or toppling of the load.
  - Avoid sudden stops and starts. These may cause skidding, toppling of the load, or may overturn the forklift. Additionally, mechanical damage to the forklift can result.
  - Travel slowly on slippery surfaces. Allow extra room for stopping and turning.
  - Horseplay, such as racing, traveling at high speeds, spinning, etc., is not permitted.
  - Approach blind corners slowly, keep to your right, and sound your horn.
  - Lightly blow your horn when approaching someone from the rear. This will alert them to your presence and prevent them from stepping back into your path.
  - Never use reverse as a brake. Stop the vehicle with the brakes before changing your direction of travel.
  - Always know the position of the rear wheels, as they tend to swing out when turning.
  - When traveling (with or without a load), keep your forks approximately six (6) inches off the ground.
  - When traveling on an incline, keep the load pointed upwards at all times. Also, pay attention to the height of the forks to ensure they do not drag the ground. Never allow someone to walk ahead of you while traveling on an incline.
  - When traveling between indoors and outdoors, allow your eyes time to adjust to the lighting differences. Also, NEVER WEAR SUNGLASSES INDOORS WHEN OPERATING A FORKLIFT.
  - Before crossing railroad tracks, stop and make sure the way is clear. Hold the steering wheel firmly and cross the tracks diagonally.
  - Before entering trucks, trailers, or rail cars, be sure chocks are secured, and dock or bridge plates are firmly secured in place. Additionally, check the flooring of trucks, rail cars, and trailers to ensure they are capable of supporting the weight of your forklift.
  - Never permit anyone to ride on any part of your forklift.
  - Never drive a forklift up to anyone standing in front of a stationary object. Failure of the braking system or improper judgment of braking distance could result in a very serious accident.
  - No one is allowed to stand or walk under elevated forks or loads.
  - Never tow rail cars or attempt to open rail cars or trailer doors with your forklift. They can easily get away, resulting in injury or equipment damage.
  - When it is necessary to use the forklift for towing items such as job trailers, welding machines, etc., be sure the forklift was designed for this purpose and use only the attachments designed for towing.
  - Pushing a forklift with another (or any other vehicle) in order to get it started is prohibited.
  - Never use a gasoline-powered forklift in small buildings, trucks, trailers, or rail cars without proper ventilation. Carbon monoxide can accumulate, resulting in serious injury or death.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

IV. Proper Material Handling

A. Lifting and Transporting

- When approaching a load, do so slowly and squarely with a questioning attitude. Ask yourself, how much does this load weigh? Is it properly stacked and secured? To where will the load be moved? Are there other safety hazards in the area? Will my forklift safely handle this load? Once these questions have been answered, move to within approximately one foot of the load and adjust your forks. The forks should be positioned so that they are spread as wide as possible while still maintaining firm contact with the load. After this is done, position the forks as far as possible under the load and tilt the load onto the backrest. Raise the load approximately 6 inches off the ground, look in all directions, then begin your travel.
- One important safety rule to follow when transporting loads is: **NEVER TRAVEL WHILE RAISING OR LOWERING YOUR FORKS. THIS PRACTICE GREATLY INCREASES THE CHANCE OF OVERTURNING THE FORKLIFT OR TOPPLING THE LOAD.**
- If the height or width of the load blocks your view, it is acceptable to travel in reverse; however, ensure that all options have been evaluated, that this is the best way to transport this load, and that you can see clearly in whatever direction you travel. If necessary, contact your supervisor for a spotter or flagman for assistance.
- Follow these safety rules when lifting and transporting loads:
    - Never attempt to lift a load that is outside the capacity of your forklift. Use another forklift or lighten the load.
    - Be sure all loads are properly stacked, arranged, and stable. Never attempt to handle an unstable load.
    - Avoid carrying loose materials on the forks; USE PALLETS! Pallets should always be maintained in good condition and replaced when necessary.
    - Pick up the load in the center of its weight to avoid tipping.
    - Be aware of overhead clearances. Contact with overhead objects is a very common cause of forklift accidents that can result in serious injury and death.

B. Lowering and Positioning Loads

- Once you have reached your destination with the load, approach the loading area slowly and squarely. **Stop** and position the forks to the height where the load is to be set. Once the fork height is positioned, slowly travel to the exact position where the load will be set, **stop**, and lower the load. Once again, **NEVER TRAVEL WHILE RAISING OR LOWERING YOUR FORKS**. Lower your load slowly. Sudden movements and stops will cause the forklift to tilt forward.
- When stacking loads, remember that the higher the load is positioned, the less stable your forklift will become. Be sure to stack loads squarely and securely; otherwise, the whole stack may fall.
- The following safety rules also apply when handling loads:
    - Never overload floors or storage areas when stacking material.
    - Be sure there is sufficient headroom when raising loads. Watch for beams, pipes, electrical installations, lights, and other obstructions.
    - When placing or picking up pallets, be sure the load remains balanced.
    - Warn other employees to stay clear when stacking or removing material.
    - Do not place material in roadways, aisles, exits, in front of emergency equipment, or in any other location not designed for this purpose.
    - Stack material securely on pallets. Block round objects such as pipes or drums so they cannot roll.
    - Place a red flag on material that projects on either side.

V. Entering Process and Regulated Areas

- Forklifts come in a number of classifications and designations based on the type of energy used to power the forklift. Overall, there are 11 different designations. For instance, the designation "G" represents gas, "LP" represents liquid propane, "D" represents diesel, etc. Each of these designations is given for fire safety reasons, and only forklifts with the proper designations are allowed to operate within certain processes or regulated areas. The safety department should be

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

consulted if you are unsure whether the forklift you are operating is authorized to enter certain processes or regulated areas.

- In addition to ensuring your forklift has the proper designation, you must never enter any process or regulated area until you have the proper authorization and permits. While in these areas, if you encounter any unusual circumstances, such as spills or other emergencies, follow the proper evacuation procedures and notify your supervisor immediately.

VI. Personnel Basket and Platform Use

- Specific types of personnel baskets or platforms are acceptable to be used with forklifts; however, specific safety requirements must be met. As the qualified operator of the forklift, you are responsible for ensuring these requirements are met prior to lifting personnel. The first requirement must be to **consult the safety department prior to lifting the personnel with a forklift**. Additionally, the following safety requirements must be followed:
  - Only personnel baskets and platforms approved for use with forklifts will be used to hoist personnel.
  - The personnel baskets or platforms must be firmly secured to the forks.
  - Persons working from the basket or platform must be provided with a means to shut off the power to the forklift.
  - Fall protection must be provided for persons working from the personnel basket or platform.

VII. Refueling and Recharging

- Refueling and recharging of forklifts must be conducted in areas with good ventilation and away from any ignition sources such as sparks, open flames, electrical arcs, etc. Additionally, fire protection devices, such as extinguishers, must be readily available, and smoking is never permitted in any refueling or recharging area.
- Outlined below are specific procedures to follow when refueling/recharging forklifts:

A. Gas and Diesel Engine Forklifts

- Refueling of gas and diesel engine forklifts must be conducted outdoors due to the possibility of spills and vapor accumulation.
- Turn off the engine and set the parking brake before refueling. **Refueling must not be conducted while the engine is running.**
- Make sure the hose nozzle makes contact with the tank while filling. Always connect the bonding wire if required. This will prevent static electricity that could cause a fire.
- Avoid overfilling the fuel tank. In the event of a spill, clean up the area before starting your forklift.
- Utilize safety cans when carrying or storing gasoline or diesel fuel. When cans are used to refuel the forklift, use a funnel to avoid spillage.

B. Refueling LPG Forklifts

Refueling of LPG forklifts must be conducted by trained and experienced personnel only. Although the following basic safety practices apply, additional training on the OSHA and NFPA requirements for handling LPG must also be completed.

- Drive your forklift to the refueling area, set the parking brake, and close the LPG cylinder valve.
- Allow the forklift to run out of fuel - this will purge all LPG and pressure from the lines.
- Once the engine has stopped, turn off the ignition, close the LPG valve, and disconnect the cylinder from the forklift.
- Remove the cylinder and replace it with another.
- Reconnect the hose lines, turn on the LPG valve, and restart your forklift.

C. Battery Charging and Changing

Battery charging and changing for electric-type forklifts must be conducted by trained and experienced personnel only. Although the following basic safety practices apply, this training program alone does not qualify you to charge or replace electric-powered forklift batteries.

- Facilities must be provided for flushing, and neutralizing spilled electrolytes.
- An adequate lifting device, such as an overhead hoist or conveyor, must be available for changing batteries.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Batteries must be removed and installed in accordance with the manufacturer's recommendations.
- Emergency eye wash facilities must be available.

VIII. Stopping and Parking

- Never step out of your forklift until it has come to a complete stop.
- When you leave your forklift, neutralize the controls, lower the forks or load, and set the parking brake.
- Never leave your forklift unattended. If you are out of sight of your forklift (over 25 feet or more), the ignition must be off, forks lowered to the ground, and the parking brake set.
- Park your forklift so it will not interfere with the passage of other vehicles or people. Also, never park on or within eight (8) feet of the center of railroad tracks.
- If it becomes necessary to park on an incline, set the brake and chock the wheels.
- Park indoors with the forks under a pallet or bench to prevent tripping. Outdoors, ensure that forks are on the ground and do not protrude into a walkway or passageway.

IX. Summary

- In this program, you have learned the safe practices and procedures to follow when operating forklifts. Once you have successfully completed the written examination that accompanies this training program, you will be allowed to proceed to the skills demonstration portion of the program. During the skills demonstration, you will be shown the proper methods of operating the forklift and then asked to operate it yourself in a safe and competent manner. After successful completion of the skills demonstration, you will be issued a certification card authorizing you to operate similar types of forklifts on company projects.
- The operation of forklifts is a job assignment with a tremendous amount of responsibility for not only your safety but that of your co-workers, pedestrians, and the equipment. Following the safe work practices outlined in this training program and keeping safety foremost in mind at all times will help to ensure the achievement of an accident-free work environment.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EQUIPMENT OPERATOR QUALIFICATIONS

GENERAL

- Only persons authorized by a current Qualified Operators' Listing will be permitted to operate the following equipment:
  - Hydraulic cranes (Cherry pickers, Drotts, etc.)
  - Lifting cranes (Boom/Cable types)
  - Overhead gantry cranes
  - Front end loaders
  - Bulldozers
  - Dumpster trucks
  - Tractor/trailer trucks
  - Forklifts
  - Bucket trucks
  - Manlift (JLG, Scissors lift)

- The person will be assigned by his respective area superintendent, and the listings will be updated as necessary.

- The listings will be kept in readily available files.

- Use the Operator Qualification Form to assign qualified operators for the above-required equipment.

- Operators of all Cranes (Hydraulic / Lattice Boom, etc.) must be NCCCO or NCCER certified.

- Operators of earth moving equipment such as but not limited to Trackhoe, Bulldozer, Backhoe, or Front-End Loader must be NCCER or creditable third-party certified.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Operator Qualification

To: Safety Department

From: _____ (Designated Competent Person)

Through experience, training, and personal observation, the following person(s) is a qualified operator for the equipment indicated.

Name	Equipment

Date: _____

_____
Instructor's Signature

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PERMIT TO EXIT AERIAL WORK PLATFORMS WHILE ELEVATED

Date Requested:	Area:	
Type and Size of Aerial Work Platform:		
Reason for Using Aerial Work Platform for Access:		
Task to Be Performed:		
Distance Aerial Work Platform will be Elevated when Exiting:		
Employee(s) Exiting the Aerial Work Platform: 1) _____ 2) _____		
Supervisor / Foreman Requesting Aerial Work Platform Exit Permit: _____		
The above information is to be filled out by the EXCEL supervisor in charge of work!		
Special Precautions:		
HSE Supervisor / Designee Signature: _____		
Permission to Exit Basket	Yes	No
Project Manager's/Supervisor's Signature: _____		
Permission to Exit Basket	Yes	No

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DOCK OPERATIONS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Any person working over water, on floating vessels, or on docks without protective guarding must wear a U.S. Coast Guard-approved life jacket, and a boat should be available to assist the person in the event of an accident.
- Safety belts with properly attached lifelines must be used when working on elevations above or on water that does not have protective guardrails.
- Employees must work in pairs, and they will exercise extraordinary care in performing their work, keeping in mind that their safety depends upon strict observance of safe practices. The Buddy System will be followed, and at least two men will be in sight of each other at all times.
- There must be a means of communication by two-way radio and/or telephone between the dock area and plant personnel.
- A pre-determined distress signal should be agreed upon in case of emergency.
- A log will be maintained at the dock site. Everyone is expected to sign in when arriving and sign out on departure.
- Unauthorized personnel are allowed in the dock area. Employees must check in with their supervisor prior to going to the dock.
- The Safety Department will be notified prior to any unusual work activities being conducted on the dock or on a vessel.

PERSONAL PROTECTIVE EQUIPMENT

- Safety Belt
    - A Quick Release safety belt with a 6’ lanyard should be used when working without protective guardrails. The tension on lifelines must be such to prevent a person from entering the water in case he falls.
- Life Preserver
    - Life preservers should be the type that maintains the face-up position of the wearer. They should be equipped with a water-activated light and reflective tape.
- Life Ring Buoy
    - A ring buoy should be provided for each crew working over water, on floating vessels, or docks. This ring buoy should be fitted with 90’ of rope and should be readily accessible to every worker within 200’.
- Skiff
    - A suitable skiff with an adequate outboard motor should be maintained in the dock area and be made readily available for emergency use. This skiff should be provided with equipment suitable for night operation, including searchlights.

BURNING AND WELDING OPERATIONS

- Experience indicates that burning and welding are among the most critical hazards of dock activities. However, these activities can be performed safely if proper precautions are taken before such work begins and while it is in progress. Remember, hot work permits must be obtained prior to starting work.
    - No welding operation may begin before specific instructions are issued by the supervisor in charge.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Fire protection equipment must be available, charged, and ready for immediate use when cutting or welding operations are in progress.
- When burning or welding on a dock, means of signaling shall be prearranged whereby operations cease should a hazardous situation arise.
- Burning or welding shall not be performed on any dock by a welder working alone. The superintendent shall delegate one person to serve as “fire watch” and shall instruct that person to remain in the immediate area until the work is completed. It is also the superintendent’s responsibility to determine whether a welder’s helper, in addition to the “fire watch,” is needed to ensure a safe operation.

CRANE OPERATIONS

- Only qualified personnel will be allowed to operate cranes.
- Before any crane is used, the operator shall examine the foundation, cables, drum, dogs, brakes, boom, guard, pins, sheaves, load hook, and wireline for defects. Any defects must be repaired before the crane is used.
- The crane operator will not operate the crane until all persons concerned have been instructed as to the work to be done.
- A qualified signalman shall work with the crane operator. Standard signals must be used. Normally, all signals must be given by the signalman, but the operator should obey an emergency stop signal given by anyone.
- The signalman and operator shall jointly check load charts, confirm the boom length with the chart, establish load weight, and establish the maximum operating radius or corresponding minimum boom angle.
- All cables should be changed when appreciable wear or corrosion is shown. Cables should be inspected monthly, and results should be recorded.
- Slings, fittings, and fasteners, when in use, shall be inspected daily. Slings found to be defective shall be discarded. The date slings are placed in service should be stenciled on the metal connector.
- The operator must properly secure the crane and boom before going off duty and when shutting down operations.
- Safety bolts or latches shall be used on crane hooks each time a load is lifted.
- Load limits for all cranes and “stiff legs” shall be posted in clear view of the operator. Boom angle indicators will be permanently attached to the boom to show the operating radius.
- Maintenance inspections will be made monthly on cranes, “stiff legs,” and their wire lines, and records signed by supervisors will be maintained on the dock or other designated place.
- Tag lines will be used on all suspended loads. It is the responsibility of the operator, signalman, and load handlers to ensure that the load is never over any person.

RULES AND PROCEDURES FOR ABANDONMENT

- Abandonment from a dock by jumping into the water can be particularly hazardous and should be done only if there is NO OTHER means of escape. The following rules should be followed in the event the dock must be abandoned:
  - Make sure the life jacket is on securely.
  - Go to the lowest point possible and enter the water on the downstream shoreline side. This will prevent you from being swept into the dock piling.
  - Remove the hard hat.
  - Look to see that the way is clear and free of protruding objects.
  - Place one hand over the mouth and nose.
  - Grasp the life jacket over the opposite shoulder with the other hand.
  - Keep elbows downward tightly against the chest.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

    - Take a deep breath, jump feet first, keep the body erect with legs crossed and feet locked together, and keep your eyes on the horizon.
- Recommended behavior for victims in cold water.
    - Try to keep your head clear of the water.
    - Unless land or a structure is within easy reach, holding still in the water is preferable to swimming or other vigorous movement. Curl your body by tucking in your knees and keeping your arms close to your body for maximum heat conservation.
- If there are two or three persons in the water, huddling up together is the best method while waiting for rescue.
- Get out of the water and onto a log if possible.
- Above all, try to stay calm and keep alert!

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

MATERIAL HANDLING DRIVER RESPONSIBILITIES

GENERAL

- Truck drivers have the following responsibilities when reporting to a material-handling warehouse:
  - Report to the clerk and turn in your paperwork.
  - Sign onto the Truck Driver Info Sheet indicating the safety locks, chocks, and stabilizer jacks are in place.
  - Turn in your keys to the clerk or to the loading operator (in the event there is no clerk available).
  - Remain in the assigned area until your trailer is loaded or unloaded.
  - At no time are you allowed to re-enter your truck while it is being loaded or unloaded.
  - You must also sign off on the Truck Driver Info Sheet indicating that the safety locks, chocks, and stabilizer jacks have been removed and the loading/unloading operation is complete.
  - Driver agrees by signing onto the Truck Driver Info Sheet that he is relinquishing control of the vehicle and trailer to the loading operator during the loading/unloading operation.
  - You MUST personally verify that the loading/unloading operation is complete after receiving the keys and load sheet.
  - Hard hats and safety glasses are required at all times.
  - No shorts or tank tops are allowed in plant areas.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

DOCK LOADING AND UNLOADING

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The purpose of this procedure is to ensure the safety and health of EXCEL team members and other individuals involved in the process of performing loading and unloading job duties.

SCOPE

- This scope applies to all employees, sub-contractors performing work on behalf of EXCEL, and all parties performing job activities on EXCEL properties or client warehouses and properties. Variances to this procedure must come from Site Management and be approved through corporate safety.

REFERENCES

- 1926.602 (C)
- 1910 Subpart N 1910.176; 1910.178 (I) (1)-(7)

DEFINITIONS

- Industrial Powered Trucks: Motorized equipment that could operate on various fuel supplies to lift, stack, and haul other material within its lifting capacity.
- Lifting Capacity: A safe lifting range set by the manufacturer that can be lifted by the equipment and safely perform the job functions required.
- Wheel Chocks: Place a wedge-shaped device against the wheels of the trailer to prevent the trailer from rolling. -1910.178 (k) (1)
- Trailer Jack: A device used to be placed under the front of an unrigged trailer for support during load or offloading. This device is also used to inform Yard Mule and Contract Drivers a trailer could be getting loaded by a forklift operator and not hooked to the trailer.
- Exclusive Control: The means by which a Clerk or Operator has the sole control of the driver, the safe operations of the Motor Vehicle to prevent the trailer from moving from a zero state while being loaded or offloaded.
- Bill of Lading: Documentation furnished by the Material Controller for loading or by the truck carrier for unloading.
- Container Check Sheet: A form to be completed by the Clerk, Driver, Operator, and QC to ensure exclusive control has been communicated and the trailer has been checked for defects. It's also to ensure all safeguards are in place before the loading and unloading work begins. (pg.9)
- Safeguards: Items such as wheel chocks, Forms, glad locks, dock locks, Jack stands, or signage are used to communicate and control the safe operations of loading and unloading.

ROLES & RESPONSIBILITIES

- Clerks - Basic Job Function: To enter data for shipment and receiving processing.
    - Exports
        - The clerk will verify the type of load.
        - Once the load is considered to be a live load, the clerk will notify the foreman.
        - The clerk will direct the driver to the closest bay door to the material
        - The clerk will inform the driver to disconnect the red air line hose once they are properly positioned at the dock and lay it down on the driver's side so that it can

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

be easily reached and instructed of waiting instructions along with key policy to gain exclusive control of the truck.
        - The clerk, once gaining exclusive control, will give the proper paperwork along with the container check sheet to the foreman so that a loader can be assigned to complete it.
        - Upon return completion of the Container Check Sheet from the loader, the clerk will notify the driver loading or offloading is complete and then relinquish exclusive control back to the driver. Upon loading completion, QC will also be notified for proper inspection.
        - The clerk will contact the container company for any rejected containers and document them properly in the process log books.
    - Domestics
        - Upon receiving a call from the driver, the clerk will get the driver's information (company, Pick Up Number, Trailer Number, Destination)
        - The clerk will check to ensure the order is valid- if it is not valid, then the clerk will contact the driver's dispatcher before going any further.
        - The clerk will instruct the driver to get on the scale.
        - Give Domestic Clerk trailer number information
        - Make sure information is entered into the computer
        - Have the driver properly stage at the closest bay door to the material.
        - Instruct the driver that once they turn off the truck and disengage the airline properly, they are to turn in the keys for exclusive control.
        - The clerk, once gaining exclusive control, will give the proper paperwork along with the Container Check Sheet to the foreman so that a loader can be assigned to complete the order.
        - Upon Completion of the Container Check Sheet from the Loader, the clerk will notify the driver and then relinquish exclusive control to the QC. Upon loading compliance, QC will relinquish control to the driver and return the paperwork to the clerk.
- Loaders (Forklift Operators) - Basic Job Function: To efficiently load and unload product or other material into or out of containers or off the back of a flatbed trailer.
    - The loader will pick up paperwork from the clerk or foreman and ensure the paperwork is signed off by the driver, relinquishing Exclusive Control of the trailer.
    - The loader or foreman will check for accuracy in the paperwork before leaving to complete the Communication Container Checklist.
    - The loader will go to the designated loading/unloading bay and complete the Communication Container Checklist.
    - The loader will place the jack stand under the container for drop-off loads and install glad locks on the braking system and wheel chocks on both sides before offloading or entering the container for inspecting and loading.
    - The loader will document the outside container number on the Communications Checklist in blue or black ink.
    - Ensure the container numbers are accurate with the information from the clerk. If there are any differences, get with the clerk before going any further.
    - Ensure all safety devices (jack stand, glad locks, wheel chocks, dock pins) are in place before installing the ramp onto the container and removing the safety Chains.
    - Once the safety guards are in place for the trailer and the dock plate is secured, the chains can be dropped, and the trailer can be entered to complete the Communication Container Checklist.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The loader will inspect the container's roof, walls, and floor for deficiencies. The trailer must be deemed safe before loading begins. The loader has the authority to reject loading a container due to an unsafe container or weak spots in the floor.
    - If there is poor lighting, then it is the operator's responsibility to get a flashlight or provide adequate lighting for inspecting and loading.
    - Once the container is deemed safe to load, the loader will set up a scanner, enter data, and scan one pallet number at a time.
    - The loader will safely operate the forklift according to manufacturer requirements and lifting capacity to load the documented order safely. Any damaged product will be reported to the clerk.
    - If the loader is presented with an unsafe leaning stack in the warehouse, he/she will at all times get Supervision involved to bring the pallets to a manageable state in a controlled environment.
    - Once the container is loaded, remove the dock plate and safeguards and sign off on the Communication Container Checklist.
- Yard Mule Drivers - Basic Job Function: To efficiently transport containers to and from the site to assigned bays or yard locations for safe loading and offloading material.
    - Follow Driver Responsibilities
    - Yard Mule Drivers will safely stage containers according to the clerk's guidance.
    - Yard Mule Drivers will not move any containers that have a jack stand or safeguards until a Loader safely removes them.
    - Drivers will operate at safe speeds set by the client. (10MPH)
    - Yard Mule Driver will safely mount and dismount the vehicle and use seat belts while in operation.
- Independent/Contractor Drivers - Basic Job Function: To efficiently transport containers to and from the site to assigned bays or yard locations for safe loading and offloading material.
    - Follow Driver Responsibility Requirements
    - Drivers will safely stage containers according to the clerk's guidance.
    - Drivers will operate at Safe Speeds set by the client. (10MPH)
    - Report to the clerk and turn in your paperwork.
    - Turn in your keys to the clerk or to the loading operator (in the event there is no clerk available).
    - Remain in the assigned area until your trailer is loaded or unloaded
    - At no time is the driver allowed to re-enter your truck while it is being loaded or unloaded
    - The driver must also sign off on the Truck Driver Info Sheet indicating the safety locks, chocks, and stabilizer jacks have been removed and that the loading/unloading operation is complete.
    - Driver agrees by signing onto the Truck Driver Info Sheet that he is relinquishing exclusive control of the vehicle and trailer to the clerk and loading operator during the loading/unloading operation.
    - Drivers Must personally verify that the loading/unloading operation is complete after receiving the keys and load sheet and complete the check with EXCEL Quality Control.
    - After being released from QC, the driver will return any information to the guard shack.
- Quality Control - Basic Job Function: To verify outbound shipments utilizing provided equipment.
    - Once contacted by Supervision or the Clerk, QC will have Exclusive Control of the truck and trailer.
    - QC will inspect the content of the load and properly document the contents.
    - If compliance is assured, then QC will seal the container and sign off Exclusive Control back to the driver.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

LOADING & UNLOADING

- Always be aware of your surroundings and pedestrians.
- Before any container inspection, loading, or unloading is complete, all safeguards will be put in place.
- Inspect the floor of the trailer to be sure that it will support the forklift and load.
- Complete the required paperwork legibly.
- Always wear a seat belt and proper PPE when operating the forklift.
- Stack material according to the load patterns.
- If nonessential personnel are within the swing radius or safe zone while loading, operations will stop until the personnel moves
- Ensure that the height of the entry door is adequate to clear the height of your vehicle, taking into consideration the height of the loading platform.
- Understand the weight of your load and the capacity of your forklift and supporting structure.
- Drive straight across the bridge plates when entering or exiting the truck trailer or railroad car.
- Use dock lights and headlights when working in a dark trailer.
- Sound the horn when entering or exiting the trailer.

MATERIALS HANDLING AND STORAGE

- General:
    - Maximum safe load limits in pounds per square foot must be posted in all storage areas within buildings and structures except floor or slab.
    - Aisle and passageways must be kept clear for free and safe movement of material handling equipment and employees.
    - Materials must not be placed within six feet of the hoistway of floor openings or within 10 feet of exterior walls which do not extend above the top of the material stored.
    - Non-compatible materials must be separated in storage.
    - Bagged materials must be stacked by stepping back the layers and cross-laying the bags at least every ten bags high.
    - Materials must not be stored on scaffolds or runways in excess of supplies needed for immediate operations.
    - Brick stacks must be a maximum of seven feet high. When loose brick stacks reach a height of four feet, they will be tapered back two inches in every foot above the four-foot level.
    - When masonry blocks are stacked higher than six feet, the stack shall be tapered back one-half block per tier above the six-foot level.
    - Structural steel, poles, pipe, and other cylindrical materials, unless racked, will be stacked and blocked.
    - Lumber piles must not exceed 20 feet in height or 16 feet when lumber is to be handled manually.
- Indoor storage:
    - Exits must not be obstructed.
    - Non-combustible material must be separated by a barrier having a one-hour fire-resistive rating.
    - Aisle space must be provided to accommodate the widest vehicle that may be used inside the building and also for firefighting purposes.
    - Pallet stacks should not be spaced so that a domino effect could take place (6in no more than 12in)
    - The following clearances must be maintained:
        - 36 inches from sprinkler deflectors

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- 36 inches from fire door openings
- 24 inches around the path or travel of fire doors

WRITTEN TRAINING AND SKILL ASSESSMENT

- No one under the age of 18 will be allowed to operate a forklift under any circumstances.
- Written:
  - Employees will be adequately trained on proper equipment operation – such as lift trucks, dock levelers, vehicle restraints, and overhead doors – to help prevent injuries and accidents.
  - Employees will have an EXCEL forklift license on their persons if the forklift is to be operated.
  - Training Continued:
  - A temporary license can be issued after written training by an immediate supervisor or safety, but at no time will the employee run the forklift unsupervised on a temporary license.
  - Only properly trained and licensed personnel will operate a forklift
  - Documentation will be maintained at the project, and a copy should be sent to the Human Resources Department.
  - This procedure may only be implemented by competent persons as designated by the site manager and safety department. Documentation of competent persons must be kept on file at the project.
  - The designated Competent Person form, contained in Section 5.4 of this manual, has been included at the end of this procedure.
  - Training will be conducted by persons who have the knowledge, training, and experience to train forklift operators and evaluate their competence.
  - This training will be documented by a written examination and evaluation and will be kept on-site.
  - All operators must be certified through this procedure before they are allowed to operate forklifts.
  - All operators must be re-certified annually.
  - Recertification of company operators who have not had a break in service of more than three (3) months will consist of a written examination and updated medical questionnaire, at a minimum.
  - Operators who have had a break in service in excess of three (3) months must also complete the skills demonstration requirements.
  - All prospective operators must complete the "Medical Questionnaire for Equipment Operators."
  - Medical questionnaires must be reviewed by a competent person.
  - Any health deficiencies or positive responses on the medical questionnaire must be reviewed by the safety department before the operator is certified to operate a forklift.
  - This certification procedure consists of two (2) parts: the written training program with corresponding video and exam and the operator skills demonstration.
  - Prospective operators must successfully complete the written or CBT training program and pass the exam prior to proceeding to the skill demonstration.
- Skills Assessment:
  - The Skills Demonstration is designed to verify that prospective operators possess the skills necessary to operate similar types, sizes, etc. of forklifts. This phase of the procedure is conducted as follows:
    1. Select a time and location in your facility that is not busy with heavy traffic.
    2. Establish a training course. You may cordon off a special area or use the actual work area; however, make sure that whichever you choose is free from hazards and simulates the actual conditions the operators will face during a day's work.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

3. Review and show the proper procedures for inspecting the forklift and complete the "Daily Safety Checklist."
4. Review the forklift controls, ensuring students fully understand each one and its purpose.
5. Review the demonstration course, covering the specific activities they are to complete and how this should be accomplished.
6. The competent person or his designee should then complete the course for the students, demonstrating the proper operating methods to use.
7. Have each student complete the course. Utilize the attached "Forklift Operator Skills Evaluation" form to evaluate each student's performance.
8. Immediately after each student has completed the course, review their score with them.
9. Give specific details involving any incorrect practices you may have observed and explain the proper practice.

- If any practices are observed that might endanger the safety of the operator, co-workers, equipment, etc., the test must be stopped immediately.
- Examples of these may include the operator forgetting to ensure the wheels of a trailer are chocked, driving too fast, driving with the load raised in an unsafe position, forgetting to secure the dock plate, failing to secure the seat belt, etc.
    - Students must score 100% on the skills evaluation to receive certification. The attached "Forklift Operator Skills Evaluation" form (pg.8) will be utilized to evaluate performance. It consists of twenty-five (25) criteria, which you may add to if necessary. Students will be graded using a four-point grading system: 1 = Poor, 2 = Fair, 3 = Good, and 4 = Excellent.
    - Students who fail to score 100% on their first attempt are not eligible for certification. Their deficiencies will be reviewed with them, and they may be allowed to repeat the course at the discretion of the competent person.
    - Students who fail to score 100% on their second attempt must receive "one-on-one" training with the competent person before being allowed to repeat the course a third time. If, after the "one-on-one" training, the student fails to achieve 100%, they may not repeat the course and may not be certified until the present evidence of successful completion of a "third party" forklift operator course (such as trade school, vo-tech, union, etc.) After evidence of successful completion of a "third party" course has been submitted, the site manager or competent person may allow the student to repeat the company's forklift operator certification procedure.
    - Students who successfully complete the skills demonstration portion of the program are now eligible for certification and may operate the type of forklifts they were trained on.
    - A company certification card should be issued to all operators who successfully complete this procedure. All documentation, including the operator's written exam, skills evaluation, and medical questionnaire, must be maintained on file at the project.

- Note that in the event of an incident, the forklift operator's badge will be under suspension until further investigation and possible recertification are determined by Site Management.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FORKLIFT OPERATOR SKILLS EVALUATION

Driver's Name: _____ Employee Number: _____

Grading Scale: 1 = Poor 2 = Fair 3 = Good 4 = Excellent

Prospective operators must score 100 for successful completion.

____ 1. Conducted a proper inspection.
____ 2. Shows familiarity with the controls.
____ 3. Planned route of travel.
____ 4. Clear view of the direction of travel.
____ 5. Slowed down at intersections.
____ 6. Sounded horn at intersections.
____ 7. Turned corners slowly, aware of rear end swing.
____ 8. Yielded to pedestrians.
____ 9. Drove under control and within traffic lane.
____ 10. Approached load slowly and squarely.
____ 11. Positioned forks properly under load.
____ 12. Lifted load properly.
____ 13. Maintained a balanced load.
____ 14. Maneuvered with load properly.
____ 15. Traveled with load properly.
____ 16. Lowered load smoothly.
____ 17. Stacked loads properly.
____ 18. Placed load within the designated area.
____ 19. Drove straight up and straight down inclines.
____ 20. Inspected bridge plates and dock boards.
____ 21. Made sure wheels were chocked.
____ 22. Smooth stops and starts.
____ 23. Obeyed all signs.
____ 24. Parked properly.
____ 25. Used seat belt.

TOTAL SCORE: _____

COMPETENT PERSON: _____

DATE: _____

EQUIPMENT: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Loading/Unloading Check Sheet

Driver: _____ DATE: _____ TIME: _____ SHIFT: _____
BAY#_____ AIRBRAKE DISENGAUGED_____ PROPERLY STAGED _____
OUTSIDE CONTAINER # _____ORDER # _____
Understand Driver Responsibilities: _____ Initials

Clerk: _____ **Circle One:** Drop Load Live Load
Yes – No Driver paperwork turned in:
Yes – No Driver signed in; agrees to remain in designated area:
Yes – No Driver's Keys turned in:
Clerk Initial: _____

Loader/Operator: _____
Yes – No – N/A Glad Locks in place on Airbrakes:
Yes – No – N/A Stabilizer Jacks in place:
Yes – No – N/A Wheel Chocks in place:
Yes – No – N/A Dock Plate Secured in Place:
Operator Initial: _____

Container Inspection
The container has been checked for holes, nails, bolts, jagged edges, etc., that could cause damage to materials during transit. Also, inspect for any material inside the container. (Ex. Dirt, Oil, Powder, Pellets, Seeds, Wood, etc.)
******ADD CARDBOARD TO ROUGH AREAS THAT COULD DAMAGE BAGS.******

Y / N CEILING OF CONTAINER- DEFECTS: _____
Y / N FRONT WALL- DEFECTS: _____
Y / N LEFT SIDE DEFECTS: _____
Y / N RIGHT SIDE- DEFECTS: _____
Y / N DOORS- DEFECTS: _____
Y / N FLOOR CLEAN- (If the floor is not clean, sweep and/or remove material from the container.)
Y / N CONTAINER ACCEPTED (If the trailer is rejected, contact clerk and foreman)

BAY CONDITIONS:
Y / N BAY CHAINS DEFECTS: _____
Y / N DOCK PINS DEFECTS: _____
Y / N DOCK PLATE DEFECTS: _____
Y / N BAY DOOR DEFECTS: _____

By signing, I certify that this inspection information is true, that I take responsibility for installing and removing proper safeguards, and that I have loaded, secured, and/or unloaded material according to specifications. This has been communicated, and control of the truck and container has been released to the clerk.

LOADERS SIGNATURE: _____

Relinquishing of Control

Clerks Initials: _____QC Initials: _____Driver Initials: ____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Dock Loading/Unloading Procedure Test

Print Name_____ Instructor_____

Signature _____ Date _____

Multiple choice. Circle the correct answer.

1. Which of these are safeguards that protect us when loading and unloading containers?
    a. wheel chocks
    b. jack stands
    c. signs
    d. container check sheets
2. Once the clerk has exclusive control, who does the clerk give the paperwork and container check sheet to for assignment?
    a. the yard mule driver
    b. the contracted truck driver
    c. the foreman
    d. the loader
3. Who verifies whether the load is a drop load or a live load?
    a. the loader
    b. the contracted truck driver
    c. the clerk
    d. the foreman
4. When does the clerk relinquish exclusive control back to the driver?
    a. when loading is completed
    b. when offloading is completed
    c. when the container has been inspected for quality control
    d. when the container check sheet has been completed
5. For domestic loading, what does the driver do before the clerk has exclusive control?
    a. stage the truck at the bay door
    b. turn off the truck
    c. make sure the information is entered in the computer
    d. disengage the airline and turn the keys in to the clerk
6. Which of these are dock loading and unloading safety devices?
    a. dock pin
    b. bay door chains
    c. glad lock
    d. jack stand
7. A forklift should be operated according to:
    a. capacity limits set by the manufacturer
    b. training received by your employer
    c. site-specific procedures
    d. what we did at the last job
8. Who sets the speed limit on the site?
    a. the pace of production
    b. state law officers
    c. the client we work for
    d. the driver
9. What does the truck driver info sheet contain?
    a. acknowledgment that the loading/unloading is complete
    b. the truck driver's signature
    c. acknowledgment that the safety locks, wheel chocks, and jack stand have been removed
    d. an agreement to relinquish exclusive control to the clerk and loading operator

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

10. The role of a QC includes:
    a. loading material onto a container
    b. look for damaged product
    c. seal the container
    d. document the contents
11. When does a forklift sound its horn?
    a. entering a trailer
    b. exiting a trailer
    c. both a. and c.
    d. neither a. or c.
12. When storing materials:
    a. pallet stacks should not be spaced as to create a potential domino effect
    b. exits can be blocked if room is needed
    c. aisles must be kept clean
    d. scaffolds make great shelves

True or False. Write your answer in the blank provided.

_____ The loader has to verify the container number is correct on the trailer and on the paperwork.

_____ If a container floor is weak in some spots, a loader must continue to operate a forklift in the container.

_____ The paperwork has to be filled out legibly.

_____ You do not have to wear a seatbelt since the forklift operator has to get on and off the equipment.

_____ The Quality Controller has exclusive control over the truck and trailer to perform their duties.

_____ If low light conditions exist and it is hard to see inside the container, the operator has the responsibility to get a flashlight.

_____ A damaged product can still be loaded as long as no one can see it.

_____ It is acceptable to re-enter your truck while it is being loaded.

Acknowledgment

This is to acknowledge that I have received proper training on Dock Loading/Unloading Procedure. Signing below shows that I understand all of the questions and answers included in this test and the verbal training presented to me today.

Print Name_____

Signature _____ Date _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BLINDING/ISOLATION SYSTEMS OF EQUIPMENT AND FIRST LINE BREAK

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- All activities that involve hazardous work shall require blinding/isolation of equipment to provide absolute energy isolation.

HAZARDOUS WORK MAY INCLUDE:

- Hot Work- Work that produces sparks or other heat energy capable of igniting combustible or flammable materials. Examples of hot work would include welding, metal cutting (acetylene torch), grinding, etc.
- Confined Space Entry- Work, which involves personnel entering a confined space to perform work. (Note: For additional requirements, please reference EXCEL'S Confined Space Entry Procedures Section 6.6).
- Identify all blind points for the equipment being prepared for the scope of work and complete a Preliminary JSA, Client procedure, and Permit requirements.

BLINDS/ISOLATION SYSTEMS ARE REQUIRED TO BE:

- Installed in each line going into or out of any piece of equipment being prepared for hazardous work.
- Installed at the closest practical point to the equipment being protected. (i.e., the flange at the point where the line enters the equipment).
- Installed, insofar as possible, so that dead legs (low points in the line where hazardous materials may accumulate) are NOT created between the equipment and the blind. Caution: If dead legs are created when blinds are installed, measures shall be taken to ensure materials do not accumulate in them.
- Site supervision and management shall field verify against the master blind list for the following items: All blinds that have been installed are of the proper size and flange rating, every blind has been installed correctly, and the blinds have been installed in the proper location.
- Perform the necessary lockout/tag-out procedures to prepare the blind points for the scope of work. (i.e., completion of the master tag list, master isolation list, or client blinding list).
- Receive a normal work permit and complete the final JSA Process and a copy of the master blind list.
- Based on the lines in question, select a blind of the proper construction materials and pressure rating.
- Install the proper blinds in the locations identified on the master blind list or client blinding list.
- The preferred method of isolation is first accomplished through blinding. Double block and bleed may be utilized in the place of blinding if 100% isolation can be achieved and verified. In both methods, 100% isolation shall be maintained. In situations where neither blinding nor double block and bleed do not appear possible due to the configuration of the piping/equipment or other reasons, EXCEL personnel are required to follow the SPECIAL LOCKOUT/TAGOUT CIRCUMSTANCES procedure described below.
- After the blinds are installed, hang the properly numbered and colored blind tag at the location.
- At the completion of work, initial the appropriate entries on the master isolation list or client blinding list indicating which blinds and colored tags were installed.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SPECIAL LOCKOUT / TAGOUT CIRCUMSTANCES

- In the event that the lockout / tagout process needs to be applied to a process in which the only isolation point is:
  - A motorized control valve
  - A single-block valve
  - A welded valve that does not have a bleed or vent
- The following steps must be implemented and followed:
  - The EXCEL Site and Corporate Safety and Management Teams must be notified and informed of the conditions. The Corporate Safety & Management Team will then review the circumstances discussed and decide upon the necessary steps to be taken to ensure the safety of all parties involved.
  - After the Corporate Safety & Management Team has discussed the circumstances and made a decision, they will either APPROVE or DENY the Site Team a variance to the procedure.
  - PLEASE NOTE: If a variance is approved, the Site Team will comply with EXCEL's and/or the facility owner's Blinding / Isolation & Line Breaking / Equipment Opening Procedures."

BLIND/ISOLATION SYSTEMS REMOVAL RESPONSIBILITIES

- Complete all the required lockout/tagout steps necessary to perform the work (i.e., completion of the master tag list, master isolation list, etc.).
- Receive a normal work permit from a client representative or competent person and complete the JSA Process along with a copy of the Master Isolation List or Client-Blinding List.
- Remove the blinds and the colored tags.
- Return the colored blind tags to operations.
- Initial the appropriate entries on the master isolation list or client blinding list indicating which blinds and colored tags were removed.
- Energy and Process Isolation control safety requirements. Initial training and/or retraining shall be documented, signed, Certified, and retained onsite. Note: Any variance from this procedure shall require Corporate Safety and Divisional President approval.

LINE BREAK AND PIPE DEMOLITION PROCEDURE

- The following procedure shall be followed when breaking into lines and equipment.
  - Safe Work Method:
    - When performing the first line break on process piping or equipment, the following steps shall be taken to ensure that the correct line to be opened, cut, or demolished is removed correctly and safely.
  - Pipe demo / first line break safe work method sequence:
    - Work is not to be commenced until permitting of the job is completed by the client as witnessed, verified, and signed off by EXCEL supervision, safety, and applicable craft.
    - A separate JSA for each "Pipe System" shall be performed with site supervision, site safety, and applicable craft review and sign-off.
    - The separate "Pipe System" JSA shall be posted within the immediate work area and shall be reviewed and signed off by all EXCEL foreman, general foreman, safety, and applicable craft before cutting commences.
    - Plant operations personnel shall approve all established "Cut Points" before cutting commences.
    - Multiple "Cut Points" on the same "Pipe System" can be mentioned under one JSA. "Cut Points" on an additional "Pipe System" will require an additional JSA. Each piping system will require its own JSA.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Cutting of the pipe to be demoed can only commence after the above steps have taken place.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ONE CUT HOT WORK PIPE DEMO

GENERAL

- The following procedure shall be followed when the demolition of process piping is being performed using hot work methods.

SAFE WORK METHOD:

- When using a “Cutting Torch” or other hot work methods on the demolition of process piping, the following steps shall be taken to ensure that the correct line to be demoed is removed properly and safely.

PIPE DEMO SAFE WORK METHOD SEQUENCE:

- Work is not to be commenced until permitting of the job is completed by the client as witnessed, verified, and signed off by EXCEL supervision, safety, and applicable craft.
- A separate JSA for each “Pipe System” shall be performed with site supervision, site safety, and applicable craft review and sign-off.
- The separate “Pipe System” JSA shall be posted within the immediate work area and shall be reviewed and signed off by all EXCEL foremen, general foreman, safety, and applicable craft before cutting commences.
- Plant operations personnel shall approve all established “Cut Points” before cutting commences.
- Multiple “Cut Points” on the same “Pipe System” can be mentioned under one JSA. “Cut Points” on an additional “Pipe System” will require an additional JSA. Each piping system will require its own JSA.
- Cutting of the pipe to be demoed can only commence after the above steps have taken place.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

LOCK-OUT/TAG-OUT

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The purpose of EXCEL's Lock-out/Tag-out policy is to de-energize and/or isolate all energy sources before beginning work on equipment and to provide a positive means to prevent premature reenergizing of that equipment.
- This Safety Lock-Out/Tag-Out Policy shall be read and applied in conjunction with EXCEL's more specific procedures regarding lock-out/tag-out of piping systems and other equipment addressed in Policy 17.1 (Blinding-Isolation Systems of Equipment & First Line Break), which policy contains specific energy-isolation procedures and safeguards governing those lock-out/tag-out scenarios.
- Applies to all EXCEL employees and sub-contractors.

GENERAL

- EXCEL provides employee training to its personnel regarding lock-out/tag-out procedures, including Lock-Out/Tag-Out Authorized Employee Training, where applicable. The content of such employee training is considered part of EXCEL policies and procedures on Lock-Out/Tag-Out where applicable. EXCEL personnel may also be required to undergo site-specific safety training provided by a Client or Facility Owner.
- Client or Facility Owner operating facilities in which EXCEL personnel work have the primary responsibility for developing and implementing equipment-specific lock-out/tag-out procedures because they have the greatest knowledge of their machines and equipment along with their energy sources, as well as the isolation points for those energy sources. EXCEL personnel are responsible for verifying that Client or Facility Owner personnel have isolated equipment from energy sources in compliance with its applicable equipment-specific procedures.
- EXCEL personnel involved in the lock-out/tagout processes have the responsibility of verifying all energy sources have been isolated and reduced to a zero-energy state, in addition to applying their locks and/or tags to the energy isolation points (or group lock-out devices) in accordance to the Client or Facility Owner's Lock-out/Tag-out and Work Authorization Permitting Procedures.
- This procedure establishes the requirements of energy control for all types of equipment, as prescribed by OSHA Regulation 1910.147 and 1926.417 "The Control of Hazardous Energy."
- Failure to comply with these procedures is considered very serious and will result in disciplinary action.

LOCK-OUT / TAG-OUT PROCEDURE

- The following steps will be performed to ensure the equipment is:
    - Safely isolated and energy removed.
    - Appropriately locked out and tagged out to control "All" energy sources.
    - Remains locked out and/or tagged out until all employees performing work have completed their work.

GLOSSARY OF TERMS

- Lock-out Device: A device that utilizes a lock, either key or combination, to hold an energy isolating in a safe position. If an energy source cannot be locked out, a tag-out system shall be utilized.
- Tag-out Device: A warning tag (weather and chemical-resistant) standardized in color and size, with wording warning of hazardous energy (Do Not Start) (Do Not Open) (Do Not Close) (Do Not

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Energize) (Do Not Operate). The tag-out device shall also include the name of the authorized employee, the date, the department, and the expected completion date.

- Affected employee: An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lock-out to tagout or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.
- Authorized Employee: The person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance.
- Other Employee: An employee whose work operations are or may be in an area where energy control procedures may be utilized. This employee shall be instructed about the procedure and about the prohibition relating to the attempts to restart or reenergize machines or equipment that are locked or tagged out.
- Master Tag / Master Card: A document used as an administrative control and accountability device. This device is normally controlled by operations department personnel and is a personnel group tagout device/mechanism if each employee personally signs on and signs off on it and if the Master Tag clearly identifies each authorized employee who is being protected by it. The Master Tag / Master Card is typically used in conjunction with the Host Employer's Work Permit System.
- Energy Isolation Log: A document typically prepared by the Host Employer noting the location of all energy isolation devices. It is typically used in petrochemical plants and refineries where there are a large number of isolation points needed to perform a specific task. Like the Master Card, it is often used in conjunction with a Work Permit System.

STORED ENERGY

- Following the application of lock-out or tagout devices to energy-isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, and otherwise rendered safe.
- If there is a possibility of re-accumulation of stored energy level, verification of isolation shall be continued until the servicing or maintenance is completed or until the possibility of such accumulation no longer exists.

PREPARING EQUIPMENT

- EXCEL personnel working on equipment will:
    - Review Master Tag List or energy isolation log and/or the client's site-specific Lock-out / Tag-out Procedure
- The lead contract/owner representative preparing to work on the equipment must field verify all of the listed isolation points while reviewing the Master Tag list.
- Other personnel working within the skill group being permitted have the right to field verify all of the isolation points but are not required to do so.
- Verify all energy isolation points (breakers, switches, etc.) are in the OFF or open position.
- Lock each energy isolation point with a personal lock.
- Each person performing maintenance on equipment where lock-out/tag-out is used will hang a personal lock on each identified energy isolation point. The device shall indicate the identity of the employee applying the device.
- Test all positions of ALL of the Start / Stop, "Hand Operated or Activated" HOA switches to provide absolute verification of electrical isolation.
    - Physical testing of the switches is only required of the lead maintenance person but may also be performed by other personnel in the skill group if permitted.
    - Equipment with permissive starts, such as an auxiliary lube oil pump, etc., shall have all permissive satisfied while verifying energy isolation.
- Return all switches to the "OFF" position.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Sign the Master Tag list.
- Sign the Master Isolation list if one is required.

COMPLETION OF WORK RESPONSIBILITIES

- At the completion of work, each maintenance person will:
  - Remove all personal locks from all energy isolation points.
  - Inform the permitting person of the job status.
  - Sign off the Master Isolation List.
  - By signing off, contractor/owner representative personnel certify that all tools and equipment have been removed.
  - Upon verifying that all permitted personnel have signed off the Master Isolation list, sign off the Master Tag list. (lead maintenance person only)
  - A contractor/owner representative may be signed on to no more than two Masters.
  - Isolation lists at the same time.

LOCK REMOVAL PROCEDURE

- Persons wishing to remove a personal lock from equipment must:
  - Verify there are no tools or equipment left in/around the equipment being unlocked.
  - Notify all personnel in the area where the action is taking place.
  - Remove lock and document action in Sign On / Sign Off Log or Master Tag/Master Card, etc.

LOCK REMOVAL PROCEDURE WHEN THE AUTHORIZED EMPLOYEE IS NOT PRESENT

- In the event that the authorized employee who applied the lock-out or tagout device is not available to remove it, that device may be removed under the direction of the site management and supervision. Provided that the site management and supervision fully adhere to the following procedure:
  - Site management and supervision shall verify that the authorized employee who originally applied the lock-out or tagout device is not present at the facility or job site.
  - Make all reasonable efforts to contact the authorized the authorized employee. If the authorized employee cannot be reached, refer to the employee's emergency contact list.
  - Before the lock-out or tagout device can be removed, site management and supervision shall meet with the affected and other employees who are working in the area where the removal is taking place (definitions of these employees can be found in the general section of this policy). Site management and supervision shall notify the affected and other employees of the situation and make them aware of the hazards involved and the necessary control methods.
  - Clear the affected area before removing the lock-out or tagout device, and barricade the area where the device is being removed. Employees are not allowed to be in the affected area while the lock-out or tagout device is being removed.
  - Safely remove the lock-out or tagout device. Only site managers and supervisors are allowed to remove a lock-out or tagout device in this scenario.
  - After removing the lock-out or tagout device, site management and supervision are responsible for notifying the affected and other employees when it is safe to return to work.
  - Site management and supervision are responsible for ensuring that the authorized employee who originally applied the lock-out or tagout device has knowledge of the events before he/she returns to work.
- Site managers and supervisors are responsible for ensuring that these steps are followed correctly and safely. These regulations are backed by 29 CFR OSHA 1910.147(e)(3) …(i)-(iii).

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

LOTO DEVICES TEMPORARILY REMOVED

- When testing machines where the LOTO device has temporarily been removed, the following requirements shall be followed.
  - Clear away tools.
  - Remove employees
  - Remove the LOTO device
  - Energize and proceed with testing
  - De-energize and re-apply control measures
- The person who performs and verifies this procedure shall be documented.

GROUP LOCK-OUT OR TAGOUT

- When servicing or maintenance is performed by a crew, craft, department, or other group, they shall utilize a procedure that affords the employees a level of protection equivalent to that provided by the implementation of a personal lock-out or tagout device.
- Primary responsibility is vested in an authorized employee for a set number of personnel working under the protection of a group lock-out or tagout device.
- When more than one crew, craft, or department is involved, the assignment of overall job-associated lock-out or tagout control the responsibility is that of the authorized employee designated to coordinate affected workforces and ensure continuity of protection.

BLINDING OF EQUIPMENT

- Refer to Excel 12.1, Blinding / Isolation Systems of Equipment & First Line Break
- Some activities that involve hazardous work require blinding of equipment to provide ABSOLUTE energy isolation. Hazardous work may include:
  - Hot Work- Work that produces sparks or other heat energy capable of igniting combustible or flammable materials. Examples of hot work would include welding, metal cutting (acetylene torch), grinding, etc.
  - Confined Space Entry-Work which involves personnel entering a confined space (as defined in Sec_8.6) to perform work.
- Identify all blind points for the equipment being prepared for maintenance. Blinds are required to be:
  - Installed in each line going into or out of any piece of equipment being prepared for hazardous work.
  - Installed at the closest practical point to the equipment being protected. (i.e., the flange at the point where the line enters the equipment).
  - Installed, insofar as possible, so that dead legs (low points in the line where hazardous materials may accumulate) are NOT created between the equipment and the blind.
  - Caution: If dead legs are created when blinds are installed, measures shall be taken to ensure materials do not accumulate in them. To detect and prevent dead legs, test the air quality and thoroughly clean the pipe.
  - Perform the necessary lock-out/tag-out procedures to prepare the blind points for maintenance work. (i.e., completion of master tag list, master isolation list. (See Lock-out / Tag-out Procedure).
  - Receive a normal work permit and a copy of the master blind list.
  - Install the proper blinds in the locations identified on the master blind list.
  - After the blind is installed, hang the properly numbered colored blind tag at the location.
  - At the completion of work, initial the appropriate entries on the Master blind list indicating which blinds and colored tags were installed.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BLIND REMOVAL RESPONSIBILITIES

- Complete all the required lock-out/tag-out steps necessary to perform the work (i.e., completion of the master tag list, master isolation list, etc.). See Lock-out/Tag-out.
- Receive a normal work permit from operations along with a comp of the master blind list.
- Remove the blinds and the colored tags.
- Return the colored blind tags to operations.
- Initial the appropriate entries on the Master blind list indicating which blinds and colored tags were removed.

SPECIAL ELECTRICAL LOCK-OUT/TAG-OUT CONSIDERATIONS

- Lock-out of individual electrical energy isolating devices is the preferred method of control for lock-out/tag-out purposes. However, lock-out of the individual isolating devices may not always be possible (i.e., lighting panels with non-lockable switches, heat tracing circuit panels, etc.).

PANELS WITH METAL GUARD CAPABILITY

- Where non-lockable switches are located on panels that are capable of being covered with a metal guard:
    - Switch the appropriate energy isolation switch to the off position.
    - Verify isolation of electrical energy by actuating each start/stop and/or Hand Actuated Automatic switch station.
    - Equipment with permissive starts, such as an auxiliary lube oil pump, etc., shall have all permissive satisfied while verifying energy isolation.
    - Each facility will identify its non-typical equipment and develop appropriate procedures for verifying electrical isolation.
    - Attach the metal guard over the switch panel.
    - Attach a “LOTO-Do Not Operate” tag to the metal guard.

PANELS WITHOUT METAL GUARD CAPABILITY

- Where non-lockable switches are located on panels that are NOT capable of being covered with a metal guard, the following steps will be followed.
    - Switch the appropriate energy isolation switch to the off position.
    - Place a piece of tape over the switch in the off position and attach a LOTO- Do Not Operate tag on the switch.
    - A panel watch shall be assigned the duty of watching the switch to ensure it is not tampered with.
    - If the duration of the work warrants, disconnect the wire and install a wire nut over the loose bare end and tape. Then, attach a LOTO-Do Not Operate tag to the wire and replace the panel cover. No panel watch will be required under these conditions.

SPECIALTY LOCKING DEVICES

- Specialty locking devices such as plastic switch covers designed to fit over the throws on multi-breakers and light switches and provide a lock-out tab for lock insertion may be used where available. These devices must meet all applicable requirements of OSHA standards.

CORD AND PLUG EQUIPMENT

- Equipment powered through a cord and plug can be worked on without locking out the circuit if the plug is removed from the source and the plug remains in the control of the person performing the work.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

WORKING ENERGIZED EQUIPMENT

- If it becomes necessary to work on energized equipment, both the EXCEL Superintendent and Safety Representative must approve the work. This work will only be performed in cases of extreme emergency. All employees required to work on energized equipment MUST be trained in accordance with NFPA 70-E.
- This procedure is designed for the protection of all EXCEL employees. All parties involved must be in total compliance with this procedure. Any violation of this procedure will result in immediate termination.
- Refer to Lock-out/Tag-out training in Appendix B. All employees involved MUST be trained, and training MUST be documented.
- A periodic inspection will be conducted and documented at least annually to ensure procedures and requirements are being followed at each job site.
- A site-specific safety plan shall identify potential energy sources, such as electrical, steam, hydraulic, tension, and gravity, to which EXCEL employees may be exposed. The EXCEL onsite site manager/safety manager shall coordinate with the host employer to ensure that adequate lock-out/tag-out procedures are in place.

SPECIAL LOCK-OUT / TAGOUT CIRCUMSTANCES

- In the event that the lock-out / tagout process needs to be applied to a process in which the only isolation point is:
    - A motorized control valve
    - A single-block valve
    - A welded valve that does not have a bleed or vent
- The following steps must be implemented and followed:
    - The EXCEL Site and Corporate Safety and Management Teams must be notified and informed of the conditions. The Corporate Safety & Management Team will then review the circumstances discussed and decide upon the necessary steps to be taken to ensure the safety of all parties involved.
    - After the Corporate Safety & Management Team has discussed the circumstances and made a decision, they will either APPROVE or DENY the Site Team a variance to the procedure.
    - PLEASE NOTE: If a variance is approved, the Site Team will comply with EXCEL's and/or the facility owner's Blinding / Isolation & Line Breaking/Equipment Opening Procedures."

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

LOCK-OUT/TAGOUT DEVICE REMOVAL FORM

In the event that an authorized employee who applied the lock-out or tagout device is not available to remove it, the device may be removed under the direction of the site management and supervision, provided that they fully adhere to the following procedure:

- Site management and supervision shall verify that the authorized employee who originally applied the lock-out or tagout device is not present at the facility or job site.
- Make all reasonable efforts to contact the authorized employee. If the authorized employee cannot be reached, refer to the authorized employee's emergency contact list.
- Before the lock-out or tagout device can be removed, site management and supervision shall notify the affected employees and other employees who are working in the area where the removal is taking place. Site management and supervision will inform the affected employees and other employees of the situation and make them aware of the hazards involved, as well as the necessary control methods. ***(NOTE: Definitions of these employees can be found in the general section of this policy).***
- Site management and supervision will clear the affected area before removing the lock-out or tagout device, and barricades with hazard identification tags will be installed around the area where the device is being removed. Unauthorized personnel are not allowed to be in the affected area while the lock-out or tag-out device is being removed.
- Site management and supervision will safely remove the lock-out or tagout device. Only site managers and supervisors are allowed to remove a lock-out or tagout device in this scenario.
- After removing the lock-out or tagout device, Site management and supervision are responsible for notifying the affected and other employees when it is safe to return to work.
- Site management and supervision are responsible for ensuring that the authorized employee who originally applied the lock-out or tag-out device has knowledge of the events before he/she returns to work.

  - **Owner of Lock/Tag: _____(print)**
  - **Person Contacting Owner of Lock/Tag: _____(Print/Sign)**
  - **Equipment Locked/Tagged Out:_____**
  - **Date of Removal:_____ Time:_____**

Steps taken to contact owner of Lock/Tag: _____

_____

Reason for removing Lock or Tag: _____

_____

_____	_____	_____
Site Manager Signature	**Superintendent Signature**	**Safety Manager Signature**
_____	_____	_____
Site Manager Print	**Superintendent Print**	**Safety Manager Print**
_____	_____	_____
Date	**Date**	**Date**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FLANGE BREAKING

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Before “breaking” any flange (on any line, pipe, vessel, or tank), the foreman of the crew performing the work must take the following steps:
    - Contact the Operating Department that has authorized the work and check the precautions that have been taken to isolate the work and to ensure that it is free of any hazardous substances.
    - Once the LAST SUBSTANCE CONTAINED has been identified, the responsible foreman will ensure that all PERSONAL PROTECTIVE EQUIPMENT required for that substance be used until the flange “breaking” is completed.
        - The personal protective equipment will be worn by all persons in the immediate area of the flange “breaking” and will continue to be worn until there is no chance of a blockage or back pressure escape.
        - Remember to consider all low-point traps.
        - Remember - break bolts away from you first.
        - Verify open drain valves by rodding out to check for blockage.

INJURY PREVENTION

- This procedure will be followed when the LAST SUBSTANCE CONTAINED HAS ANY POTENTIAL FOR CAUSING INJURY OR ILLNESS (i.e., steam, hot stock, chemicals, high pressure, etc.). Therefore, it must be identified every time a flange is to be opened.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

LINE BREAKING / EQUIPMENT OPENING / DEMOLITION SAFETY CHECKLIST

Project Number: _____ Issued Date: _____ Issued Time: _____ a.m. / p.m.

Task Description: _____ Wind Direction: _____

Location of Task: _____ Permit/Work Order#: _____

The Craft Supervisor will participate in planning and issuance of permits when job tasks require breaking into process lines or equipment. The Craft Supervisor will monitor job progress throughout the line-breaking task as it relates to the safety of those performing the work. The Craft supervisor will notify Excel Safety Department **before** each First Break.

PRE-JOB WALKTHROUGH REVIEW – The following items must be identified and marked correctly and understood by all involved parties OF DEMO prior to PRE-JOB REVIEW.

1. All Piping and Equipment to be demoed have been properly identified with PAINT or COLOR-CODED TAPE to be determined by the tie-in plan.
2. All areas surrounding the items to be demoed have been thoroughly researched for any non-demo piping in close proximity.
3. All Live Piping and Equipment in close proximity to demo items have been properly labeled as such.
4. Can a sample be taken?
5. Concentration shown? If yes: % Oxygen _____ LEL _ PPM __ Temperature ___°F

PRE-JOB REVIEW

○ Yes ○ No	Identification of last known chemical(s) contained in the line, equipment, vessel, etc. being opened.
○ Yes ○ No	SDS or product information sheets reviewed with the crew and attached to the Line Breaking Checklist. MUST BE COMPLETED (Not required for air, steam, H_2O, firewater).
○ Yes ○ No	A Blind isolation list and/or simple drawing has been developed showing the location of all isolation points.
○ Yes ○ No	Appropriate upstream and downstream valve(s) must be closed, disconnected, blinded, locked, chained, or have a mechanical restraining device affixed with proper tag(s)
○ Yes ○ No	Ball valves with handles must be removed
○ Yes ○ No	"Do Not Operate" tags or equivalent shall be at all isolation points
○ Yes ○ No	The supervisor has accompanied the Client Representative on a joint job site inspection of all inspection points for that particular line break task.
○ Yes ○ No	Switches and/or push buttons that operate pumps, blowers, or any electrical, pneumatic, or hydraulic equipment has been locked and tagged per the "Lockout/Tagout" Guidelines.
○ Yes ○ No	Have attempted to activate and manually operate mechanical devices to ensure they are properly isolated.
○ Yes ○ No	Each employee has been thoroughly trained as the line-breaking plan states.
○ Yes ○ No	Process streams identified? SDS/Material _____
○ Yes ○ No	Area barricaded to prevent unauthorized personnel from entering the work area (including areas below)?
○ Yes ○ No	If scaffolds are required, are they built large enough, and do they provide safe egress from the work platform?
○ Yes ○ No	If scaffolds are required, are scaffolds properly placed to allow proper positioning of the containment device?
○ Yes ○ No	Are all the proper tools, equipment, and materials at the job site, including flange spreaders, brass wedges, and brass hammers?
○ Yes ○ No	Have bolts been loosened, doped, or replaced one at a time in advance? (Bolt prepping should be limited to flanges with more than 4 bolts.)
○ Yes ○ No	Eyewash/safety shower available for first aid and decontamination purposes. **If No, then a temporary shower is needed.**
○ Yes ○ No	Are breathing air bottles within view of line breaking/tie-in? (Must be positioned upwind.)
○ Yes ○ No	Are air hoses routed, positioned, and protected from damage?
○ Yes ○ No	Is equipment or piping depressurized? Normal Operating pressure of line- _____ PSI.
○ Yes ○ No	Bleeder valves used to confirm that the system is depressurized shall be tagged open and rodded to ensure it is not plugged.
○ Yes ○ No	Is equipment or piping drained?
○ Yes ○ No	Is equipment or piping decontaminated?
○ Yes ○ No	If equipment and piping are not drained, are break points wrapped to ensure full containment, and is the containment device in place and ground covered?
○ Yes ○ No	Positive checks have been performed to verify that the desired level of decontamination has been reached.

EXCEL

REQUIRED EMPLOYEE TRAINING VERIFIED

○ **First Break Training**	○ **Breathing Air Training**	○ **Other**
○ **Scaffold User**	○ **Fire Safety**	_____
○ **Lockout/Tagout**	○ **Pulmonary Function Test**	
○ **Asbestos Awareness**	○ **JLG**	_____
	○ **Fit Test**	

Emergency Response:

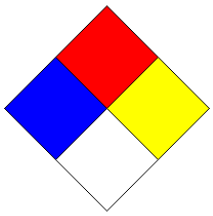
1. Company Radio Channel: _____
2. Safety Department: _____
3. Client Phone: _____

Health Hazards: _____

_____

Method of Detection: _____

_____



The amount of PPE essential to carry out the LINE BREAKING TASK will depend on the relative hazards associated with the CHEMICALS and the positive verification that the system has been decontaminated.

NOTE: In cases where the configuration of the piping will not allow positive tests to verify the level of decontamination, maximum PPE will be furnished to crafts persons performing the task. CHECK ALL THAT APPLY.

RESPIRATORY PROTECTION

- **a. Supplied with egress (5 minutes)**
- **b. Supplied air**
- **c. SCBA**
- **d. Full-face negative pressure**
- **e. Half-face negative pressure – cartridge type**
- **f. N/A**

BODY PROTECTION

- ○ **Flash suit**
- ○ **Fire retardant clothing**
- ○ **Chemical suit**
- ○ **Glow suit (Level B)**
- ○ **Totally encapsulated suit (Level A)** _____
- ○ **Chemical suite (PVC)**
- ○ **Protective boots**
- ○ **N/A**
- ○ **Other**

HAND PROTECTION

- **g. Chemical gloves (butyl rubber, neoprene, nitrites, polyvinyl, Vinton)**
- **h. Heat resistant gloves**
- **i. Leather**
- **j. Other** _____

FACE/HEAD PROTECTION

- ○ **Chemical hood**
- **k. Face shield**
- **l. Mono Goggle (chemical, splash, dust)**
- **m. Hard hat**
- **n. Other** _____

ADDITIONAL JOB INSTRUCTIONS – List all equipment needed for job task (bucket, wedges, wrenches, gaskets, new bolts, etc.)

_____

_____

_____

Supervisor Signature

I acknowledge receiving these instructions, understand the instructions, and will fully comply with the assigned job task.

Signature	Employee/Badge No.	Signature	Employee/Badge No.
_____	_____	_____	_____

Name of owner representative _____

NOTE: Prior to the start of the break – verify that operator has clear understanding of precautions and procedures that will be used in performing the line break task.

VERIFY OPERATOR PERMISSION TO PROCEED: PROCEED _____ Yes _____ No

If "NO", reason for delay _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PERSONNEL BASKETS/CRANE SUSPENDED PLATFORMS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- This procedure sets forth the requirements and conditions for the use of crane-suspended personnel baskets.

HAZARD DETERMINATION

- The use of a crane or derrick to hoist employees on a personnel platform is prohibited, except when the erection, use, and dismantling of conventional means of reaching the worksite, such as a personnel hoist, ladder, stairway, aerial lift, elevating work platform or scaffold, would be more hazardous or is not possible because of structural design or worksite conditions.

GENERAL SAFETY

- All hazardous conditions that could influence the lift, such as proximity to electrical sources, high winds, environmental hazards, etc., must be considered before starting the job.
- The lift area should be barricaded, and/or overhead work signs should be posted before work begins.
- A flagman knowledgeable of the standard hand signals is required in the basket unless radio communication is used.
- Radio communication is required when a line of sight is obstructed or in dark conditions, and it is recommended at all times.
- A tagline shall be continuously attended throughout the job unless its use would create an unsafe condition.
- The number of basket occupants shall be kept to a minimum, but at no time may exceed four.
- All occupants must wear a full-body harness with a lanyard (min. 5/8” diameter).
- Employees shall keep all parts of the body inside the platform during raising, lowering, and positioning.
- Employees must always stand firmly on the floor of the basket and not sit on the railing or climb on ladders or materials in the basket to gain an elevated working position.
- Before employees enter or exit a hoisted platform, it should be secured to the structure they are exiting to or from, unless securing to the structure creates an unsafe condition.
- Tools and materials should be secured to the basket when necessary and evenly distributed within the platform.
- The platform shall only be used to hoist employees, their tools, and materials necessary to do their work and shall not be used to transport only tools or materials.
- No lifts shall be made on another of the crane’s load lines while personnel are suspended on the platform.

CRANE REQUIREMENTS

- The crane’s hoist must be equipped with a system or device on the power train other than the load hoist brake, which controls the lowering speed of the hoist. Free fall is prohibited.
- The use of cranes with live booms (booms in which lowering is controlled by a brake without aid from other devices that slow the lowering speeds) is prohibited.
- The crane must be equipped with a working mechanical type, positive-acting anti-two-blocking system that deactivates the hoist action before damage occurs if the hoist block contacts the boom tip.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Cranes with telescoping booms must have a boom length indicator readily visible to the operator, or an accurate measurement of the load radius to be used during the lift shall be made prior to hoisting personnel.
- Cranes must have a boom angle indicator readily visible to the operator.
- Load and boom hoist drum brakes, swing brakes, and locking devices, such as pawls or dogs, shall be engaged when the occupied personnel platform is in a stationary working position.
- The crane shall be uniformly level within 1% of the level grade and on firm footing. Outriggers resting on unpaved surfaces require mats.
- The total weight of the loaded platform and rigging shall not exceed 50% of the rated capacity for the radius and configuration of the crane.
- The operator of the crane must remain in control of the rig at all times when employees are suspended. He must maintain contact with basket occupants at all times and not allow himself to be distracted by outside activities.
- At no time will the crane be allowed to travel with employees in the basket.
- The crane should be inspected for mechanical integrity at the beginning of the shift, and a copy of the “Crane Inspection Report” shall be kept on file at the job.

BASKET REQUIREMENTS

- Personnel baskets shall be constructed in compliance with design drawings approved by a registered professional engineer.
- The platform shall be capable of supporting its own weight and at least five times the intended load.
- Basket should be of all-welded metal construction/design and welded by a qualified welder.
- The basket shall be enclosed by a guard rail system composed of a top rail approximately 42” above the flooring, a “grabrail” located inside of the top rail at or above 42”, and a mid-rail and toe board. All rails shall be capable of supporting a 200-pound force if applied in any direction.
- The lower framework should be covered from the toe board to the mid-rail with solid construction or expanded metal with openings of 1/2” or less.
- If the basket is equipped with a door, it must have a positive latch and shall not swing outward.
- Both the net weight and maximum intended load shall be permanently marked on the platform.
- All hooks must be the type that can be totally closed and locked. All shackles must be “alloy anchor-type” with a bolt, nut, and retaining nut.
- In addition to hard hats, overhead protection shall be provided on the basket if an overhead hazard exists.
- All wire rope, shackles, rings, master links, and other rigging hardware must be rated at least five times the maximum intended load applied to that component. When a rotation-resistant rope is used, it shall be rated at ten times the maximum intended load.
- All eyes in wire rope slings shall be fabricated with thimbles.
- When a wire rope bridle is used, it shall be connected with a master link or shackle to ensure that the load is evenly divided between the legs.
- The rigging equipment selected for hoisting personnel must not be used for any other purpose and should be kept apart from other rigging or clearly identified in some way. It must be capable of handling 5 times the maximum intended load (10 times for rotation-resistant wire rope).

PROOF TESTING

- At each job site, prior to hoisting employees and after any repairs or modification to the platform or rigging, the platform and rigging shall be proof tested to 125% of its rated capacity by suspending it for five minutes. After proof testing, a competent person shall inspect the platform and rigging. (This test may be done concurrently with the test lift.)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TEST LIFT PROCEDURE

- Immediately prior to placing personnel in the platform, a test lift shall be made from the location where the employees will enter the platform to each location where work will be performed. The test weight shall be at least the anticipated lift weight and may include the materials and tools to be used during the actual lift as part of the test weight.
- The test lift shall be repeated whenever the crane is moved to a new location or returned to a previously used location. A new test lift shall be made when the lift route is changed unless the operator determines that the change would not affect the safety of the lift.
- After the test lift but before employees enter the basket, the platform shall be lifted a few inches and inspected to see that ropes and lines are free of kinks and twists, the hook is centered over the platform, and that hoisting lines are properly seated on drums and in sheaves.
- Immediately after the test lift, a competent person shall visually inspect the crane, rigging, platform, and crane base or ground to determine if testing has exposed any defect or produced any adverse effects.
- A pre-lift meeting attended by the crane operator, flagman, platform occupants, ranking job head, and any others involved with the lift shall be held to review this procedure prior to the test lift at each new work location and when any new employees are assigned to the operation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Personnel Basket Checklist

Inspected by: _____ Date: _____
Basket No.: _____ Capacity: _____
Rig Operator: _____

Rig Level, Outriggers Fully Extended, Solid Footing	
Hydraulic Leaks - Visual Walk Around	
Cable Drum - Even, Smooth Cable Wraps	
Cable Path - Unobstructed / Anti-Two Block Equipped & Operation Verified	
Cable - Visual Inspection for Kinks or Deterioration	
Locking Type Safety Latch - Headache Ball	
Headache Ball - “Hook Pin” - Cotter Pin - Nut	
Headache Ball - “Main Pin” - Cotter Pin - Nut	
Cable Clamp - Tighten	
Manlift Basket Inspection Tag	
Basket Cables - Good Condition - Check under Basket	
Basket Cable Clamps - Good Condition, Tight	
Basket Grating - Toe plate - Good Condition	
Safety Choker - Hooked above Headache Ball - Must be at least 5/8” in dia.	
Manbasket Tagline	
Experienced Flag Person	
Certified Manbasket Operator	
Manbasket Trial Lift	
Safe Work Permit	
Weather Conditions Acceptable	

As a competent person, I have witnessed the above-mentioned trial lift and have inspected all applicable items.

_____
Supervisor’s Signature

Note: The combined weight of the load, platform, and all rigging must not exceed 50% of the rated capacity of the crane. The trial lift must be repeated with a change of operator or equipment location.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ELEVATED WORK PLATFORM AND FLOOR GRATING REMOVAL PERMIT

GENERAL

- The following procedure shall be used before, during, and at the end of any project where elevated work platforms are pre-constructed, constructed, modified, and used by EXCEL.

1. This inspection procedure covers all elevated work platforms including, but not limited to, stairways, handrails, mid rails, toe boards, floor grating, fixed ladders, fixed ladder cages, and landing platforms, and access gates to these platforms and all associated fittings and bolt up.

2. This elevated platform inspection and floor grating removal permit shall be used in the event any elevated work platform is in place when the work activity starts, is built during the project, or is modified in any way, shape, or form during the work activity.

3. This inspection procedure should be used when the job is completed for the final turnover status of all elevated work platforms.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

Elevated Work Platform Inspection Checklist

Inspector: _____ Date: _____ Time: _____
Site Location: _____ Structure: _____
Elevation: _____

Access to the Elevated Work Platform	
Steps secured and evenly spaced?	☐Yes ☐No
Complete handrails at adequate heights and tightly secured?	☐Yes ☐No
Top rail 42" high, mid-rail 21" high, and toe plate/board 4" high?	☐Yes ☐No
Fixed ladders secured and provide safe access?	☐Yes ☐No
Double arm gates in place at every fixed ladder landing?	☐Yes ☐No
Ladder cage extensions in place from the base of the cage to the top rail of the platform?	☐Yes ☐No
Grating on Elevated Work Platform	
Are the clips in place to secure the grating?	☐Yes ☐No
Was a hard barricade installed where the grating has been removed?	☐Yes ☐No
Warning signs in place where hard barricades are being used?	☐Yes ☐No
Monitors present where barricade tape is being used around openings in the grating.	☐Yes ☐No
Temporary (Wall or Floor Penetrations) Covers	
Are adequate materials being used for temporary (wall or floor penetrations) covers? 3/4" plywood or greater?	☐Yes ☐No
Temporary (wall or floor penetrations) covers secured to prevent displacement? # 9 wired down?	☐Yes ☐No
Temporary (wall or floor penetrations) covers labeled properly?	☐Yes ☐No
Permanent Guardrail System Around the Elevated Work Platform	
Permanent guardrails adequate height top rail 42" high, mid-rail 21" high, and toe Plate/board 4" high, capable of supporting 200lbs. per square inch?	☐Yes ☐No
Permanent guardrails secured?	☐Yes ☐No
Are adequate protection systems installed where permanent guardrail is incomplete? Hard barricade or barricade tape & monitor?	☐Yes ☐No
Warning signs in place where permanent guardrail is incomplete?	☐Yes ☐No
Permit	
Has a Floor Grating Removal Permit been completed and approved where required?	☐Yes ☐No

Comment/Action Required:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

Floor Grating Removal Permit

Date:		Starting Time:	_____a.m._____ p.m.
Company:		Date :	From _____ To _____
Location:			

Name of Observer / Inspector	
Nature of Work	

Process Review	
☐ JSA Completed	☐ Barricades In Place
☐ Hazard Signs Posted	☐ Safety harness with shock absorber lanyards
☐ Area Inspected	☐ Covers (Standing Scaffolding Planks)
☐ Observer Assigned	☐ Cover Anchored Down

The penetration must be covered or barricaded with fixed handrails at all times.
The penetration cover must be anchored/secured and have a sign in place at all times.
"DANGER PENETRATION COVER DO NOT REMOVE."

	Name	**Signature**	**Date**
Initiator –Site Supervisor			
Site Manager			
Site Safety Manager			

Handing Back of Safe Work Area (Reinstating Safe Work Area Status)		
Floor grating in place, clips attached	☐ Yes	☐ No
If NO, what steps are being taken to verify that the area is maintained in a safe condition?		
Area Inspected	☐ Yes	☐ No

Supervisor Name:	
Signature:	
Date:	
Time:	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

CONTINUOUS FALL PROTECTION

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The scope of this policy is to ensure employees are continually protected against falls. All corrective measures will be taken to ensure employees are protected from fall hazards.
- The key to the assurance against a fall is a supervisor's monitoring and enforcement, followed closely by the worker's knowledge and adherence to safe work practices.
- Safety monitoring systems and their use shall comply with the following provisions:
    - A competent person shall be designated to monitor the safety of the employees. The designated competent person safety monitor shall be competent to recognize fall hazards.
    - The safety monitor shall warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner.
    - The safety monitor shall be close enough to communicate orally with the employee.
    - The safety monitor shall not have other responsibilities that could take the monitor's attention away from the monitoring function.
- Compliance with this policy is a condition of employment.
- No personally owned fall protection equipment including, but not limited to, full body harnesses, lanyards, lanyard extensions, cheaters, D-Ring extenders, etc. are allowed on any EXCEL job sites. All employees that are trained and certified to wear fall protection equipment will be issued EXCEL owned PPE (Equipment).

FALL HAZARDS

In order to protect against falls, the key factor is the recognition of the hazard. Falls are generally a result of poor work practices, poor conditions, or a combination of both.
Fall prevention begins in the planning stage of the project and/or task.

- Such planning includes:
    - Analyzing fall potential and erecting lifelines or equivalent to provide for continuous fall protection
    - Layout and arrangement of tools and/or equipment
    - The layout of aisles, passageways, floors, entrances, exits, and the clear access way maintained
    - Illumination
    - Weather hazard recognition (rain, sleet, snow, mud, and ice)
    - Use of personnel hoisting equipment (aerial lifts, personnel baskets, etc.)
- All personnel shall be trained in the proper methods to achieve continuous fall protection. This training shall be documented.

STANDARD PROTECTION

- Standard protection against falls shall be an assurance that adequate guard rails (handrail, mid-rail, toe plate) are installed on work platforms, scaffolds, and stairways (with four or more risers).
- Employees will under no circumstances be allowed to walk or work on piping, regardless of the width, radius, and length of said pipe.

SAME LEVEL FALL PROTECTION

- Good housekeeping is the key to the prevention of same-level falls.
- Usable and waste material shall be stored out of pathways and shall not congest a work area.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Surfaces shall be kept free of slipping hazards (grease, oil, chemicals, metal shavings, etc.).
- Floor holes and openings shall be covered so as not to create a tripping hazard.
- Attempts shall be made to maintain even floor surfaces.
- Material shall not be allowed to accumulate around worktables, desks, threading machines, etc., as to cause a hazard to the worker.
- Welding leads, extension cords, air hoses, etc., shall be elevated or positioned so as not to be a tripping hazard.

LOWER LEVEL FALL PROTECTION (GENERAL)

- An attempt shall be made to either install the permanent guardrails or to install temporary guardrails on or around surfaces that are four feet above floor level.
- In the event scaffolds, ladders, or work platforms are selected for use, they shall be in accordance with the specifications noted in Section 10, Parts 19 and 20, respectively.
- In the event mechanical personnel lifts are selected for use, they shall be in accordance with the specifics noted in Section 10, Part 13.

CONTROLLED ACCESS ZONES

- An area in which certain work may take place without the use of guardrail systems, fall arrest systems, or safety net systems and access to the zone is controlled will be determined as a Controlled Access Zone (CAZ). Controlled Access Zones and their use shall conform to the following provisions.
    - When used to control access to areas where leading edge and other operations are taking place, the CAZ shall be defined by a control line or by any other means that restricts access.
    - When used to control access to where overhang bricklaying and related work are taking place, the CAZ shall be defined by a control line erected not less than 10 feet nor more than 15 feet from the working edge. Additional control lines shall be erected at each end to enclose the CAZ.
    - Control lines shall consist of ropes, wires, tapes, or equivalent materials and supporting stanchions.
    - On floors and roofs where guardrail systems are not in place prior to the beginning of overhead bricklaying operations, CAZ shall be enlarged, as necessary, to enclose all points of access, material handling areas, and storage areas.
    - On floors and roofs where guardrail systems are in place but need to be removed to allow overhang bricklaying work or leading edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

LEADING EDGES

- Unprotected Sides and Edges. Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge that is 4 feet or more above a lower level shall be protected from falling by the use of guardrail systems, safety nets, or personal fall arrest systems.
- Each employee who is constructing a leading edge that is 4 feet or more above lower levels shall be protected from falling by the use of guardrail systems, safety nets, or personal fall arrest systems. Exception: When the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer shall develop and implement a fall protection plan that meets the requirements of paragraph k of 1926.502. NOTE: There is a presumption that it is feasible and will not create a greater hazard to implement at least one of the above-listed fall protection systems. Accordingly, the employer has the burden of establishing that it is appropriate to establish a fall protection plan that complies with 1926.502(k) for a particular workplace situation in lieu of implementing any of those systems.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Each employee on a walking/working surface 4 feet or more above a lower level where leading edges are under construction but who is not engaged in the leading edge work shall be protected from falling by the use of guardrail systems, safety nets, or personal fall arrest systems. If a guardrail system is chosen to provide fall protection and a controlled access zone has already been established for leading-edge work, the control line may be used in lieu of a guardrail along the edge that parallels the leading edge.

SAFETY HARNESS

- Double lanyard safety harnesses/lifelines shall be used as employee protection against falls to a lower level when guardrails cannot be used.
- Employees working from an unprotected elevation more than four (4) feet above the ground floor shall be required to wear an approved safety harness and be secured to an object of substantial capacity capable of supporting 5,000 pounds (i.e., pipe, structure, cable, or erected lifeline).
- Employees shall additionally wear a safety harness and be secured when working from floats, needle beam scaffolds, boatswain chairs, painters spiders, etc. Independent lifelines may be required to secure the safety belt.
- Safety harnesses shall be worn and attached to aerial lifts, personnel baskets, etc. when employees are required to work from these mechanical personnel hoists.

LANYARDS AND LIFELINES

- Safety harness lanyards shall be a minimum of 1/2” nylon, flexible steel, or equivalent, with a breaking strength of at least 5,000 pounds.
- Lanyards shall have a maximum length of no greater than six (6) feet to provide for a free fall.
- Lifelines and lanyards shall be secured above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5,000 pounds.
- Personnel performing work on electrical equipment shall use a minimum of 1/2” nylon or equivalent. Flexible steel shall not be used.
  Persons performing “hot work” should take precautions to protect their safety equipment.
- Lifelines, lanyards, and safety harnesses shall be used for employee safeguarding, not as work positioning devices.
- Lifelines and lanyards shall be protected from cutting, pinching, or burning and must not be placed over a sharp edge.
- In hot work operations or those involving the use of acids, solvents, or caustics, lifelines, and lanyards shall be kept clear to avoid burning or damage.

STORAGE/GENERAL USE

- When purchasing equipment and raw materials for use in the fall protection system, applicable ANSI and ASTM requirements should be met. If the personal fall arrest system is being used by an employee having a combined person and tool weight of less than 310 pounds, the system will be considered to be in compliance. If the system is used by an employee having a combined person and tool weight of 310 pounds or more, the criteria will be modified to provide proper protection for such heavier weights, or the system will not be deemed to be in compliance.
- Fall protection systems and all supporting equipment must be stored in a clean, dry place free from abrasive or cutting materials and excessive heat.
- Any lifeline, safety harness, or lanyard actually subjected to in-service loading, as distinguished from static load testing, shall be immediately removed from service and shall not be used again for employee protection.
- A two-lanyard system will be used to achieve continuous fall protection.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

INSPECTION

- Prior to issuance, safety harnesses, lanyards, and lifelines shall be inspected. In addition, they shall be inspected on a regular basis by the wearer.
- An inspection must be performed weekly on all erected lifelines using the following Erected Lifeline Checklist. This inspection must be performed by a designated competent person.
- In the event the wearer feels that his/her safety harness, lanyard, or lifeline is not in perfect condition, it shall be reported immediately for inspection.
- An inspection shall consist of a visual inspection of the following:

Belts	Lanyards/Lifelines
Stitching	Frayed strands
Rivets	Broken strands
Buckles	Rot
Buckle tabs	Burns
“D” Rings	Corrosion
Rust and abrasion	General Appearance
Burns	Proper hooks
General appearance	Exposure of warning tag
Deformation of connectors	Deformation of connectors

TRAINING

- Employees shall be trained in the proper fall protection methods and requirements.
- Additional training shall be given to the employees concerning safety harnesses, lanyards, and lifelines.
    - The proper use of
    - The proper wearing of
    - The proper securing of
    - The proper inspection of
    - The potential hazards associated with

DOCUMENTATION

- All fall protection and fall protection equipment training shall be documented.
- Documentation shall be maintained by the safety representative.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Erected Lifeline Checklist

	YES	NO
1. Are main supports adequate and tight?	_____	_____
2. Is cable size adequate? (1/2" or above)	_____	_____
3. Are all bolts tight, secure, and properly torqued?	_____	_____
4. Are all connectors the proper type and size?	_____	_____
5. Is intermediate bracing adequate?	_____	_____
6. Is the cabling showing signs of wear?	_____	_____
7. Does the lifeline allow access to all work areas?	_____	_____
8. Are cable ends taped or covered to prevent injury?	_____	_____

_____ _____

Inspector Job Location

_____

Date

**NOTE: If any questions are answered "no", immediate corrective action must be taken.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FALL PROTECTION/LIFELINE SYSTEM
TRAINING SCRIPT

The intent of this plan is to convey the design, installation, materials used to build, method of training, and continued use of a lifeline system to arrest falls when performing work in the pipe bands on this project. _____, THE COMPANY Site Safety Supervisor, will be the designated competent person responsible for the design, installation, inspection, training, and normal use of this system.

PRE-TEST

- This test will assess your present knowledge of fall protection systems.

DEFINITIONS

- Anchorage Point: A secure point of attachment capable of supporting 5,000 pounds.
- Lifeline: A component, normally wire rope, which serves as a means for connecting other components of a personal fall arrest system to an anchorage point.
- D-rings: A D-shaped ring is positioned on the back of a safety harness where lanyards/lifelines are attached.
- Snap Hooks: Lock-type connecting hooks attached to lanyards and used for attaching the lanyard and safety harness to an anchorage point.
- Self-retracting Lifelines: Lifelines that automatically retract and limit the distance of free fall to 2 feet.
- Continual Fall Protection: 100% protection from injury resulting from a fall, which uses systems such as safety harnesses, lifelines, controlled access zones, safety nets, handrails, midrails, and guardrails.

HAZARD DETERMINATION

- Pre-planning for fall protection eliminates getting into non-compliance situations. “Plan time to attach your line.” Also, ensure that the space beneath you is unobstructed so that in the event of a fall, you don’t strike any objects.

SYSTEM MATERIAL LIST

- Lifelines
- 1/2” Wire Rope
- 8 - “U” clips for each lifeline - Minimum 4 per termination to attachment point, spaced 3 1/2” apart.
- Air hose for softeners to protect wire rope
- Existing I-Beams for attachment points
- Retractable lanyards limiting free fall to 2’
- Double lanyard safety harnesses limiting free fall to six (6) feet.

SYSTEM INSTALLATION PROCEDURE

Under the supervision of _____, THE COMPANY employees trained and designated competent will use a JLG lift to install 1/2” wire rope and U clips in existing pipe bands.

USE OF LIFELINES TO ACCESS AND EGRESS ELEVATED WORK AREAS

- Access and egress to elevated areas via scaffolds, scaffold ladders, and extension ladders erected by THE COMPANY’s competent persons and/or qualified subcontractors will be inspected daily by _____.
- JLG lifts will be used when scaffolds and ladders cannot be used.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Retractable lifelines will be used for vertical access and egress to elevated work areas and to assure continual fall protection. Employees will be attached to a horizontal lifeline or any other attachment point capable of supporting 5,000 pounds before disconnecting from the vertical lifeline system.
- Only two employees may be attached to one lifeline system at a time. Note: Employee and tool weight must be less than 310 pounds.
- Persons traversing the elevated area will use an 8' retractable lanyard system limiting fall to 2'. Stationary employees working in elevated areas will use standard double-lanyard harnesses.

PPE

- Personal Protective Equipment (PPE) includes but is not limited to a hard hat, safety glasses with side shields, hard-toe shoes, and a safety harness with double lanyards. Your hard hat, safety glasses, and work shoes are minimum PPE when working at any THE COMPANY job site. When working above four (4) feet on this job site, a double lanyard safety harness, free from frays, cuts, and damage, will be worn and used in accordance with this plan, policy, and procedure. This is a condition of employment.

RESCUE

- THE COMPANY will train and designate competent persons in the event rescue for a fall is needed. Mechanical JLG lifts (3 on-site) will be used to retrieve the employee should a fall occur. _____ will supervise the training and rescue effort, and THE COMPANY foremen will be the designated rescue team. Alarm, summons, and rescue efforts will be communicated via 2-way radios, which all of the above-mentioned teams will have in their possession at all times.

INSPECTIONS

- Prior to each shift or period of equipment use, you must inspect your PPE for damage, wear, or fatigue. When equipment is questionable, turn it into your supervisor for reissue of new equipment. Do not use scaffolds, ladders, and lifelines unless the designated competent person has inspected the equipment and tagged it for use.

TRAINING

- _____ will be responsible for the training and documentation of training for all employees exposed to falls. This training will include the proper use and maintenance of the fall arrest system. A test will be given to ensure comprehension of the training program is adequate for affected employees. The training will be conducted prior to such a person using any lifeline system.
- The training text for the procedure will be 29 CFR 1926 Subpart M, the "Protection Plus Training Center" fall protection training course, and the THE COMPANY Corporate Safety Manual. The pre- and post-tests that will be used on this project are attached.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

LADDERS

GENERAL REQUIREMENTS

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Purchase and use only approved construction-grade ladders.
- Straight and extension ladders require non-skid feet.
- Portable ladders shall be placed on a substantial level base, and the area around the top and bottom of the ladder shall be kept clear.
- The use of ladders with broken or missing rungs, broken or split side rails, or other faulty or defective construction is prohibited. Ladders with such defects will be removed from service immediately.
- All ladders are to be inspected on a regular basis.
- Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced when the ladder is in position for use.

GENERAL PRECAUTIONS

- Generally, step ladders shall be used to provide an elevated work platform, and straight ladders to provide access to another work level. Ladders shall be used only for the purpose for which they were designed.
- Before a ladder is used, it shall be inspected carefully for missing cleats, cracked or missing rungs, or side rails. Ladders shall be inspected periodically and after any occurrence that could affect their safe use. Any found to be defective shall be tagged and taken out of service. Ladder inspection shall be done by a competent person.
- Ladders shall not be loaded beyond the maximum intended load for which they were built nor beyond the manufacturer's rated capacity.
- Ladders shall not be placed in a horizontal position and used as a runway or scaffold.
- Place portable ladders so that both side rails have secure footing. Provide solid footing on soft ground to prevent the ladder from sinking.
- Only one employee shall work from a ladder at one time. If work requires two employees, a second ladder shall be used.
- Never lean a ladder against unsafe backing, such as loose boxes or barrels.
- Employees shall face the ladder when ascending or descending and shall use both hands. If material must be handled, use a rope.
- Ladders shall not be painted. They shall be treated only with a transparent, non-conductive material and be kept free from dirt or materials that could conceal defects.
- If a ladder is to be placed where the opening of a door may displace it, the door shall be locked or otherwise guarded.
- Be sure that shoes are not greasy, muddy, or slippery before climbing. Never slide down a ladder.
- Never use a defective ladder. Tag or mark it so that it may be repaired or destroyed.
- Do not leave placed ladders unattended unless properly secured.
- Metal ladders or ladders with metal side rails shall not be used near electric equipment or lines.
- Employees shall not tie their safety harnesses off on a ladder unless the ladder is properly secured and then only if there is no suitable independent structure.
- The bottom section of straight or extension ladders shall be equipped with safety shoes. The top section should always be securely tied off to something substantial.
- Do not reach further than arm's length from the ladder. Move the ladder as work progresses.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- All ladders must be equipped with a 6’ tie-off rope, which shall be tied off as soon as the ladder is positioned. If no suitable anchor point is available, a second worker shall steady the ladder.
- Employees shall not carry anything in their hands while climbing or descending ladders.

STRAIGHT LADDERS

- Employees shall not work higher than the third rung from the top on straight or extension ladders. Straight ladders shall not be used unless equipped with a non-slip base.
- Ladders shall be placed so the distance from the foot of the ladder to the base of the wall or other support is one-fourth the working length of the ladder.
- Portable ladders shall be tied or otherwise secured to prevent their being displaced.
- Ladders must be extended at least 36 inches (three rungs) above the landing when used for access to elevated positions. When ladders are not able to extend 36 inches above the landing surface, the ladder shall be secured at its top to a rigid support that will not deflect.

STEP LADDERS

- Employees shall not use the top step of a step ladder.
- If an employee is working on a step ladder 10 feet or more above the floor, the ladder shall be held by at least one other person.
- Step ladders shall not be used as straight ladders.
- Step ladders shall be fully spread and locked open when the ladder is in use.

JOB MADE LADDERS

- Job-made ladders have many regulations covering their construction. Some of the regulations are as follows:
    - Single cleat ladders shall not exceed 30 feet (2” x 4” lumber shall be used for side rails and cleats on ladders up to 10 feet long - ladders from 16 to 30 feet will have 3” x 6” side rails with 2” x 4” cleats).
    - Double cleat ladders shall not extend 24 feet (2” x 4” lumber shall be used for side rails, mid-rails, and cleats up to 12 feet in length - from 12 to 24 feet in length, 2” x 6” lumber will be used for all rails with 2 x 4 cleats).
    - Width between side rails (or between side rail and midrail) at least 15” but not more than 20” at top/side rails can be flared top to bottom by no more than 1/4” for every two feet length.
    - Spacers (not of plywood) will be between all cleats to make the rails smooth.
    - All cleats will be spaced on 12” centers.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SCAFFOLDING

GENERAL

- The safety of Employees engaged in scaffold erection and dismantling, as well as those Employees who work on or use scaffolds, shall be ensured.
- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 C.F.R. Parts 1910 and 1926.
- This procedure provides the minimum guidelines to be followed when scaffolds and platforms are erected and utilized on worksites. This does not apply to crane-suspended personnel baskets.
- This applies to all Employees and on-site contractors covered by The Company Health and Safety Program.

REFERENCES

- OSHA 29 C.F.R. 1926: Subpart L; Scaffolds (1926.450 - .454)
- OSHA 29 CFR 1910.28: Safety Requirements for Scaffolding
- OSHA 29 CFR 1910.22: General Requirements for Work Surfaces

DEFINITIONS

- Boatswains' Chair – A Single-point adjustable suspension scaffold consisting of a seat or sling designed to support one employee in a sitting position.
- Brace – A rigid connection that holds one scaffold member in a fixed position with respect to another member or to a building or structure.
- Cleat - A structural block used at the end of a platform to prevent the platform from slipping off its supports. Cleats are also used to provide footing on sloped surfaces such as crawling boards.
- Competent Person - One who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them.
- Coupler - A device for locking together the tubes of a tube and coupler scaffold.
- Guardrail - A vertical barrier consisting of, but not limited to, top rails, mid-rails, and posts erected to prevent employees from falling off of a scaffold, platform, or walkway to lower levels.
- Lifeline – A component consisting of a flexible line that connects to an anchorage at one end to hang vertically (vertical lifeline), which serves as a means for connecting other components of a personal fall arrest system to the anchorage.
- Maximum Intended Load – The total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.
- Outrigger – The structural member of a supported scaffold used to increase the base width of a scaffold in order to provide support for an increased stability of the scaffold.
- Qualified Person – One who, by possession of a recognized degree, certificate, or professional standing, or who, by extensive knowledge and training, has demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.
- Rated Load – The manufacturer's specified maximum load to be lifted by a hoist or to be applied to a scaffold or scaffold component.
- Scaffold – Any temporary elevated platform (supported or suspended) and its supporting structure (including points of anchorage) used for supporting employees, material, or both.
- Single Pole Scaffold – A supported scaffold consisting of a platform(s) resting on bearers, the outside ends of which are supported on runners secured to a single row of posts or uprights, and the inner ends of which are supported on or in a structure or building wall.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Suspended Scaffolds – Scaffolds with one or more platforms suspended by ropes or other non-rigid means from an overhead structure. Examples include Single-Point, Two-Point, and Multi-Point Adjustable Suspension Scaffolds, Interior Hung Scaffolds, Float (ship) Scaffolds, Boatswain's Chairs, and Catenary Scaffolds.
- Three Points of Contact – Term used for a method of safe ladder climbing where between a climber's two hands and two feet, at least three of them are in contact with the ladder rungs/rails at all times while ascending or descending the ladder.
- Tube and Coupler Scaffold – A supported or suspended scaffold consisting of a platform(s) supported by tubing, erected with coupling devices connecting uprights, braces, bearers, and runners.

RESPONSIBILITIES

- Site Management is responsible for assuring overall implementation of and compliance with Scaffolding Requirements. They must be familiar with these procedures and utilize the expertise at their disposal to ensure Employees are protected while erecting, dismantling, and working on scaffolding.
    - Site Management Shall designate scaffolding Supervisors as Competent Persons.
- Supervisors responsible for Employees performing work on scaffolds must:
    - Ensure Employees have received the proper scaffold user training as required.
    - Confirm each job has been properly evaluated for hazards associated with scaffolding, such as design, fall protection, falling object protection, electrical protection, etc., and that these hazards have been properly eliminated or controlled.
    - Continuously monitor the work to ensure compliance.
- Supervisors of scaffold erection crews must:
    - Have completed training and Site Manager Designation as a Competent Person for scaffolding operations.
    - Ensure all scaffold craftsmen have received the proper training on scaffold erection, alteration, movement, repair, disassembly, and inspection as required.
      Continuously monitor the scaffold work to ensure compliance with applicable OSHA standards.
    - Ensure they or another designated Competent Person performs initial inspections on completed scaffolds to use prior to each shift or after any occurrence that may affect a scaffold's structural integrity.
- Employees shall receive scaffold user training and shall work on scaffolds accordingly.
    - Inspect each scaffold tag and take the required precautions prior to working on a scaffold.
    - Use any required personal fall protection according to the training received.
    - Never attempt to alter or repair any scaffold without proper training and authorization.
- Scaffolding Competent Persons shall assist Site Management with compliance.
- Scaffolding Competent Persons are responsible for supervising scaffold erection and performing inspections prior to initial use, before each work shift, and upon any occurrence that may affect the structural integrity of the scaffold.
- Qualified persons (normally a Registered Professional Engineer) are responsible for scaffolding design, scaffolds erected over 125 feet high, and pole scaffolds erected over 60 feet high.
- The Site Safety Representative shall assist Site Management in compliance.
- The Site Safety Representative shall monitor field scaffolding activities for compliance and keep Site Management informed of these monitoring results.

TRAINING

- Training Requirements for Scaffold Erectors:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - These requirements are applicable to each employee who performs work while on the scaffold.
  - Scaffold User training shall be performed by a person designated by the Site Manager.
  - The training shall include the following topics as applicable:
    1. The proper use of the scaffold and the proper handling of materials on the scaffold.
    2. The maximum intended load and load-carrying capacity of the scaffolds used.
    3. The nature of any overhead work/falling objects, personal falls, and electrical hazards in the work area.
    4. The correct procedures for dealing with electrical hazards.
    5. The proper use of personal fall protection equipment and fall protection systems.
    6. The overhead work / falling object protection system is being used.
    7. The requirements are applicable to scaffold users.
- Retraining for both Scaffold Erectors and Scaffold Users is required when:
  - There are changes in the types of scaffolds, fall protection, falling object protection, or other equipment or procedures related to the hazard associated with site scaffolding.
  - Changes in the worksite present new hazards to which the employee has not been previously trained.
  - An employee demonstrates a lack of skill or understanding, or inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained proficiency.

INSPECTION AND STORAGE

- Scaffold users shall read scaffold tags prior to using any scaffold. The instructions or warnings outlined on the tag MUST be followed. Users shall inspect the scaffold prior to and during use and report any defects or concerns to their Supervisor immediately.
- Scaffolds and scaffold components shall be inspected for visible defects by a Competent Person prior to initial use, before each work shift, and after any occurrence that could affect a scaffold's structural integrity.
- Before erecting and during dismantling, trained scaffold craftsman shall inspect all scaffold components. Those found with defects must be repaired or replaced immediately.
  - Handrails, midrails, cross bracing, and steel tubing shall be inspected for nicks, especially near the center span, and indications where a welding arc has struck.
  - Scaffold components shall be straight and free from bends, kinks, dents, and severe rusting.
  - Scaffold frame weld zones shall be inspected for cracks and ends of tubing for splitting or cracking.
  - Manufactured decking shall be inspected for loose bolt or rivet connections and bent, kinked, or dented frames. Plywood surfaces should be checked for softening due to rot or wear and peeling or delaminated layers at the edges. Scaffold boards should be inspected for rot, cracks, notches, and other damage. Also, inspect cleats if used.
  - Each quick-connecting device, whether spring, threaded connection, or toggle pin arrangement, should be inspected to see that it operates properly. Caste, if used, should be inspected for smooth rolling surfaces, free turning, and acting swivel, and to be sure that the locking mechanism is in good working order.

PROCEDURE

- All scaffolds shall be designed by a Qualified Person or manufacturer and shall be erected, loaded, and used in accordance with that design or manufacturer's specifications.
- Scaffolds shall be erected, altered, moved, or dismantled by trained scaffold erectors and under the Supervision of Competent Persons. See Training Requirements.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Employees required to perform work on scaffold platforms shall be trained in recognition and the control measures for the hazards associated with the type (s) of scaffold being used. See Section 6.0: Training Requirements.
- Scaffolds shall be capable of supporting, without failure, its own weight and at least 4 times the maximum intended load.
- Scaffolds with work platforms of 4 feet or more above ground or at the next lower level should have complete guardrails and toe boards installed. See Fall Prevention and Fall Protection.
- All scaffold work platforms must be completely decked between the uprights and/or guardrail supports.
- Scaffold platforms shall be a minimum of 18 inches wide.
- All scaffold decking shall be Scaffold Grade or equivalent. See Scaffold Decking (Boards).
- The footing or anchorage for all scaffolds shall be sound, rigid, and capable of supporting the loaded scaffold without settling or displacement. Unstable objects such as barrels, boxes, loose bricks, or concrete blocks will not be used to support scaffolds. Mud sill's 12" X 12" and base plates are recommended. When using leveling jacks, ¾ of its length must remain inside the scaffold leg.
- The poles, legs, or uprights of scaffolds shall be plumb and securely and rigidly braced to prevent swaying and displacement.
- Manufactured scaffold components shall not be modified. Scaffold components manufactured by different manufacturers or of dissimilar metals shall not be intermixed unless the components fit together without force modification and the scaffold's structural integrity is maintained as determined by a Competent Person.
- Supported scaffolds with a height-to-base width ratio of more than four to one (4:1) shall be restrained from tipping by guying, tying, bracing, or equivalent means.
    - Guys, ties, and braces shall be installed according to the scaffold manufacturer's recommendations or at the closest horizontal member to the 4:1 height and be repeated vertically at locations of horizontal members every 20 feet or less thereafter for scaffolds 3 feet wide or less and every 26 feet or less thereafter for scaffolds greater than 3 feet wide.
    - The top guy, tie, or brace of completed scaffolds shall be placed no further than 4:11 height from the top. Such guys' ties and braces shall be installed at each end of the scaffold, and horizontal intervals should not exceed 30 feet.
- Design drawings must be made prior to erection and kept on site for any scaffold over 125' high. They must be made by a licensed professional engineer competent in this field.

SCAFFOLD DECKING (BOARDS)

- Scaffold Grade 2" X 10" or 2" X 12" board material only will be used.
- No paint or material that would affect proper visual board inspection or work surface safety may be applied to scaffold boards. Scaffold boards may be painted 10 to 12 inches on each end to denote use for scaffold decking only.
- Scaffold boards are not to extend over their end supports more than 12" or less than 6".
- All decking on platforms shall be overlapped (minimum 12") or secured from movement.
- Do not use cleated boards with cleats turned up.

SCAFFOLD TAGS

- The most effective means of communication between the scaffold builder and the scaffold user is a scaffold tag. The following guidelines and two sample systems will assist in developing an appropriate tagging system for any project. All scaffolds must be tagged.
- The crew that erects the scaffold will complete and attach the appropriate tag.
- The tag should be placed at eye level on or near the access ladder so it is easily located and plainly visible.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- A competent person shall ensure that the scaffold is erected properly and the tag attached is properly and completely filled out.
- An untagged scaffold must NOT be used.
- If a scaffold is to be used for an extended period of time, it should be inspected periodically by a Competent Person. See Inspection.

TAGGING SYSTEM

- Color-coded tags are required to identify a scaffold.
    - A GREEN TAG is completed and attached by the erecting crew to scaffolds, which have a complete handrail, mid rails, toe boards, and decking.
    - A YELLOW TAG is completed and attached to scaffolds, which cannot be erected with all components complete. The YELLOW TAG also informs the user that 100% Fall protection is required while on the scaffold.
    - Any scaffold that is NOT TAGGED SHALL NOT BE USED.

ACCESS TO SCAFFOLD PLATFORMS

- When scaffold platforms are more than 2 feet above or below a point of access, an attached ladder or other approved ladder/stair system must be used by scaffold users to reach the platform.
- Hook-on and attachable ladders shall be positioned so that their bottom rung is not more than 24 inches above the scaffold supporting level.
- Access ladders must extend 36" above the platform being accessed, or equivalent safe access shall be provided.
- Scaffold bracing shall not be used for access or climbing. Integral prefabricated scaffold access frames must be specifically designed and constructed for use as ladder rungs.
- Hook-on and attachable ladders shall be broken with rest platforms at 35-foot maximum vertical intervals.
- Hook-on and attachable ladders shall be specifically designed for use with the type of scaffold being used.
- Rungs must be uniformly sized and spaced with a maximum interval between rungs of 16 ¾ inches.
- Rungs must be at least 11 ½ inches long (left to right).

SCAFFOLD USE

- Scaffolds shall not be loaded in excess of their maximum intended loads or rated capacities.
- Debris shall not be allowed to accumulate on platforms.
- Do not stack brick, tile, block, or similar material higher than 24" on the scaffold deck.
- Makeshift devices, such as boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of Employees.
- Ladders shall not be used to increase the working level height of employees except when:
    - The ladder is placed and secured against a structure that is not a part of the scaffold, and the scaffold/platform is secured against movement and any side thrust exerted by the use of the ladder,
    - The ladder must be secured against movement at the top and the bottom legs.
    - This ladder use is approved by the Supervisor.
- Where swinging loads are being hoisted onto or near scaffolds such that the loads might contact the scaffold, tag lines or equivalent measures to control the loads shall be used.

FALL PREVENTION AND FALL PROTECTION

- Fall Protection is required on All Scaffolds 4 feet or greater in height, with either a GREEN or YELLOW tag.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FALL PREVENTION

- All scaffold guardrail systems must meet the design/performance requirements set forth in this section and by OSHA standards.
- Guardrail systems shall be completely installed before the scaffold is released for use by Employees other than erection and dismantling crews.
    - Guardrail systems shall be surfaced to prevent injury to employees, such as punctures or lacerations.
    - The top edge height of top rails or equivalent members shall be installed between 38 and 45 inches.
    - Each top-rail or equivalent member shall be capable of withstanding, without failure, a force applied in any downward or outward direction of at least 200 lbs.
    - Rope, No. 9 wire, banding material, etc., shall not be used as a top-rail or mid-rail.
    - Mid-rails shall be installed at a height approximately midway between the tip edge of the guardrail system and the platform surface. When intermediate members are used as a mid-rail, they shall not be more than 19" apart.
    - Each mid-rail or equivalent member shall be capable of withstanding, without failure, a force applied in any downward or outward direction of at least 150 pounds.
- Where guardrail systems are incomplete, missing, or moved to allow access for work, personal fall protection shall be used on the affected platform(s).
- In some cases, a building, structure, equipment, or piping may prevent the proper installation of a completed scaffold guardrail. A Competent Person can determine whether these obstructions meet or exceed the applicable guardrail requirements to be used instead of the scaffold guardrail system. The Competent Person should use the Scaffold Tag to indicate when these conditions are acceptable.

PERSONAL FALL PROTECTION

- Approved 100% personal fall protection is required on any scaffold that is 4 feet or greater above the ground or next lower level or anytime on a suspended scaffold platform. Working as stated above means while traveling, stationary, or at any time exposed to a fall hazard.
- Personal fall protection used on scaffolds shall be attached by a lanyard to a vertical lifeline, horizontal lifeline, or approved scaffold structural member.
- Personal fall protection is not required while using a designated ladder or access system, provided "three points of contact" are maintained when ascending or descending a scaffold (access way) and the requirements of applicable OSHA standards for ladders and stairways are met.
- Employees may not climb any ladders with anything in their hands. Tools and materials may be hoisted up or down by ropes or other devices.

FALLING OBJECT PROTECTION

- All persons working on or in the vicinity of scaffolds shall wear an approved hard hat.
- In addition to wearing hard hats, Employees shall be provided with additional protection from falling hand tools, material, debris, and other small objects through the installation of toe boards, barricades, mesh/screen, debris nets, or catch platforms/canopies.
- Where there is a hazard of tools, materials, or small objects falling from the surface or scaffold platforms and striking employees below, the area below the scaffold to which objects can fall shall:
    - Be barricaded, and employees shall not be permitted to enter the hazard area or
    - Have a 2" X 4" (nominal) toe board shall be erected along all edges of scaffold platforms more than 10 feet above lower levels.
    - Where tools and materials are stacked above the height of the toe board, two additional protective measures should be considered:
        1. Higher Toe boards, or

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

2. The mesh/screen is put up against the guardrail with openings small enough to contain materials on the platform.

- In some cases, due to the nature or configuration of the scaffold/work area, debris nets, catch platforms, or canopy structures may be erected to protect Employees from falling objects rather than the protective mechanisms listed above.
- If used, these structures must be strong enough to withstand the impact forces of the potential falling objects and shall be erected over the Employees below.
- When potential falling objects are too large, too heavy, or too massive to be contained by any of the above-listed measures, those materials shall be placed away from the edges and further secured against falling.

MOBILE (ROLLING) SCAFFOLDS

- Mobile scaffolds shall be used only on level, smooth surfaces free of major defects, or the wheels must be contained in wood or channel iron runners.
- Mobile scaffolds shall be braced by cross, horizontal, or diagonal braces, or a combination thereof, to prevent racing or collapse of the scaffold and to ensure scaffolds remain plumb, level, and square at all times. All brace connections shall be secured.
- Scaffold height during movement shall not exceed two times the minimum base.
- Outrigger frames, when used, are to be installed on both sides of the scaffold and would be included in the base/height limit calculations.
- No one is to ride on any part of a scaffold that is being moved.
- All casters used with mobile scaffolding shall be provided with a positive locking device to hold the scaffold in position when the scaffold is stationary or while Employees are on the scaffold.
- Caster stems and wheel stems shall be pinned or otherwise secured in scaffold legs or adjustment screws.
- Manual force used to propel the scaffold shall be applied as close to the base as possible and never more than 5 feet above the supporting surface.
- Power systems used to propel mobile scaffolds shall be designed for such use. Forklifts, trucks, or other similar motorized vehicles should not be used to move scaffolds unless the scaffold is specifically designed to be moved in this manner.

SUSPENDED SCAFFOLDS

- Wire or fiber rope used for scaffold suspension, including connecting hardware, shall be capable of supporting at least 6 times the maximum intended load. All other components of suspended scaffolds, including support devices, must be capable of supporting at least four times the rated load capacity of the scaffold system.
- The suspended scaffold, suspension ropes, connecting hardware, and support devices must be inspected by a Competent Person prior to each use.
- Approved personal fall protection is required for all occupants of a suspended scaffold and shall be anchored to a fixed save point of anchorage, which shall be independent of the scaffold and shall be protected against sharp edges and abrasion.
    - Each individual will have a separate lifeline and fall arresting device.
    - Anchorages shall be capable of supporting 5000 pounds per person attached.
- Only those items specifically designed as counterweights shall be used as per the manufacturer's specifications on counterweight scaffold systems.
- Outrigger beams that are not stabilized by bolts or other direct connections to the floor or roof deck shall be secured by tiebacks. Tiebacks shall be equivalent in strength to the suspension ropes and secured to a structurally sound anchorage on the building or structure.
- When welding or cutting is performed from a suspended platform, precautions must be taken to cover/insulate any wire rope and attachment points exposed to potential heat or slag hazards.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- When electric welding is performed from a suspended platform, the following precautions shall be taken:
    - An insulated thimble shall be used to connect the wire rope to its hanging support.
    - The suspension wire rope shall be covered with insulating material extending at least 4 feet above the hoist.
- Non-active lines, independent lines, and excess suspension wire rope tail lines shall be covered/insulated for protection near the point of welding operations and to prevent possible grounding contact with the platform, as well as secured so as not to provide a potential ground to the building/structure or the ground.
- Each hoist shall be covered with protective covers.
- In addition to the work lead attachment required by the welding process, a grounding conductor shall be connected from the scaffold to the structure. The size of the conductor shall be at least the size of the welding process work lead, and this conductor shall not be in series with the welding process or the workpiece.
- If the scaffold grounding lead is disconnected at any time, the welding machine shall be shut off.
- The active welding rod or un-insulated welding lead shall not be allowed to contact the scaffold or its suspension system.

BOATSWAINS' CHAIR

- As Boatswains' Chairs are also suspended scaffolds, the following procedures apply. Also, refer to the section titled Suspended Scaffolds.
- The chair seat shall not be less than 12" X 12," and one-inch thickness non-cross laminated wood boatswains' chairs shall be reinforced on their underside by cleats securely fastened to prevent the board from splitting.
- The rope used for suspension, and the seat sling shall be 5/8" in diameter, first-grade manila, fiber, synthetic, or other rope that meets the criteria for strength and durability.
- The chair seat slings shall be weaved through the four corner seat holes so as to cross each other on the underside of the seat and shall be rigged to prevent slippage, which could cause an out-of-level condition.
- When a heat-producing process such as gas or arc welding is being conducted, suspension ropes and chair seat slings shall be a minimum of 3/8 inch wire rope.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FLOOR OPENINGS, WALL OPENINGS AND STAIRWAYS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

FLOOR OPENINGS AND WALL OPENINGS

- Standard Railings
  - Top rail - 42 inches high
  - Mid rail - halfway between the top rail and floor
  - Toe board - 4 inches high and not more than ¼" inch clearance from the floor.

MINIMUM REQUIREMENTS

- Wood railings - Post 2 x 4 inches, posts spaced a maximum of eight feet.
- Pipe railing - Post and railings 1 1/2" diameter, post spaced a maximum of eight feet on center.
- Structural steel - Post, railing, etc. 2" x 2" x 3/8" (or equivalent), post spaced a maximum of eight feet on center.
- Toe boards - 4" high with a maximum of 1/4" clearance above floor level

RAIL DEFLECTION

- The completed structure must be capable of sustaining a 200-pound top rail pressure with a minimum deflection.

STANDARD RAILINGS

- Standard railings shall be installed in the following areas:
  - Ladderway floor openings
  - Exposed skylight opening (except where cover is provided)
  - Pits and trap door openings while cover is not in place
  - Manhole floor openings when cover is not in place
  - Temporary floor openings
  - Wall openings (30" high and 18" wide) from which there is a drop of more than four feet
  - Runways four feet or more above floor or ground level less than 18" wide or adjacent to dangerous equipment
  - Open-sided floors and platforms ten feet or more over adjacent floors or ground level shall be protected.

STAIRWAYS

- A standard handrail should be constructed similarly to a standard railing. Attach a wall or partition with a 3" clearance. Handrails should be 30" to 40" high.
- Standard handrails shall be installed in the following location for stairways having four or more risers:
  - Stairways less than 44" wide on one side enclosed need one handrail on the open side.
  - Stairways less than 44" wide open on both sides need stair railings on each side.
  - Stairways more than 44" wide open on both sides need stair railings on each side.
  - Stairways 88" or more in width need one handrail on each side and one handrail in the center.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FLOOR OPENING COVERS

- Should be capable of supporting the maximum intended load.
- Covers should be installed in the following locations:
    - Hole covering shall be a minimum of 3/4” plywood if one dimension is 18” or less. The covering shall be secure to prevent displacement.
- Floor holes (12 inches or less) shall be protected by a cover that leaves no openings more than one inch wide. The cover shall be secure to prevent displacement.

WALL OPENING BARRIERS

- Barriers shall be capable of sustaining a 200-pound force.
- Wall opening barriers shall be provided for all wall openings in excess of 30” high and 18” wide from which there is a drop of more than four feet.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

COMPRESSED GAS CYLINDER STORAGE

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

- Compressed gas storage facilities shall be positioned in such a manner as not to cause a hazard to the employees, facility, or supplier.

- Signs designating the contents of cylinders to be stored in each rack, as well as “empty” and “full” signs, are required. Signs should be visible from all approach directions reading “DANGER - NO SMOKING OR OPEN FLAMES.”

- A fire extinguisher rated at least 10A, 60B, and C should be located between 25’ and 75’ away from the rack.

- Storage racks must have intermediate chains so that any number of cylinders can be securely tied.

- Oxygen cylinders in storage must be separated from fuel gas cylinders (or any combustibles - especially oil and grease) by 20 feet or by a five-foot (5) high firewall with a fire-resistance rating of 1/2 hour.

- Storage is considered two or more cylinders.

- Valve protection caps must be in place.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FLAMMABLE AND COMBUSTIBLE LIQUIDS STORAGE

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Flammable liquids have a flash point below 100°F and require bonding and grounding.
- Combustible liquids have a flash point above 100°F.

FLAMMABLE STORAGE CABINET

- No more than 25 gallons of flammable or combustible liquid will be stored in a room outside of an approved storage cabinet.
- Quantities of flammable and combustible liquids in excess of 25 gallons will be stored in an acceptable or approved cabinet meeting the following requirements:
    - Approved metal storage cabinet
    - Cabinets must be labeled “FLAMMABLE - KEEP FIRE AWAY.”
    - Not more than three cabinets may be located in a single storage area.
    - Wooden cabinets with bottom, sides, and top of exterior grade one-inch plywood, rabbeted joints fastened in two directions with flat head screws, with the door having a rabbeted overlap of not less than one inch and painted with fire retardant paint.
- Not more than 60 gallons of flammable or 120 gallons of combustible liquid can be stored in any one storage cabinet.
- At least one portable fire extinguisher, 20 BC, must be located outside not more than ten feet from door openings to store more than 60 gallons of flammable or combustible liquids.

DISPENSING AND HANDLING BULK FLAMMABLE LIQUIDS (GROUNDING AND BONDING)

- A build-up of static electricity charges is a dangerous source of sparks that can touch off flash fires whenever flammable liquids are being transferred or used.
- In transferring liquids from drums or containers, static charges must be electrically grounded, in effect “drained off,” to prevent the discharge of vapor-igniting sparks.
    - A readily accessible connection to an earth ground is recommended. Grounding cables are then attached to each drum and left in place.
    - Before any metal container is filled from a drum faucet, a bonding wire fastened to the drum must be attached to that container.

DRIP CANS

- A drip can be positioned below each drum faucet to catch spills or any leaking from the faucet. One gallon (1) size is adequate to provide a safe capacity margin between routine emptying.

DRUM FAUCETS

- Safety faucets of non-sparking material for drawing off flammable liquids from drums are self-closing and equipped with drop-proof seals.
- Faucets should be FM-approved and have provisions to be padlocked to prevent unauthorized withdrawal of drum contents.

DRUM VENTING

- Drums of flammable liquids require venting to relieve pressure build-up due to heat and also to prevent the creation of a vacuum when liquid is being drained off, or the drum is subject to sudden cooling. Either pressure or vacuum can cause failure of the container. In the event of a

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

fire, the hazards of drum leakage or explosion due to excessive pressure are frightening to consider.

- If the drum is equipped with an FM-approved transfer pump, no auxiliary venting devices are required because automatic pressure and vacuum relief are inherent in the pump design.

DRUM PUMPS

- Pumping of flammable liquids from drums into safety containers is faster and provides fewer opportunities for spills and procedural errors. When pumps are used, no drip cans or separate vents in the drum are required. Always use FM-approved pumps.
- The pump is installed directly in the two (2) inch drum bung opening. The drum remains in the vertical position, which reduces handling time and eliminates the need for a drum cradle.
- Pumps are available with either a fill hose or spout and drip tray. Pump hoses should have integral bonding wires (FM approved). Pumps with drip trays used to fill small containers require a separate bonding wire.

EXTINGUISHER RATING

- A fire extinguisher with a rating of at least 10A, 60B, and C must be located no closer than 25 feet and no further than 75 feet away from any flammable liquids storage/dispensing area.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FUEL STORAGE AREA

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

- A five-foot (5) clearance is needed between tanks.

- Fuel storage areas should be graded away from buildings or surrounded by an earth dike 12” high and provided with a closable drain for accumulated rainwater or spills of flammable or combustible liquids.

- The tank shall be at least 20 feet from the nearest building.

- There should be a 12’ wide access within 200 feet of each tank for firefighting equipment.

- There should be an emergency venting pipe 12 feet above adjacent ground level.

- Areas should be free of weeds, debris, or combustible materials.

- There should be a fire extinguisher rated not less than 20 BC located not less than 25 feet or more than 75 feet from the storage area.

- Fuel storage areas should be separated 25 feet from other operations or by a one-hour fire-resistive barrier.

- Flammable liquids being transferred from one container to another need to be electrically bonded.

- Fuel storage areas should be protected against collision damage.

- Tanks should be secured and grounded.

- Dispensing devices and nozzles shall be of the approved type with self-closing nozzles without a latch open device. The dispensing hose must be electrically bonded.

- Switches to shut off the power must be provided at a location remote from dispensing devices and be clearly identified and easily accessible.

- There is to be “NO SMOKING OR OPEN FLAMES WITHIN 50 FEET” signs posted.

- Contents of tanks must be marked and labeled. Safety Data Sheets will be maintained in accordance with EXCEL’s Hazard Communication Program.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

OXY-FUEL CUTTING / HEATING

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- There are a number of inherent hazards in the use of an oxy-fuel cutting apparatus. It is necessary that proper safety procedures be understood prior to the use of such equipment. A thorough understanding of the following safety procedures will serve to minimize the hazards involved and undoubtedly make your job more pleasant. Cutters, welders, and their supervisors must be suitably trained in the safe operation of their equipment and the safe use of the process. Before cutting or welding is permitted, the area shall be inspected by the position responsible for inspection and granting authorized welding and cutting operations. Precautions that are to be taken shall be in the form of a written permit.

PROTECTIVE APPAREL

- The operator should protect himself from sparks, flying slag, and flame brilliance at all times. Select goggles with tempered lenses shaded No. 5 or darker to protect eyes from injury and to provide good visibility of the work.
- Protective gloves, sleeves, aprons, and shoes should be worn to protect skin and clothing from sparks and slag. KEEP ALL CLOTHING AND PROTECTIVE APPAREL ABSOLUTELY FREE OF OIL AND GREASE.
- Adjust clothing where necessary to keep out flying sparks and slag. Sparks may lodge in rolled-up sleeves, in pockets of clothing, or in cuffs of overalls or trousers. Keep sleeves and collars buttoned when necessary. Low shoes with unprotected tops are not suitable for work where there is a possibility of sparks or slag getting inside the shoes.

STORAGE AND HANDLING

- Store cylinders in assigned places where they will not be knocked over by passing or falling objects. Refer back to Section 9.10 regarding Compressed Gas Cylinder Storage.
- Cylinders should be kept away from stoves, radiators, furnaces, or other hot places. They should be stored well away from highly combustible material such as oil, grease, or excelsior.
- Inside buildings, cylinders of oxygen should not be stored in the same compartment as cylinders of acetylene or other fuel gas. Unless they are well separated, there should be a fire-resistant partition between the oxygen cylinders and acetylene or fuel gas cylinders.
- Where cylinders are stored in the open, they should be protected from accumulations of ice and snow and from the direct rays of the sun in localities where extreme temperatures prevail. Cylinders containing oxygen should be placed at least 20’ from cylinders containing combustible gases or separated by a 5’ fire-resistant partition.
- Cylinders must be secured to keep them from being knocked over or from falling.
- Regulators should be removed, and valve protection caps should be put in place hand-tight when cylinders are not in use or when they are being transported. Cylinders must be secured in a vertical position.
- Gas cylinders shall not be hoisted using a sling or electric magnet, nor shall they be lifted by the valve protection cap.
- Never use cylinders as rollers or supports.
- Never allow cylinders to come in contact with live wires, third rails, or ground wires from electrical equipment.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Always close cylinder valves when work is finished, and always close valves of empty cylinders while in storage prior to return to the supplier.
- Keep oxygen cylinders and fittings away from oil or grease. Oil or grease may ignite violently in the presence of oxygen under pressure. Oily or greasy substances must be kept away from cylinders, cylinder valves, couplings, regulators, hoses, and apparatus. Do not handle oxygen cylinders or apparatus with oily hands or gloves. Oxygen cylinders should not be handled on the same platform as oil or be placed in a position where oil or grease from overhead cranes or belts are likely to fall upon them.
- A jet of oxygen should never strike an oily surface or greasy clothes or enter a fuel oil or storage tank that contains flammable substances.
- Do not drop cylinders or handle them roughly.
- Do not use a hammer or wrench to open oxygen cylinder valves.
- When a pressure-reducing regulator is attached, open an oxygen cylinder valve slightly at first to dislodge any trash that may be in the valve. Then, attach gauges and open the valve slowly. If the high pressure is suddenly released, it is liable to damage the regulator and the pressure gauges. Stand to one side of the regulator front and gauge faces when opening the cylinder valve. When the oxygen cylinder is in use, the valve should be opened fully.
- Never tamper with or attempt to repair oxygen cylinder valves. If trouble is experienced, notify the supplier.
- Always stand acetylene cylinders with valve end up. Acetylene cylinders should not be allowed to lie on their sides when in storage or while being used.
- Never tamper with fusible plugs. The fusible safety plugs with which acetylene cylinders are provided act as safety releases when the cylinder is exposed to excessive temperatures. They melt at about the temperature of boiling water and release acetylene from the cylinder.
- Always use a special T-wrench or key for opening or closing the cylinder valve. Open fuel gases no more than one and one-half turns and leave the T-wrench or key in position ready for immediate use so that the acetylene can be quickly turned off in the case of an emergency.
- Do not place cylinders below work where sparks or slag could fall on top of them.
- Do not use the top of any cylinder as a place for storing tools or clothing. This might interfere with the quick closing of the valve, and it might also damage the fusible safety plugs. Never let this recess top become filled with water when using the cylinder.
- Both the oxygen and acetylene or fuel gas lines must be equipped with flashback arrestors.
- Serious injury may easily result if oxygen is used as a substitute for compressed air. NEVER use oxygen:
    - In pneumatic tools
    - In oil pre-heating burners
    - To start internal combustion engines
    - To blow out pipelines
    - To dust off clothing or work area
    - To create pressure
    - For ventilation
    - To supply breathing air equipment

HOSE MAINTENANCE

- Examine hoses carefully at least once every week for leaks, worn places, and loose connections.
- Leaks in the hose at the nipple connection should be repaired at once by cutting off the hose a few inches from the end and remaking the connection. Leaks at other locations should be repaired by cutting off the bad section and inserting a hose coupling as a splice.
- Never repair a hose with tape. When hoses are taped together for convenience and to prevent tangling, not more than four out of 12 inches shall be covered by tape.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Should a flashback occur and burn the hose, discard that length of hose.
- Use only hoses and connections made especially for oxy-acetylene welding and cutting.
- Do not use white lead, oil, grease, or other pipe-fitting compound for making joints.
- Blow out new hoses with oxygen before using. When acetylene hoses have been cleared by oxygen, blow through it from the mouth before attaching it to the acetylene regulator. Precaution: Do not blow the hose out with acetylene.
- Always protect hoses from damage or interference. Protect hoses from being trampled on or run over. Avoid tangles and kinks, and place hoses so they will not be tripped over. Connections might be pulled off, or the cylinders and equipment might be pulled over by a sudden strong tug on the hose. Do not allow hoses to come in contact with oil or grease. These deteriorate the rubber and constitute a hazard with oxygen. Protect hoses from flying sparks, hot slag, or other hot objects and open flames.

GENERAL PRECAUTIONS FOR WELDERS

- Inspect all tools and equipment prior to their use. Worn or damaged hoses, welding leads, and other equipment with defects affecting safe operation must be repaired prior to use or discarded.
- Workmen assigned to operate arc welding equipment must be properly instructed and qualified to operate such equipment and must be familiar with section 1910.254 and 1910.252(a)(b) & (c).
- Each welder or cutter should have at least one 10 lbs., all-purpose, dry powder fire extinguisher at the spot where welding or cutting is being performed.
- Do not weld, cut, or grind drums, containers, or hollow structures that contain toxic or flammable substances until they have been thoroughly cleaned, purged, and tested with a gas meter.
- Ask your supervisor to assist you.
- You must wear a cartridge-type respirator to protect you against metal fumes when welding, cutting, or grinding the following:
    - Zinc metal
    - Metal coated with lead or lead-based paint
    - Metal containing mercury or cadmium
    - Hard facing with manganese
- Do not stand in water when using an arc welder. As necessary, stand on a dry platform made of wood or some other non-conductive material.
    - Do not dip electrode holders in water to cool them.
    - Keep your body insulated from the work and the electrode holder during welding operations.
- Wear dark clothing and the proper goggles or a welding hood with a filter lens to protect against flash burns and flying objects.
    - Always wear a face shield with goggles when grinding or chipping.
    - Welder's helpers must wear filter lenses of the same grade as the welder.
    - Welders must wear safety glasses with side shields under the welding hood.
    - Hard hat welding hoods are required in hard hat areas.

  During gas welding or cutting:
    - Keep wrenches used to open valves of gas cylinders in place.
    - Close the valve of the gas cylinder and release all gas from the regulator before removing the regulator.
    - Keep all gas cylinders in their upright position and secured against falling during use, transportation, and storage. All cylinders (empty or full) must have valve caps in place when not in use.
    - Torches must be lit with a friction lighter or other approved device and not by matches or from hot work.
    - Do not remove cylinders by their valves or use them for any purpose for which they were not designed.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Both the oxygen and the acetylene or fuel gas lines must be equipped with flashback arrestors.
- Employees in charge of oxygen or fuel-gas supply equipment (including distribution piping systems and generators) must be instructed and judged competent for such work.
- Employees assigned to operate arc welding equipment must be properly instructed and qualified to operate such equipment.
- If the requirements stated in 1910.252(a)(1)(iii) cannot be followed, the welding and cutting shall not be performed.
- First aid equipment shall be available at all times.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BLASTING AND THE USE OF EXPLOSIVES

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- The company shall permit only authorized and qualified persons to handle and use explosives. These guidelines, 29 CFR 1926.900 and 29 CFR 1910.109 shall a minimum be followed when handling, transporting, and using explosives.
- Smoking, firearms, matches, open flame lamps, and other fires, flame or heat-producing devices, and sparks shall be prohibited in or near explosive magazines or while explosives are being handled, transported, or used.
- No person shall be allowed to handle or use explosives while under the influence of intoxicating liquors, narcotics, or other prohibited drugs and medication. When any person is using medication, a medical evaluation and written order from the treating physician must be provided prior to using or handling explosives.
- All explosives shall be accounted for at all times. Explosives not being used shall be kept in a locked magazine, unavailable to unauthorized persons to handle them. The magazine shall, at a minimum, meet the requirements of 29 CFR 1910.109. The company shall maintain an inventory and use record of all explosives. Appropriated authorities shall be notified of any loss, theft, or unauthorized entry into the magazine. No explosives or blasting agents shall be abandoned.
- No fires shall be fought where the fire is in imminent danger of contact with explosives. All personnel and employees shall be moved to a safe area, and the fire guard shall be guarded against intruders.
- Original containers or Class II magazines shall be used to take detonators and other explosives from the storage magazine to the blasting area.
- When blasting is done in a congested area, near structures, railways, or any other installation that may be damaged, the blaster shall be responsible for taking special precautions for the confinement of each blast with protective mats or other methods to control damage from fragments and employees.
- Employees authorized to use explosives and blasting agents shall use every reasonable precaution, including, but not limited to, visual and audible warning signals, flags, or barricades, to ensure employees' safety.
- Blasting should be performed between sun-up and sundown, when possible.
- Precautions should be taken to eliminate the accidental discharge of blasting agents and explosives during electrical storms by radar, radio transmitters, and lighting. Delaying the use of explosives during such high-risk times is recommended.
- Prominent display of signs warning against mobile radio transmitters shall be in compliance with 29 CFR 1926.900. The dimensions of the signs shall be a minimum of 48 inches by 48 inches and shall read Blasting zone 100 feet and Turn OFF two-way radios. Ensuring that mobile radio transmitters that are less than 100 feet away are turned off and effectively locked.
- Proper disposal of empty boxes, paper, and other packing material shall be destroyed at an approved location. Explosives and blasting agents that appear to be deteriorated or damaged shall not be used.
- Delivery and issue of explosives shall only be made by authorized persons and into authorized magazines or approved temporary storage or handling areas.
- There shall be no use of black powder for explosives.
- There shall be no mixing of blasting agents.
- All loading and firing shall be directed and supervised by competent persons who are thoroughly experienced in this field.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

29 CFR 1926.901 – BLASTER QUALIFICATIONS

- A blaster shall be able to understand and give written and oral orders. The blaster shall be in good physical condition and not be addicted to narcotics, alcohol, or other similar substances.
- A blaster shall be qualified by reason of training, knowledge, or experience in the field of transporting, storing, handling, and use of explosives. The blaster must be knowledgeable of state and federal laws and regulations that pertain to explosives. Blasters shall be required to furnish satisfactory evidence of competency in handling explosives and performing the type of blasting that will be required in a safe manner.

29 CFR 1926.902 – SURFACE TRANSPORTATION OF EXPLOSIVES

- Transportation of explosives shall meet the provisions of the Department of Transportation regulations contained in 46 CFR 146-149. The company shall not transport explosives by water or watercraft vessel, rail, or air.
- Motor vehicles or conveyances transporting explosives shall only be driven by and in charge of an authorized, licensed driver who is physically fit to perform the functions of the job. No person shall smoke or carry matches or other flame-producing device, nor shall firearms or loaded cartridges be carried while in or near a motor vehicle or conveyance of explosives and blasting agents.
- Explosives, blasting agents, and blasting supplies shall not be transported with other materials or cargo. Blasting caps shall not be transported in the same vehicle as explosives.
- Vehicles used to transport explosives and blasting agents shall be in good condition and capable of carrying the load. Every motor vehicle used to transport explosives and blasting agents shall be clearly marked "EXPLOSIVES" in red letters 4 inches high on a white background. All vehicles carrying or transporting explosives or blasting agents shall be equipped with a 10lb ABC fire extinguisher.
- The driver must be trained in the use of the fire extinguisher. No motor vehicle shall be left unattended while transporting explosives.

29CFR 1926.903 – UNDERGROUND TRANSPORTATION OF EXPLOSIVES

- The company shall not engage in the transportation of Explosives underground.

29CFR1926.904 – STORAGE OF EXPLOSIVES AND BLASTING AGENTS

- Explosives and related materials shall be stored in approved facilities required under the applicable provisions of the Bureau of Alcohol, Tobacco, and Firearms regulations contained in 27 CFR part 55, Commerce in Explosives.
    - Blasting caps, electric blasting caps, detonating primers, and primed cartridges shall not be stored in the same magazine as other explosives or blasting agents.
    - Smoking and open flames shall not be permitted within 50 feet of explosive and detonator magazines.
    - No explosives or blasting agents shall be permanently stored in any underground area until the underground storage facility has two existing.
    - Permanent underground storage magazines containing detonators shall not be located any closer than 50 feet to any magazine containing explosives or blasting agents.

29CFR1926.909 – FIRING THE BLAST

- It shall be the responsibility of the authorized blaster to establish and use a signal warning system to alert persons of blasting operations and individual detonations. A table of signals that are acceptable by OSHA can be found in the standard.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

29CFR1926.914 - DEFINITIONS APPLICABLE TO BLASTING AND THE USE OF EXPLOSIVES

- Approved storage facility - A facility for the storage of explosive materials conforming to the requirements of this part and covered by a license or permit issued under the authority of the Bureau of Alcohol, Tobacco, and Firearms. (See 27 CFR Part 55)
- Blast area - The area in which explosives loading and blasting operations are being conducted.
- Blaster - The person or persons authorized to use explosives for blasting purposes and meeting the qualifications contained in § 1926.901.
- Blasting agent - A blasting agent is any material or mixture consisting of a fuel and oxidizer used for blasting but not classified as an explosive and in which none of the ingredients is classified as an explosive provided the furnished (mixed) product cannot be detonated with a No. 8 common blasting agent presently in use (NH□ NO□) and carbonaceous combustibles, such as fuel oil or coal, and may either be procured, premixed and packaged from explosives companies or mixed in the field.
- Blasting cap - A metallic tube closed at one end, containing a charge of one or more detonating compounds, and designed for and capable of detonation from the sparks or flame from a safety fuse inserted and crimped into the open end.
- Conveyance - Any unit for transporting explosives or blasting agents, including but not limited to trucks, trailers, rail cars, barges, and vessels.
- Detonating cord - A flexible cord containing a central core of high explosives, which, when detonated, will have sufficient strength to detonate other cap-sensitive explosives with which it is in contact.
- Electric blasting cap - A blasting cap designed for and capable of detonation by means of an electric current.
- Explosives - (a) Any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion; that is, with substantially instantaneous release of gas and heat, unless such compound, mixture, or device is otherwise specifically classified by the U.S. Department of Transportation. (b) All material is classified as Class A, Class B, And Class C Explosives by the U.S. Department of Transportation. (c) Classification of explosives by the U.S. Department of Transportation is as follows:
    - Class A Explosives. Possessing detonating hazards, such as dynamite, nitroglycerin, picric acid, lead azide, fulminate of mercury, black powder, blasting caps, and detonating primers.
    - Class B Explosives. Possessing flammable hazards, such as propellant explosives, including some smokeless propellants.
    - Class C Explosives. Include certain types of manufactured articles that contain Class A or Class B explosives, or both, as components, but in restricted quantities.
- Magazine - Any building or structure other than an explosives manufacturing building used for the storage of explosives.
- Misfire - An explosive charge which failed to detonate.
- Nonelectric delay blasting cap - A blasting cap with an integral delay element in conjunction with and capable of being detonated by a detonation impulse or signal from a miniaturized detonating cord.
- Primer - A cartridge or container of explosives into which a detonator or detonating cord is inserted or attached.
- Safety fuse - A flexible cord containing an internal burning medium by which fire is conveyed at a continuous and uniform rate for the purpose of firing blasting caps.

29CFR1910.109 - CONSTRUCTION OF MAGAZINES

- Magazines shall be constructed in conformity with the provisions of this paragraph.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Magazines for the storage of explosives, other than black powder, Class B, and Class C explosives, shall be bullet resistant, weather resistant, fire resistant, and ventilated sufficiently to protect the explosive in the specific locality. Magazines used only for storage of black powder, Class B and Class C explosives shall be weather-resistant, fire-resistant, and have ventilation. Magazines for storage of blasting and electric blasting caps shall be weather-resistant, fire-resistant, and ventilated.
- The property upon which Class I magazines are located, and property where Class II magazines are located outside of buildings shall be posted with signs reading "Explosives - Keep Off."
- Magazines requiring heat shall be heated either by hot-water radiant heating with the magazine building or air directed into the magazine building over either hot water or low-pressure steam (15 p.s.i.g.) coils located outside the magazine building.
- The magazine heating systems shall meet the following requirements:
    - The radiant heating coils within the building shall be installed in such a manner that the explosives or explosives containers cannot contact the coils, and the air is free to circulate between the coils and the explosives or explosives containers.
    - The heating ducts shall be installed in such a manner that the hot-air discharge from the duct is not directed against the explosives or explosives containers.
    - The heating device used in connection with a magazine shall have controls that prevent the ambient building temperature from exceeding 130 ºF.
    - The electric fan or pump used in the heating system for a magazine shall be mounted outside and separate from the wall of the magazine and shall be grounded.
    - The electric fan motor and the controls for electrical heating devices used in heating water or steam shall have overloads and disconnects, which comply with subpart S of this part. All electrical switch gear shall be located a minimum distance of 25 feet from the magazine.
    - The heating source for water or steam shall be separated from the magazine by a distance of not less than 25 feet when electrical and 50 feet when fuel-fired. The area between the heating unit and the magazine shall be cleared of all combustible materials.
      The storage of explosives and explosives containers in the magazine shall allow uniform air circulation so product temperature uniformity can be maintained.
- When lights are necessary inside the magazine, an electric safety flashlight or electric safety lantern shall be used.

BACKPASS EXPLOSIVE DE-SLAGGING SOP

- All confined space safety procedures will be adhered to when this procedure is being performed.
- The area to be worked in will have sufficient lighting in place prior to the start of work.
- The detonating cord rolls will be hung outside the backpass where the confined space attendant is located.
- The explosives supervisor will determine which procedure will be used prior to the start of work.
- After the level has been worked on, all excess detonating cords will be rolled up on the spool and placed in the original container.
- Prior to the beginning of the capping procedure, the explosives supervisor will designate the crewmembers that will be capped in. Only these necessary crewmembers will be inside the backpass when capping in.
- Once the capping procedure is complete, the supervisor will do a head count of all personnel prior to gaining clearance for detonation.
- The explosive supervisor will have the JSA detonation clearance signed as stated in the detonation clearance SOP.
- Once this clearance has been given, a final head count will be taken prior to detonation.
- An individual will be placed on the opposite side of the detonation area to ensure the blasting area remains clear.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- After completion of detonation, the supervisor will re-enter the backpass and ensure all charges have properly detonated. This will be done prior to an all-clear is given to the plant.

DETONATION CLEARANCE PROCEDURES

- Prior to work beginning, a detonation clearance will be signed on the JSA by all parties involved in any work being done on or around the equipment to be worked on.
- When feasible, blasting tape will be placed one level above and two levels below the immediate work area on all entryways to the equipment being worked on.
- Once the clearance has been given by the facility and involved contractors, a head count of the work crew will be done prior to the start of work.
- An explosive technician will be placed on the opposite side of the staging area during backpass detonations to ensure no one enters the blast area.
- Once detonation is complete, the explosive supervisor will ensure all charges have detonated or are safe prior to giving an all-clear to the facility.

DETONATION MAN SOP

- Only qualified personnel selected by the explosive supervisor will be designated as the detonation man.
- The detonation man will keep the detonator in his possession at all times.
- A designated detonation man will be assigned and recorded on the tailgate safety sheet prior to the start of the job.
- The supervisor and detonation man will agree on the signal which will be used to detonate the charge. This will be done prior to the beginning of work.
- The detonation man will keep the detonator and the shotgun primers in his possession at all times.
- The lead line will be cut and inserted into the detonator only after the charge has entered the equipment being worked on.
- If there is a change to the detonation man during the job, it will be logged on the JSA before work resumes.

EXTREME TEMPERATURE ONLINE POLE SHOOTING SOP

- All company safety procedures will be followed during this procedure.
- Online extreme temperature blasting is on a limited basis and can only be performed after an inspection of the work area has been done.
- An online job will be accepted at no time until this inspection has taken place.
- The explosive manager is the only person who can determine who is qualified to make the job determinations and who can perform the job.
- There will be a minimum of four personnel on an extreme temperature pole shooting job.
- The equipment that is being worked on will be set at the lowest possible running conditions.
- Excess amounts of fire blankets will be readily available prior to the start of the job.
- A water supply with a constant flow of water will also be available at the work location.
- The customer will be thoroughly briefed prior to this procedure being performed. This will include the necessary requirements and limitations of the job.
- A maximum of 25 feet is the maximum distance at which this procedure can be used. If the material being worked on is further than 25 feet from the nearest access, then this procedure will not be used.
- The explosive charge and pole will be completely insulated with a fire blanket and taped. The pole and charge will also be wetted down prior to placement into the equipment.
- The job will be performed at a pace that will prevent any heat-related injuries due to the excessive temperatures in the work area.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Gloves will be worn at all times by the explosive supervisor performing the work.
- At no time will any of these procedures be compromised.

POLE SHOOTING SOPS

- A procedure used to remove excess material for safety reasons or for cleaning using a telescopic pole.
- At the beginning of the job, the supervisor will determine what charge and how many will be required for the job based on the initial inspection.
- A preparation area will be established where the charges will be made. The detonating cord and blasting caps will be separated by 25 feet.
- A total of only 3 charges can be primed at any one time.
- The only charge will be in the work area where the supervisor and detonating man are located. The other two charges will be placed in a predetermined location for easy access by the detonation man.
- The equipment being worked on will be sufficiently lighted prior to the beginning of the job.
- If possible, all pole shooting will be done from the exterior of the equipment being worked on. If pole shooting is necessary inside the equipment, the detonation man will be positioned next to the supervisor in a safe location from the charge.
- There will also be a hole man positioned within clear vision of the supervisor and detonation man. All confined space safety procedures will be followed during this operation.
- A shotgun may need to be used to remove small pieces of material that is in hard-to-reach places.
- All expended shotgun shells will be properly disposed of after work is completed.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

American Table of Distances for Storage of Explosives

Explosives		Distances in feet when storage is barricaded: Separation of magazines
Pounds over	Pounds not over	
2	5	6
5	10	8
10	20	10
20	30	11
30	40	12
40	50	14
50	75	15
75	100	16
100	125	18
125	120	19
150	200	21
200	250	23
250	300	24
300	400	27
400	500	29
500	600	31
600	700	32
700	800	33
800	900	35
900	1,000	36
1,000	1,200	39
1,200	1,400	41
1,400	1,600	43
1,600	1,800	44
1,800	2,000	45
2,000	2,500	49
2,500	3,000	52
3,000	4,000	58
4,000	5,000	61
5,000	6,000	65
6,000	7,000	68
7,000	8,000	72
8,000	9,000	75
9,000	10,000	78

FOR ANY AMOUNT OVER 9,000 LBS, REFER TO TABLE H-21 FOUND IN 29CFR 1910.109

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Table of Markings

Commodity	Type of marking or placard
Explosives, Class A, any quantity or a combination of Class A and Class B explosives. Explosives, Class B, and quantity Oxidizing material (blasting agents, ammonium nitrate, etc.), 1,000 pounds or more gross weight.	Explosives A (Red letters on white background). Explosives B (Red letters on white background). Oxidizers (Yellow letters on black background).

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

BACKPASS EXPLOSIVE DE-SLAGGING SOP

- All confined space safety procedures will be adhered to when this procedure is being performed.
- The area to be worked in will have sufficient lighting in place prior to the start of work.
- The detonating cord rolls will be hung outside the backpass where the confined space attendant is located.
- The explosives supervisor will determine which procedure will be used prior to the start of work.
- After the level has been worked on, all excess detonating cords will be rolled up on the spool and placed in the original container.
- Prior to the beginning of the capping procedure, the explosives supervisor will designate the crewmembers that will be capped in. Only these necessary crewmembers will be inside the backpass when capping in.
- Once the capping procedure is complete, the supervisor will do a head count of all personnel prior to gaining clearance for detonation.
- The explosive supervisor will have the JSA detonation clearance signed as stated in the detonation clearance SOP.
- Once this clearance has been given, a final head count will be taken prior to detonation.
- An individual will be placed on the opposite side of the detonation area to ensure the blasting area remains clear.
- After completion of detonation, the supervisor will re-enter the backpass and ensure all charges have properly detonated. This will be done prior to an all-clear is given to the plant.

DETONATION CLEARANCE PROCEDURES

- Prior to work beginning, a detonation clearance will be signed on the JSA by all parties involved in any work being done on or around the equipment to be worked on.
- When feasible, blasting tape will be placed one level above and two levels below the immediate work area on all entryways to the equipment being worked on.
- Once the clearance has been given by the facility and involved contractors, a head count of the work crew will be done prior to the start of work.
- An explosive technician will be placed on the opposite side of the staging area during backpass detonations to ensure no one enters the blast area.
- Once detonation is complete, the explosive supervisor will ensure all charges have detonated or are safe prior to giving an all-clear to the facility.

DETONATION MAN SOP

- Only qualified personnel selected by the explosive supervisor will be designated as the detonation man.
- The detonation man will keep the detonator in his possession at all times.
- A designated detonation man will be assigned and recorded on the tailgate safety sheet prior to the start of the job.
- The supervisor and detonation man will agree on the signal which will be used to detonate the charge. This will be done prior to the beginning of work.
- The detonation man will keep the detonator and the shotgun primers in his possession at all times.
- The lead line will be cut and inserted into the detonator only after the charge has entered the equipment being worked on.
- If there is a change to the detonation man during the job, it will be logged on the JSA before work resumes.

EXTREME TEMPERATURE ONLINE POLE SHOOTING SOP

- All company safety procedures will be followed during this procedure.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Online extreme temperature blasting is on a limited basis and can only be performed after an inspection of the work area has been done.
- An online job will be accepted at no time until this inspection has taken place.
- The explosive manager is the only person who can determine who is qualified to make the job determinations and who can perform the job.
- There will be a minimum of four personnel on an extreme temperature pole shooting job.
- The equipment that is being worked on will be set at the lowest possible running conditions.
- Excess amounts of fire blankets will be readily available prior to the start of the job.
- A water supply with a constant flow of water will also be available at the work location.
- The customer will be thoroughly briefed prior to this procedure being performed. This will include the necessary requirements and limitations of the job.
- A maximum of 25 feet is the maximum distance at which this procedure can be used. If the material being worked on is further than 25 feet from the nearest access, then this procedure will not be used.
- The explosive charge and pole will be completely insulated with a fire blanket and taped. The pole and charge will also be wetted down prior to placement into the equipment.
- The job will be performed at a pace that will prevent any heat-related injuries due to the excessive temperatures in the work area.
- Gloves will be worn at all times by the explosive supervisor performing the work.
- At no time will any of these procedures be compromised.

POLE SHOOTING SOPS

- The procedure is used to remove excess material for safety reasons or for cleaning using a telescopic pole.
- At the beginning of the job, the supervisor will determine what charge and how many will be required for the job based on the initial inspection.
- A preparation area will be established where the charges will be made. The detonating cord and blasting caps will be separated by 25 feet.
- A total of only 3 charges can be primed at any one time.
- The only charge will be in the work area where the supervisor and detonating man are located. The other two charges will be placed in a predetermined location for easy access by the detonation man.
- The equipment being worked on will be sufficiently lighted prior to the beginning of the job.
- If possible, all pole shooting will be done from the exterior of the equipment being worked on. If pole shooting is necessary inside the equipment, the detonation man will be positioned next to the supervisor in a safe location from the charge.
- There will also be a hole man positioned within clear vision of the supervisor and detonation man. All confined space safety procedures will be followed during this operation.
- A shotgun may need to be used to remove small pieces of material that is in hard-to-reach places.
- All expended shotgun shells will be properly disposed of after work is completed.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FIRE PREVENTION

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- All fires shall be reported.
- The prevention of fires is of utmost importance. Good housekeeping and equipment maintenance must be followed to keep fire hazards at a minimum.
- Matches and cigarette lighters should not be carried into any area where an explosive atmosphere may be present.
- Smoking must be confined to areas specifically designated.
- Smoking is not permitted in the immediate vicinity of tank batteries, oil and gas wells, or in any area suspected to contain flammable vapors, regardless of whether a “no smoking” sign is displayed. Any area subject to contamination by flammable liquids or gas should be designated as a “no smoking” area, and a sign to that effect should be displayed.
- Cans of oil, kerosene, oily rags, waste, etc., must not be allowed near stoves or gas fires.
- Oily waste or oil-soaked clothing must not be left lying around. Spontaneous combustion may result and cause a fire. To prevent such fires, covered metal containers for disposal of oily rags, waste, and other flammable rubbish must be provided. These must be emptied often enough to keep premises in a safe, sanitary condition.
- Before an open flame (such as a welding torch) is carried into a closed building or tank, a test should be made to detect the presence of gas using an approved combustible gas indicator.
- The use of gasoline as a cleaning agent is strictly forbidden.
- Oil or gasoline from leaks should be cleaned up and disposed of in a prescribed manner.
- All leaks should be reported and repaired immediately, if practicable. If immediate repair is not possible, adequate warning signs must be posted, and extra precautions against fires must be instituted.
- In the event of a gas leak, all fires and engines should be shut down without delay.
- When testing for gas leaks, use soap suds or approved leak detector fluid. Never use an open flame.
- Gasoline, kerosene, or other flammable liquids must not be stored in glass containers.
- Since paint and insect sprays and most paint removers are usually flammable, their use near open flames or other sources of ignition must be avoided. Read the labels on the containers.
- Inspection and maintenance of all fire equipment will be performed by a competent inspector. Records of inspection and maintenance must be maintained. The following general guidelines will be observed:
    - Portable fire extinguishers shall be inspected at least monthly. At regular intervals, not more than a year apart, extinguishers shall be thoroughly examined and/or recharged or repaired to ensure operability and safety or replaced as needed. Each extinguisher shall have a durable tag securely attached to show the maintenance or recharge date and the initial or signature of the person performing the service.
    - Due diligence must be used in keeping sprinkler systems in good operating condition.
- Fire drills should be held at regular intervals to familiarize personnel with the location and operation of fire extinguishing equipment.
- Firefighting equipment is for fire use only and shall be kept in its designated place at all times when not in use.
- All fire protection equipment must be located in designated areas that are clearly identified with appropriate markings. This equipment should be located in the vicinity of likely fire hazards, but it

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

must be accessible to operating personnel. The number, type, and location of extinguishers must meet all applicable standards.

- Fire extinguisher hose nozzles should be kept free of obstruction at all times.
    - In areas where insects tend to nest in protected small areas, the nozzle should be covered with a small cloth or plastic bag to keep it free of obstructions.
- All employees should be instructed in the proper use of available firefighting equipment. Those working at places where special precautions against fire must be taken are required to be so instructed.
- Employees shall be trained upon initial assignment and at least annually thereafter.
- A fire extinguisher that is empty, defective, or has been discharged should never be rehung until it has been serviced or repaired. It is necessary that extinguishers operate at top efficiency the instant they are used. Fire extinguishers should be kept filled. The manufacturer's instructions for refilling and maintaining extinguishers must be followed.

CLASSES OF FIRES

- Class "A" fires are those that occur in ordinary materials such as wood, paper, rags, and rubbish. The quenching and cooling effects of water or of solutions containing large percentages of water are of first importance in extinguishing these fires.
- Class "B" fires are those that occur in the vapor-air mixture over the surface of flammable liquids such as gasoline, oil, grease, paints, and thinners. The limiting of air is of primary importance. Generally, regular dry chemicals, multi-purpose dry chemicals, carbon dioxide, and foam may be used depending on the circumstances of the fire. Solid streams of water are likely to spread the fire, but on large fires of this class, water fog nozzles prove effective.
- Class "C" fires are those that occur in or near electrical equipment where non-conducting extinguishing agents shall be used. Dry chemicals, carbon dioxide, compressed gas, or vaporizing liquid may be used. Foam or a solid stream of water should not be used because both are good conductors and can expose the operator to a severe shock hazard.
- Class "D" fires are those that occur in combustible metals such as magnesium, titanium, zirconium, lithium, and sodium. Specialized techniques, extinguishing agents, and extinguishing equipment are needed to control and extinguish fires of this type. Normal extinguishing agents generally should not be used as there is a danger in most cases of increasing intensity of the fire because of a chemical reaction between some extinguishing agents and the burning metal.

FLAMMABLE LIQUIDS

- Flammable liquids such as gasoline, benzene, naphtha, and lacquer thinner must not be used for cleaning purposes.
- Do not store flammable liquids in open containers.
- Spills or overflows of flammable liquids should be avoided. However, in the event of spillage, immediate steps should be taken to clean up and minimize the danger of fire.
- When liquids such as condensates, gasoline, and some crude oils are drawn into open metal containers, the open container must be grounded by means of either threaded connections or a bonding wire to the vessel or piping in order to prevent any possible ignition source from generation of static electricity.
- All solvents should be kept in approved, properly labeled containers. Gasoline and other highly flammable liquids should be handled, transported, and dispensed only in properly labeled red safety cans.
- With the exception of gasoline and oil, the mixing of two or more flammable liquids is prohibited.
- When pumping highly flammable liquids from one container to another, metallic contact should always be maintained between the two containers.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

GOOD HOUSEKEEPING TO PREVENT FIRES

- Good housekeeping should be maintained at all work locations and in all vehicles.
- Combustible materials such as oil-soaked rags, waste, and shavings should be kept in approved metal containers with self-closing lids. Containers should be emptied daily.
- Paper and other combustible materials should not be allowed to accumulate.

SAFE HANDLING AND STORAGE OF FLAMMABLE AND COMBUSTIBLE MATERIAL

- Small quantities of flammable liquids should be stored in approved safety cans. Safety cans have self-closing caps, flame arresters, and pressure relief vents. The contents must be marked.
- Dispensing drums should be equipped with a special self-closing faucet and a pressure vacuum relief vent. Also, a ground wire should be attached.
- No more than 25 gallons of flammable liquids shall be stored outside an approved storage cabinet.
- Storage cabinets, rooms, or particular areas should be designated to store flammable liquids. Cabinets should be labeled “FLAMMABLE - KEEP FIRE AWAY”.
- Not more than 60 gallons of flammable or 120 gallons of combustible liquid shall be stored in any one storage cabinet or container.
- Large quantities of flammable liquids should be stored well away from the immediate work area.
- Never handle a flammable substance near a heat source or bring a heat source near a flammable substance.
- Safe transfers of flammable liquids are made in an open, well-ventilated area where the vapors will be diluted and dissipated by large quantities of fresh air. Make sure you have a bond between containers to eliminate static electricity.
- Outside portable tank storage shall be located no closer than 25 feet from any building.
- Using funnels and spouted cans makes for a quick transfer and helps prevent dangerous spills.
- Flammable and combustible liquid spills should be cleaned up immediately.
- Rags saturated with flammable and combustible liquids are highly susceptible to spontaneous combustion and must be disposed of in containers provided for that purpose. Never pile them on the ground.
- When refueling or lubricating machinery, be certain that it is shut down first. Pieces of machinery like exhaust pipes and bearings radiate heat, and electrical systems generate sparks that can ignite an accidental spill. If fuel is dispensed from a fuel truck, the truck should be grounded to equipment being filled.
- Be certain that an engine is supplied with the proper type of fuel and that the fuel supply is shut off by a valve when the engine is not in use.
- Never use gasoline as a solvent - it produces dangerous amounts of vapor. Always use a high flashpoint solvent or thinner for cleaning off paint, grease, or oil around equipment.
- Because of their convenient size, aerosol cans are often stored or set down in unsafe places. Keep in mind that all aerosol cans are pressurized and that this pressure increases when exposed to heat. If the can is overheated, it will explode like a hand grenade.

PROPER USE OF FIREFIGHTING EQUIPMENT

- When fighting a fire with a standard portable fire extinguisher, use the following procedure to extinguish the fire.
    - Always use the handle to carry the extinguisher. Walk at a rapid pace -- do not run to a fire.
    - Proceed to the upwind side of a fire. Stay well clear of the flames. When you are approximately 10 feet upwind of the near edge, stop and get your extinguisher ready for discharge.
    - Once your extinguisher is set for discharge, position yourself within eight feet of the near edge upwind of the fire. From this position, the air currents help carry the agent into the fire, ensuring maximum visibility and providing protection from the heat.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- When discharging the extinguishing agent, aim your stream just short of the near edge.
- Apply the agent in a side-to-side sweeping action across the full width of the fire. Make sure each sweep of the extinguishing agent is slightly wider than the near or leading edge of the fire.
- Advance forward only as fast as the extinguishing action of your agent will permit. Do not outrun your protection. Do not raise your stream to chase the flame. Keep it down in front of the flame edge.
- Stop short of the already extinguished fuel area. Do not become involved in the fire. Above all, maintain your side-to-side sweeping action until the fire is extinguished. Once the fire is out, stand by for a few minutes. Make sure there is no danger of a reflash. Do not ever turn your back on an apparently extinguished fire.

WILDFIRE PREVENTION

- When working in environments or conditions that are prone to wildfires:
  - Check weather and drought conditions - Pay close attention to weather and drought conditions, which can affect the flammability of vegetation. Avoid any activities that involve fire or sparks when it's hot, dry, and windy. If the conditions aren't right, choose non-flammable options. Remember, conditions and local restrictions should guide your decision for any fire-related activity, such as building a campfire, operating equipment, off-roading on dry grass, or burning debris.
  - Keep vehicle off dry grass - If you are driving on grass, remember that your exhaust can reach temperatures of 1,000+ degrees! So, avoid driving or parking over dry grass.
  - Regularly maintain your equipment and vehicle - Vehicles and equipment can shoot sparks from their exhaust, particularly vehicles that haven't received regular maintenance. Whether it's a car, truck, or OHV (off-highway vehicle), make sure your vehicle is current on all mechanical checkups and suited for off-road adventures.
  - Check your tires, bearings, and axles on your trailer - If you're towing a trailer, please remember to do a maintenance check to ensure the tires are not worn, the bearings and axles are greased, and safety chains are properly in place and not dragging on the ground.
  - Keep sparks away from dry vegetation - Make sure you never operate equipment that produces sparks near dry vegetation. Always clear the area around your workspace. This area should be even larger if it is windy and dry. Create clearings where all flammables have been removed. The width or radius of the clearing will vary with the conditions from 10 to 25 feet.
  - Prepare for extinguishing – When conditions or client needs are required, have an extinguishing device available. Fire extinguishers, water trucks, and water tenders are all viable options.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Fire Watch Training

The following information is intended to provide personnel with the minimum requirements of fire watch to assist in the process of fire protection and fire prevention. However, certain situations may arise that require additional or more specialized training.

Fire protection is the ability to recognize and take action against fire hazards in the workplace while reducing the need to utilize extinguishing methods and contribute to a safe work environment. Fire protection is accomplished by proper prevention, detection, and extinguishment.

Additional course references can be found listed below. This information is contained in THE COMPANY Corporate Safety Manual. It should be reviewed and routinely referred to while performing the duties of the fire watch. The comprehension of this training will be documented by means of a written test.

SECTION 2.6	Inspection Sheet
SECTION 3.5	Employee Safety Responsibilities
SECTION 8.1	Work Permits
SECTION 8.2	Hazard Warnings
SECTION 9.11	Fuel Storage Area
SECTION 9.12	Safe Work Practices
SECTION 10.23	Fire Prevention
SECTION 10.24	Fire Extinguisher Requirements
SECTION 10.25	General Fire Protection
APPENDIX B	Fire Watch Test

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Types of Fire Extinguishers

- **10 Pound Foray Extinguisher**
  - For use on class “A,” “B,” and “C” fires (preferred extinguisher to use on class “A” fire).
  - Found in warehouses, offices, and places where class-A material is found.
  - Contains a yellow-colored material called mono-ammonium phosphate.
  - Pressure by nitrogen (195) lbs psi in cylinder).
  - Effective range 12-15 feet.
  - Discharge one pound per second (extinguisher lasts 10 seconds).
  - Replaces water extinguisher.
- **20 Pound Dry Chemical Extinguisher**
  - For class “B” or “C” fires (preferred extinguisher on class B fire)
  - 20 pounds of highly refined dry chemical (bicarbonate soda)
  - Activated by 5 ½ oz. Cartridge of Co2 (750 psi in 5 ½ cylinders) to 225 lbs.
  - Effective range 15-18 feet.
  - Discharge 1 lb of powder per second (extinguisher lasts 20 seconds).
  - Discharge at base of fire.
  - Be careful not to get too close to a burning puddle of liquid. Pressure on the nozzle directed into fire causes the liquid to splash.
  - Attack fire upwind.
- **15 Pound CO2 Extinguisher**
  - For class “B” or “C” fire (preferred extinguisher on class C fire).
  - The cylinder holds 15 pounds of liquid CO2.
  - Under pressure, 850-900 pounds.
  - Full weight, approximately 41 pounds.
  - Effective range 6-7 feet.
  - Lasts 12 seconds.
  - Leaves no residue.
  - Does not conduct electricity.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Limitations

No other duties may be performed by a fire watch that will interfere with the successful completion of the fire watch expectations and responsibilities.

A. Do not leave the active hot work job location for any reason. The hot work must be shut down if the fire watch leaves.
B. Do not fire watch for yourself.
C. You are allowed to fire watch for an area with multiple hot work jobs provided:
    - Specified on the safe work permit by the permit writer.
    - All hot work jobs are visible on the same level and in close enough proximity for your monitoring and control.

1. This training does not qualify the fire watch to perform Safety attendant duties for confined space entry or to use the explosimeter for special non-hot work jobs.
    - Additional training and certification are required to qualify someone to perform the safety attendant duties for confined space entry.
    - This training does not qualify you to monitor changes in oxygen or flammable concentrations, such as clearing chemicals from equipment.
2. Do not attempt to extinguish “Class B” pressure fires.
    - Shut down all hot work and equipment.
    - Direct your crew to a safe area.
    - Notify the control room of the fire location and request a firefighting backup.
    - Request plant personnel to de-energize affected electrical circuits and confirm with the control room that circuits are de-energized.
    - Extinguish the fire or assist as necessary.

3. Do not extinguish large “Class B” pressure fires.
    - Large flammable gas or flammable liquid fires usually require teams of firefighters who are properly trained.
    - Extinguishing large flammable gas fires can lead to vapor cloud exposure.

4. Do not deviate from job safety provisions without notifying the permit writer, who will initiate obtaining the proper approval.
    - Safe work permits job scope.
    - Safe job procedures
    - Applicable safety standards

5. If another fire extinguishing medium is called for on your job, such as:
    - 150 lb. Wheeled fire extinguisher
    - Fire hose/water
    - Deluge/monitor gun
    - Foam unit, etc.

- You are to notify the permit writer and your supervisor that you are not trained on this equipment.
- You must obtain the training necessary to operate additional firefighting equipment “on the job” from qualified personnel.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Preventing the Ignition of Fire

1. Housekeeping – proper disposal, proper storage of materials, and common sense.
2. Move hazards out of the affected hot work area if possible.
3. Protect hazards if not movable – covers.
4. Spark containment – fireboxes.
5. Locate hot work away from flammables.
6. Smoking restrictions.

Purpose of Fire Protection

Fire protection is accomplished by proper:

1. Prevention
2. Detection
3. Extinguishment

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Responsibilities

1. Participation in pre-job activities.
   A. Safe work permit
   - Participate in or thoroughly review and understand the permit. (This includes the on-site inspection.)
   - Make sure you are listed on the head count roster.
   - Make sure you are listed as a fire watch.
   - The foreman/crew leader will have a copy of the permit. If you need a copy of the permit, request one from your foreman/crew leader.

   B. Procedures
   - Ask for and read the procedure for the job. This could include maintenance/block/contractor procedures.
   - Have a copy of the job procedures on the job (where applicable).

   C. Job hazard assessment or job safety analysis
   - Participate in the JHA or JSA process.
2. Set up and calibrate your assigned explosimeter
   A. As per the training received.
   B. Use only the model explosimeter(s) you have been trained on.
   C. If the explosimeter fails to operate properly, do not use it.
3. Ensure operability of other emergency equipment/systems.
   - Seal/gauge level of fire extinguisher
   - Safety showers, eye wash stations, intercoms, etc.: not blocked and in working order
   - Radio or other communication equipment
   - Cut off switches/valves (air compressor, welding machines, hoses, etc.
4. Survey the work area to determine what hazards are/could be present.
   A. Identify potential sources of ignition.
   B. Identify process/facility equipment that could contribute to fires. Sample points/bleeds/etc.
5. Ensure hazards are eliminated or reduced. If a hazard is identified, you must take action to protect:
   A. Remove moveable fire hazards.
   B. Guard non-moveable hazards from sparks. Enclose hazards or contain the sparks-producing work.
   C. Report hazards to supervision and/or permit writer to determine additional alternatives.
   D. Monitor and/or warn others of hazards. Concentrate monitoring in high-hazard areas. Ensure workers keep areas clear.
6. Perform explosimeter tests as required to ensure acceptable conditions exist and are maintained.
   A. Report the results of the initial explosimeter tests back to the permit writer and record them on the permit.
   B. Perform an explosimeter test at the frequency specified by the work permit. Normally, continuous monitoring is required.
   C. Suspend all hot work and report any abnormal readings to the permit writer.

   (>0% lel flammables; or <19.5% oxygen; or >23.5% oxygen)
7. Ensure safe job conditions are maintained for the duration of the job.
   - Safe work permit requirements
   - Job/hot work procedures
   - All applicable safety standards
   - Safe work practices
8. Shut down all hot work and equipment under the following conditions:
   A. A spill or emergency occurs in your unit:
   - Report to the control room or evacuate as directed by the unit.

   B. An announcement is made in your unit to shut down hot work jobs due to a spill or emergency from an adjacent or upwind block.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

NOTE: DO NOT AUTOMATICALLY SHUT DOWN YOUR JOB IF YOUR UNIT IS LISTED AS DOWNWIND. WAIT UNTIL THE BLOCK ANNOUNCES FOR YOU TO DO SO UNLESS THE HAZARD IS OBVIOUS AND IMMINENT.

C. The explosimeter indicates abnormal conditions.
D. Obvious hazards are observed by the fire watch or crew prior to an announcement:
    - Chemical odor
    - Visible chemical cloud
    - Liquid spill of unknown nature or a fuel leak
    - Fire
    - Leaking oxygen of acetylene cylinder of hose, etc.
E. Prior to the crew leaving the work area for breaks, lunch, or the end of shift.
F. Fire watch has to leave the job site for any reason.

9. Extinguish small/early "incipient" fires. In the event of a work area fire:
    A. Immediately shut down your job and all equipment, then evacuate your crew.
    B. Use a radio, intercom, crew member, or telephone to notify the control room of the fire condition and location before any attempt to extinguish the fire.
    C. Approach the fire from the *upwind* direction.
    D. Extinguish the fire using your fire extinguisher and notify the control room.

    NOTE: YOUR SAFETY AND THE SAFETY OF YOUR CREW IS PARAMOUNT. DO NOT PUT YOURSELF IN DANGER DURING AN ATTEMPT TO EXTINGUISH A FIRE.

10. Ensure a clear relief (handoff) of responsibilities if fire watch duties are transferred to another person.
    A. Do not assume anything.
    B. Make certain the person taking your place knows that they are responsible for fire watch duties.
    C. Pass along and review copies of the safe work permit, job procedures, and the JSA if they do not have them.
    D. Have the safe work permit reauthorized or a new one issued if you have been designated as a replacement on the job.
    E. If you did not participate in the calibration of the explosimeter, you should perform the set-up and calibration yourself prior to assuming the fire watch responsibilities.
11. Report ALL incidents immediately to the permit writer/control room/supervisor, not just fires.
    A. Unexpected events
    B. Injuries
    C. Changing job conditions (hazards)
    D. Job scope changes – shut down and get the new job approved by the permit writer (reauthorize permit).
12. Carry out fire watch duties as per training received.
    - You are responsible for ensuring that hot work is conducted safely.
    - You are the fire watch and the key to ensuring your safety and the safety of your crew for hot work jobs.

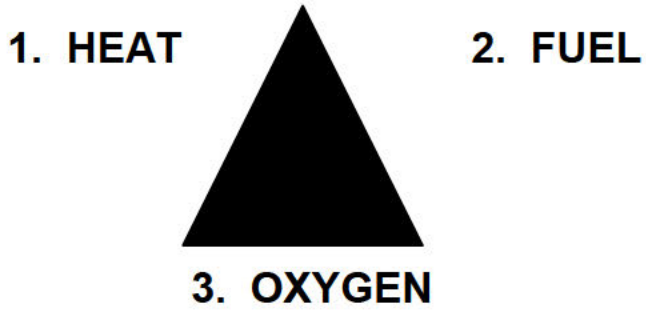
Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Sources of Ignition

- Electrical
- Smoking
- Friction
- Burner flames
- Hot surfaces
- Overheated material
- Spontaneous ignition
- Cutting and welding
- Chemical reactions
- Static sparks/lightning

The Fire Triangle

For a fire or explosion, three things must be present:



The "Pass Method"

When using a fire extinguisher:

P = Pull the ring pin or pull the hose and puncture the cylinder

A = Aim the nozzle at the base of the fire

S = Squeeze the operating lever, handle, or nozzle.

S = Sweep the nozzle from side to side.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

FIRE EXTINGUISHER REQUIREMENTS

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

- Portable fire extinguishers shall be maintained in a fully charged and operable condition and kept in their designated place at all times when they are not being used.

- Extinguishers shall be conspicuously located where they will be readily accessible and immediately available for use. They shall be located along normal paths of travel.

- In locations where visual obstructions cannot be completely avoided, means shall be provided to indicate the location conspicuously and the intended use of extinguishers.

- Extinguishers with a gross weight not exceeding 40 pounds should be installed so that the top of the extinguisher is not more than five feet above the floor. Extinguishers with a gross weight greater than 40 pounds should be installed so that the top of the extinguisher is not more than 3-1/2 feet above the floor.

- The selection of fire extinguishers for a given situation will depend upon the characteristics of the fires anticipated, the construction and occupancy of the individual property, the vehicle or hazard to be protected, ambient temperature conditions, and other factors.

FIRE EXTINGUISHER LAYOUT CRITERIA

- During the construction phase of either the construction facilities, the support buildings, or permanent plant buildings or facilities, the construction area shall be provided with one portable hand fire extinguisher, multi-purpose, cartridge-operated, minimum rating 2A for each 3000 square feet of area around the building construction site with a maximum travel distance to an extinguisher of 100 feet. Certain areas (i.e., remote fueling areas, electrical power distribution centers, engine sets, fuel-fired heaters, etc.) may require additional extinguishers.

MAINTENANCE

- At regular intervals, not more than one year apart, or when specifically indicated by an inspection, extinguishers shall be thoroughly examined and/or recharged or repaired to ensure operability and safety or replaced as needed.

- Extinguishers removed from their locations to be recharged shall be replaced by spare extinguishers during the period they are gone.

- Each extinguisher shall have a durable tag securely attached to show the maintenance or recharge date and the initial or signature of the person who performs this service.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

GENERAL FIRE PROTECTION

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Access to all available firefighting equipment must be maintained at all times.
- Firefighting equipment must be conspicuously located.
- All firefighting equipment must be inspected monthly.
- A fire extinguisher, rated not less than a 2A, must be provided for every 3000 square feet of building area and on each floor adjacent to the stairway within a travel distance of 100 feet.
- One or more fire extinguishers rated not less than 2A shall be provided on each floor.
- 10-B fire extinguishers shall be provided within 50’ when over five gallons of flammable or combustible liquids or five pounds of flammable gases are being used.

IGNITION HAZARDS

- Operations that constitute a fire hazard need signs posted “NO SMOKING OR OPEN FLAME.”
- Only approved portable battery-powered lighting equipment can be used in connection with the storage, handling, or use of flammables.

TEMPORARY BUILDINGS

- No temporary building shall be erected where it will block an exit or means to an exit and must be 20 feet clear of other buildings.
- When located within another building or structure, only non-combustible material or material with a one-hour fire rating may be used for construction.

OPEN YARD STORAGE

- Combustible materials are piled with due regard to the stability of the piles and, in no case, higher than 20 feet.
- Driveways between and around combustible materials storage piles shall be at least 15 feet wide.
- Portable fire extinguishers rated not less than 2A must be placed so that the maximum travel distance to the nearest unit will not exceed 100 feet.

FIRE EXTINGUISHER DATA

- Class A Fires
  - Wood, paper, and trash having glowing embers
- Class B Fires
  - Flammable liquids, gasoline, oil, paints, greases, etc.
- Class C Fires
  - Electrical fires
- Class D Fires
  - Combustible metals

EXTINGUISHER TYPES

- For use on Class A fires
  - Water
  - Stored pressure, cartridge operated, water pump tank
  - Soda Acid

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- For use on Class A and B fires
    - Foam
    - Dry chemical - sodium or potassium bicarbonate cartridge or stored pressure
- For use on Class B and C fires
    - Carbon dioxide (will control small Class A fires)
- For use on Class A, B, and C fires
    - Dry chemical - multi-purpose A, B, C cartridge or stored pressure
- For use on Class D fires
    - Heat-absorbing extinguishing media

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ELECTRICAL / INSTRUMENTATION DEMOLITION

GENERAL

- Demolition of electrical/instrumentation shall encompass the following:
  - Removal of existing electrical equipment, wiring, and conduit in areas to be remodeled; removal of designated construction; dismantling, cutting, and alterations for completing the work
  - Disposal of materials
  - Storage of removed materials
  - Identification of utilities
  - Salvaged items
  - Protection of items to remain as indicated on Drawings
  - Relocate existing equipment to accommodate construction

SUBMITTALS

- Shop Drawings: Indicate demolition and removal sequence and location of salvageable items; location and construction of temporary work. Describe demolition removal procedures and schedule.

CLOSEOUT SUBMITTALS

- Project Record Documents: Record actual locations of capped conduits and equipment abandoned in place.

SCHEDULING

- Schedule work to coincide with project phasing.
- Cease operations immediately when the structure appears to be in danger and notify the Architect/Engineer. Do not resume operations until directed.

COORDINATION

- Coordinate demolition work with the Owner.
- Coordinate and sequence demolition so as not to cause a shutdown of operation of surrounding areas.
- Shutdown Periods:
  - Arrange the timing of shutdown periods of in-service panels with the Owner. Do not shut down any utility without prior written approval.
  - Keep the shutdown period to a minimum or use an intermittent period as directed by the Owner. Maintain life-safety systems in full operation in occupied facilities or provide notice a minimum of 14 days in advance.
- Identify salvage items in cooperation with the Owner.

EXAMINATION

- Verify existing conditions before starting work.
- Identify wiring and equipment to be demolished by means of demarcation (spray paint, fluorescent ribbon, etc.)
- Verify that wiring and equipment indicated to be demolished serve only abandoned facilities.
- Verify termination points for demolished services.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PREPARATION

- Erect and maintain temporary safeguards, including warning signs, barricades, and similar measures for protecting the public, Owner, Contractor's employees, and existing improvements to remain.
- Existing Fire Alarm System: Maintain the existing system in service. Disable the system only to make switchovers and connections. Make temporary connections to maintain service in areas adjacent to the work area.
- Existing Telephone System: Maintain the existing system in service.
- Review Company Lock-Out/Tagout Procedure.
- Existing Public Address System: Maintain the existing system in service. Disable the system only to make switchovers and connections. Make temporary connections to maintain service in areas adjacent to the work area.

DEMOLITION

- Demolition Drawings are based on field observation and existing record documents—report discrepancies to the Owner before disturbing the existing installation.
- Remove abandoned conduit, cabling, and associated supports, including abandoned conduit and cables above accessible ceiling finishes—cut conduit flush with walls and floors and patch surfaces to match existing.
- Remove conduit, wire, boxes, and fastening devices to avoid any interference with the new installation.
- Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.
- Remaining Circuits and Equipment: Reinstall existing electrical installations disturbed. Specific existing electrical installations may be located in walls, ceilings, or floors that are to be removed and are essential for the operation of other remaining installations. Where this condition occurs, provide a new extension of original circuits, raceways, equipment, and outlets to retain service continuity. Installations shall be concealed in finished areas.
- Reconnect equipment that is being disturbed by renovation work and required for continuous service.
- Install temporary wiring and connections to maintain existing systems in service during construction.
- Perform work on energized equipment or circuits with experienced and trained personnel.
- Remove, relocate, and extend existing installations to accommodate new construction.
- Repair adjacent construction and finishes damaged during demolition and extension work.
- Remove exposed abandoned grounding and bonding components, fasteners and supports, and electrical identification components, including abandoned components above accessible ceiling finishes. Cut embedded support elements flush with walls and floors.
- Clean and repair existing equipment to remain or to be reinstalled.
- Protect and retain the power of existing active equipment.
- Cap abandoned empty conduit at both ends.

EXISTING PANELBOARDS

- Ring out circuits in the existing panel affected by the work. Where additional circuits are needed, reuse circuits are available. Install new breakers.
- Tag unused circuits as spare.
- Where existing circuits are indicated to be reused, use sensing measuring devices to verify whether circuits are feeding the project area or not in use.
- Remove existing wire that is no longer in use from panel to equipment.
- Provide newly updated directories where more than three circuits have been modified or rewired.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SALVAGE ITEMS

- Items of salvageable value may be removed as work progresses. Transport salvaged items from the site as they are removed.

REUSABLE ELECTRICAL EQUIPMENT

- Carefully remove equipment, materials, or fixtures which are to be reused.
- Disconnect, remove, or relocate existing electrical material and equipment interfering with the new installation.

CLEANING

- Remove demolished materials as work progresses.
- Keep the workplace neat.
- Clean and repair existing materials and equipment which remain or are to be reused.
- Panelboards: Clean exposed surfaces and check the tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide a typed circuit directory showing the revised circuiting arrangement.
- Luminaries: Use mild detergent to clean all exterior and interior surfaces; rinse with clean water and wipe dry. Replace lamps, ballasts, and broken electrical parts.

RECYCLABLE AND REUSABLE MATERIAL AND EQUIPMENT

- Materials shall be collected by a recognized and approved reuse and recycling center.
- Recyclable and reusable material and equipment shall include, but not limited to, the following:
    - Plastic lighting diffusers
    - Ferrous metals
    - Non-ferrous metals
    - Fluorescent lamps and ballasts
    - UPS, UPS Maintenance Bypass and Batteries

PROTECTION OF FINISHED WORK

- Do not permit traffic over an unprotected floor surface.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ASSURED GROUNDING (ELECTRICAL INSPECTION)

GENERAL

- This policy intends to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- If the electrical wiring, temporary or permanent, that we use is not protected by a Ground Fault Circuit Interrupter (GFCI) between the panel box and any extension cord or receptacle that any employee may plug into, the following program shall be followed without changes.
- This program must remain on the job site and be readily available for audit and OSHA inspections.
- The persons assigned to carry out this program shall be an Electrical Foreman or his designated competent person.
- This program shall always apply to THE COMPANY personnel regardless of Client requirements.

RESPONSIBILITY (GENERAL)

- Each employee (tool room and equipment user) shall be trained to visually check daily for external damage or defects in each piece of electrical equipment before it is used.
- Before any electrically powered tool is used the first time, it shall be checked to see that the cord and plug are in good condition, that all three prongs are intact (unless UL listed double insulated), and that there are no exposed wires at plug or cord end.
- Using proper test equipment (Ohmmeter, continuity tester, etc.), the inspector shall make sure the case of the tool is in electrical contact with the ground prong and that the other two prongs are not in electrical contact with any part of the tool or case.
- The switch must work, and the motor must shut off when released. If there is a lock-on button on the tool, it must be removed before issue.
- Each extension cord and drop light must be inspected before it is put into service and in the regular monthly inspection after that.
- The inspector shall check the male and female ends to make sure there is a tight connection with no exposed wires. The inspector shall check to see that there are no breaks in the insulation and that the ends are protected or that they are of the “dead front” type.
- Use a tester to make sure there is a good ground and that the other wires are electrically continuous.

THE COMPANY GROUNDING LOG

- List the cord or tool in column one with the name and location. List the serial number or assigned job number in column two. The date of the inspection goes in column three, and the name of the competent person doing the inspection goes in column eight.
- If the cord or tool passes all tests, put a checkmark in column four and attach the proper color tape to the male end.
- If the cord or tool does not pass the inspection, mark column five for “UNSAT,” red tag the tool, and turn it in for repairs.
- When it is returned, fill out either the date it was rewired (column six) or the date it was retested and the person who retested it in column eight.
- Record remarks in column ten for items beyond repair, lost, etc.

COLOR CODE SCHEME FOR QUARTERLY INSPECTIONS

- Refer to the Color Coding Scheme table following this section.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SEMI-ANNUAL ELECTRICAL INSPECTION

- Receptacles must be inspected after installation and semi-annually after that to make sure the cover plate is secure and the box is in good condition (no cracks, exposed wires, and sound inside connections). Use a receptacle tester to ensure proper wiring.
- Installed equipment not hand-wired (i.e., refrigerators, copiers, coffee pots, fans, heaters, air-conditioners, etc.) must be inspected on installation and semi-annually after that.
    - Check male and female ends for secure connections and exposed wires.
    - Check the entire length of the cord for breaks in insulation.
    - Use a tester to make sure you have a good ground from machine to ground prong and that the other wires are electrically continuous, making no contact with any metal parts exposed to personnel.
- Fill out the Grounding Log using the same procedure as for quarterly inspections.
    - After the receptacle or equipment has passed all inspections and tests, use the following color code:

January – March	White
April- June	Green
July - September	Red
October- December	Orange

HAND WIRED EQUIPMENT - ANNUAL INSPECTION

- All hand-wired equipment (lathes, saws, drill presses, grinders, etc.) must be inspected on installation and annually after that.
- All wire and conduit connections must be inspected to ensure secure, proper connection.
- Using a tester, ensure the machine is grounded correctly and the other wires are electrically continuous.
- On equipment found to be satisfactory, complete the proper columns on the Grounding Log and attach the current color code tape using the Color Coding Scheme table following this section.
- If the equipment is found to be “UNSAT,” then red tag it and expedite necessary repairs. Upon completion of repairs, begin the test procedure over again.

NOTES

- All equipment surveyed, lost, or beyond repair must be noted as such on the Grounding Log, and the proper authority must be notified immediately.
- Use of test equipment and performance of required electrical inspections is restricted to designated competent persons in the Electrical Department.
- Use the Equipment Grounding Log on the following pages to document all required electrical inspections.

WELDING MACHINES

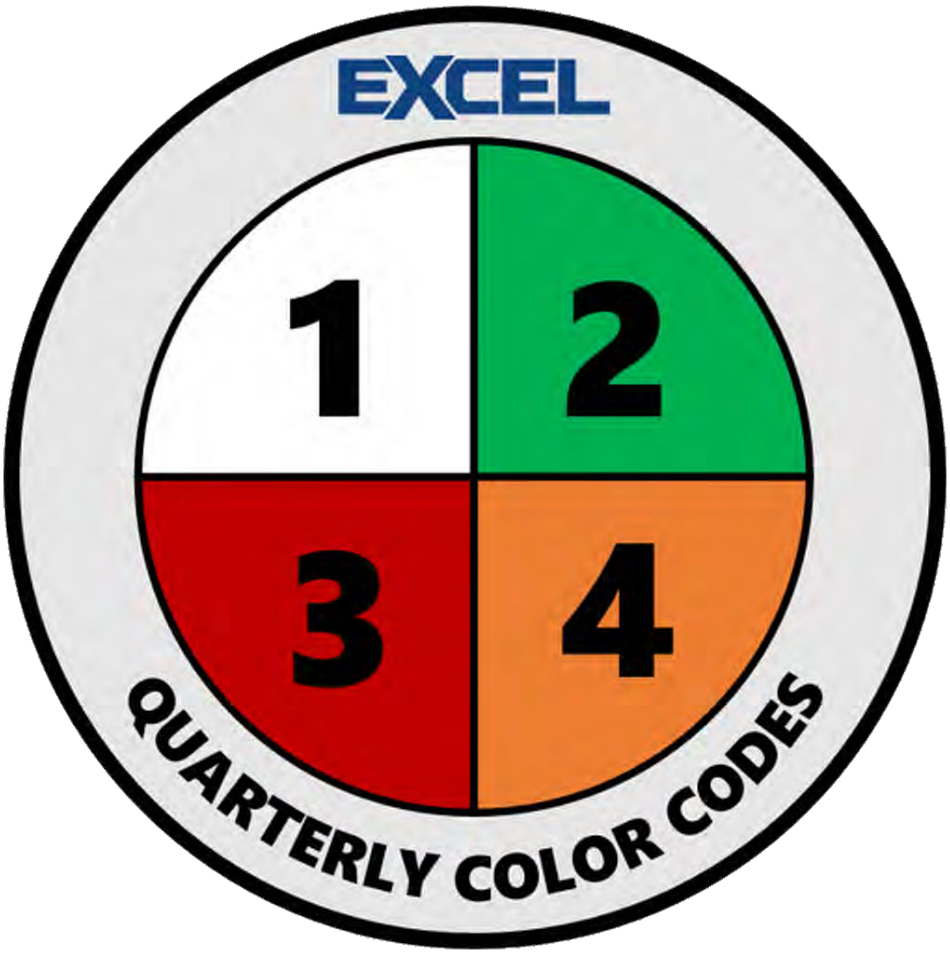
- Due to their heavy use and high hazard potential, all portable welding machines must be properly grounded to the frame.
    - The machine must be properly grounded to the frame.
    - An external ground wire is available when using the 110-volt outlet.
    - The electrode holder must be in a safe condition.
    - Cables and connectors must be in safe condition.
    - Connection posts are tight and in good shape.

REFERENCES

- National Electrical Code Sections 210-7 (c); 250-45; 250-59; and 305-2 (d)

- OSHA Regulations 1926.400
- OSHA Regulations 1926.32 (f)

QUARTERLY COLOR CODING SCHEME



Repair or Incident **Tag for Repair**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

WELDING MACHINE INSPECTION REPORT
1910.252(C) (6) PG.23746

Date: _____

Inspector: _____

Serial No.	Manufacturer	Grounded	Electrode Holder	Cables	Connection	Connection Post

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EQUIPMENT GROUNDING LOG

Jobsite: _____

(1) Equipment Number	(2) Serial Number	(3) Date Inspected	(4) Date SAT	(5) Date UNSAT	(6) Date Rewired	(7) Date Init.	(8) Date Retested	(9) Init.	(10) Remarks

Color Codes: Quarterly: 1st White, 2nd Green, 3rd Red, 4th Orange

Repair Accidents: Tag for repair

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ELECTRICAL SAFE WORK PRACTICES

GENERAL

- This policy intends to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

QUALIFIED AND UNQUALIFIED PERSONS

- The purpose of the electrical safe work practices training for qualified and unqualified persons and the reference information included is to ensure that employees understand the specific hazards associated with electrical energy, procedural requirements, and necessary protection to eliminate hazards and possible injury while performing their respective work or task assignments. These are the minimum general requirements and shall be used along with existing state, federal, client, and Company policies and procedures. More stringent rules shall apply in some cases and shall be determined by each qualified employee through safe action planning prior to the beginning of work. Should additional assistance be required before work commences or employee exposure can occur, the Company Corporate Safety Department can be contacted.
- The following texts were referenced for this training outline and can be referred to for additional information or specific concerns:
    - National Fire Protection Association ANSI/NFPA 70 E
    - CFR 29 Parts 1910.332 & .333
    - Company Corporate Safety Manual
    - Company Switchgear LOTO Protocol

QUALIFIED PERSONS

- A qualified person shall be trained and knowledgeable of the construction and operation of equipment or a specific work method and be trained to recognize and void the electrical hazards that might be present with respect to that equipment or work method. Such persons shall also be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools and test equipment. A person can be considered qualified with respect to certain equipment and methods but still be unqualified for others. Such persons permitted to work within a limited approach of exposed energized conductors and circuit parts shall, at a minimum, be additionally trained in all of the following:
    a) The skills and techniques necessary to distinguish exposed energized parts from other parts of electric equipment.
    b) The skills and techniques necessary to determine the normal voltage of exposed energized parts.
    c) The approach distances specified in Table 1 of Part II and the corresponding voltages to which the qualified person shall be exposed.
    d) The decision-making process is necessary to determine the degree and extent of the hazard and the personal protective equipment and job planning necessary to perform the task safely.
- NOTE: An employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person shall be considered to be a qualified person for the performance of those duties.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

UNQUALIFIED PERSONS

- Unqualified persons shall be trained in and be familiar with any of the electrical safety-related practices that might not be addressed specifically by Part II but are necessary for their safety.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SWITCHGEAR LOCKOUT/TAGOUT PROTOCOL

The purpose of this protocol/policy is to reinforce the existing Company policy governing the isolation and re-energizing of switchgear or other electrical apparatus. This protocol is specially written for electrical energy lockout and isolation of new, old, added, or existing switchgear. Whenever possible, the client/owner protocol should be followed, and the client/owner should perform the initial sequence of lockout/tagout and isolation of equipment to be worked on. In any case, the protocol used for this purpose must meet or exceed the requirements of the Company policy/procedure. For any switchgear work that is performed, the following steps must be taken to assure the safety of all personnel and equipment associated with this task.

1. Prior to work beginning any switchgear work, the supervisor, foreman, employees, and site safety representative must review the job scope, necessary permits, Job Safety Analysis (JSA), and the lockout/tagout protocol to be used during this work activity. It is at this time that the Company supervisor shall determine which lockout/tagout protocol to use, i.e., company or other.
2. If the equipment to be worked on has been or is suspected of ever having been energized (not new, still in construction), you must use the proper PPE. This includes but is not limited to a full flash suit, hood, tested high voltage gloves, and die electric rubber boots. Rubber mats are also strongly suggested. Remember to inspect your PPE prior to each use.
3. Know the voltage range of the equipment you are going to test and work on. Use only test equipment that is currently calibrated and tested, and when the correct range for the voltage you are going to check, i.e., hot sticks.
4. After assuring that the equipment to be worked on has no energy or voltage present as a result of the test, a numbered set of ground jumpers must be installed prior to any work being performed. The installed numbered jumpers must be logged in as to which buss and specific equipment each jumper is installed. This step is vital because the jumper log shall be used to remove the jumpers when the task is complete. This process is to ensure that all of the jumpers needed are put on and removed prior to re-energizing any switchgear.
5. The jumpers being installed shall be numbered and recorded on the jumper log sheet. In addition, all personnel working on the assigned equipment must be signed on to the jumper log master sheet. This master jumper log shall be attached to the work permit for this job. When the work is complete, all personnel must sign off on the master jumper log before any jumpers are removed. The same PPE requirements as stated in step two (2) must be used for the installation and removal of jumpers.
6. After all jumpers on the jumper log are removed from the equipment that is to be energized, a megger test shall be performed and recorded to ensure all grounds are removed.
7. Prior to the switchgear being energized, the Company supervisor and, where possible, a client representative shall perform a visual inspection of the equipment. This inspection should include but is not limited to the correctness of work that was performed, that all ground jumpers are taken off or removed, and that no tools or equipment are left in the switchgear or near energized parts.
8. Finally, have the client/owner approve the equipment for service, and where possible, the client/owner shall re-energize the equipment.

NOTE: Deviation from this policy and procedure without prior consent from the Corporate Safety Director shall be grounds for termination. Prior to engaging in work that involves this protocol, each person working on the equipment shall be trained, and their comprehension of this policy shall be documented.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Qualified Electrician Test

True	False	
____	____	1. Qualified persons are those who have training in avoiding electrical hazards of working on or near exposed energized parts and have been designated by the company as “Qualified.”
____	____	2. A danger tag and lock must be used as the proper method for isolating electrical hazards.
____	____	3. Attempt to operate equipment or machinery that has been locked-out, to ensure isolation.
____	____	4. All employees should make every effort not to work any electrical circuits that are energized.
____	____	5. Do not use metal ladders or scaffolds in or around high-voltage areas.
____	____	6. Rubber gloves should not be used to check voltage over 500 volts.
____	____	7. Phasing sticks must be used when verifying that circuits 1000 volts or greater are de-energized.
____	____	8. It is not necessary to test phasing sticks prior to use, as well as after use.
____	____	9. Always make sure that the voltage being tested does not exceed the meter rating.
____	____	10. Unqualified electricians are allowed to remove or install fuses.
____	____	11. Always assume that electrical lines and equipment are energized until circuits have been properly isolated, tagged locked-out, and tested.
____	____	12. If an electrical circuit breaker trips, that breaker should not be reset until a a qualified electrician has investigated the tripping of the breaker.
____	____	13. Always replace and tighten all bolts and covers on electrical housings, especially on explosion-proof equipment.
____	____	14. Rush to the aid of an electrical shock victim and immediately attempt to remove them from the power source.
____	____	15. It is acceptable for unqualified persons to lockout and tag electrical equipment.

Name: _____ Date: _____

Job #: _____ Instructor: _____

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Q E Q Answer Key

1. T
2. T
3. T
4. T
5. T
6. F
7. T
8. F
9. T
10. F
11. T
12. T
13. T
14. F
15. F

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

PART II - SAFETY-RELATED WORK PRACTICES

CHAPTER 1 GENERAL

1.1 **Scope.** Part II covers electrical safety-related work practices and procedures for employees who work on or near exposed energized electrical conductors or circuit parts in workplaces that are included in the scope of this standard. Electric circuits and equipment not included in the scope of this standard might present a hazard to employees not qualified to work near such facilities. Requirements have been included in Part II to protect unqualified employees from such hazards.

1.2 **Purpose.** These practices and procedures are intended to provide for employee safety relative to electrical hazards in the workplace.

1.3 **Responsibility.** Employees shall implement the safety-related work practices contained in Part II. The employer shall provide safety-related work practices. He or she shall also train the employee, who shall then implement them.

1.4 **Organization.** Part II of this standard is divided into five chapters. Chapter 1 applies to employee training and qualifications. Chapter 2 includes details of the limits of the approach to live parts and contains specific work practices. Chapter 3 applies to specifying and maintaining personal and other protective equipment. Chapter 4 covers the use of specific safety-related equipment and work practices. Chapter 5 covers the general requirements for a lockout/tagout procedure.

1.5 **Training Requirements**

1-5.1 **Safety Training.** The training requirements contained in this section shall apply to employees who face a risk of electrical hazard that is not reduced to a safe level by the electrical installation requirements of Part I. Such employees shall be trained to understand the specific hazards associated with electrical energy. They shall be trained in safety-related work practices and procedural requirements as necessary to protect them from the electrical hazards associated with their respective job or task assignments. Employees shall be trained to identify and understand the relationship between electrical hazards and possible injury.

1-5.2 **Type of Training.** The training required by this section shall be classroom or on-the-job type, or a combination of the two. The risk to the employee shall determine the degree of training provided.

1-5.3 **Emergency Procedures.** Employees working on or near exposed energized electrical conductors or circuit parts shall be trained in methods of releasing victims from contact with exposed energized conductors or circuit parts. They shall be regularly instructed in methods of first aid and emergency procedures, such as approved methods of resuscitation if their duties warrant such training.

1-5.4 **Employee Training.**

1-5.4.1 **Qualified Persons.** A qualified person shall be trained and knowledgeable of the construction and operation of equipment or a specific work method and be trained to recognize and void the electrical hazards that might be present with respect to that equipment or work method. Such persons shall also be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools and test equipment. A person can be considered qualified with respect to certain equipment and methods but still be unqualified for others. Such persons permitted to work within a limited approach of exposed energized conductors and circuit parts shall, at a minimum, be additionally trained in all of the following:

(a) The skills and techniques necessary to distinguish exposed energized parts from other parts of electric equipment

(b) The skills and techniques necessary to determine the nominal voltage of exposed energized parts

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

(c) The approach distances specified in Table 1 of Part II and the corresponding voltages to which the qualified person shall be exposed.

(d) The decision-making process necessary to determine the degree and extent of the hazard and the personal protective equipment and job planning necessary to perform the task safely

NOTE: An employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person shall be considered to be a qualified person for the performance of those duties.

1-5.4.2 Unqualified Persons.

1-5.4.2.1 Unqualified persons shall be trained in and familiar with any of the electrical safety-related practices that might not be addressed specifically by Part II but are necessary for their safety.

CHAPTER 2 GENERAL REQUIREMENTS

2.1 Working On or Near Electrical Conductors or Circuit Parts.

2-1.1 General. Safety-related work practices shall be used to safeguard employees from injury while they are working on or near exposed electric conductors or circuit parts that are or can become energized. The specific safety-related work practice shall be consistent with the nature and extent of the associated electric hazards.

2-1.1.1 Live parts to which an employee might be exposed shall be put into an electrically safe work condition before an employee works on or near them unless the employer can demonstrate that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Energized parts that operate at less than 50 volts to ground are not required to be de-energized if there shall be no increased exposure to electrical burns or explosions due to electric arcs.

NOTE 1: Examples of increased or additional hazards include, but are not limited to, interruption of life support equipment, deactivation of emergency alarm systems, shutdown of hazardous location ventilation equipment, or removal of illumination for an area.

NOTE 2: Examples of work that may be performed on or near exposed energized electrical conductors or circuit parts because of infeasibility due to equipment design or operational limitations include performing diagnostics and testing (e.g., start-up or troubleshooting) of electric circuits that can only be performed with the circuit energized and work on circuits that form an integral part of a continuous process that would otherwise need to be completely shut down in order to permit work on one circuit or piece of equipment.

2-1.1.2 Only qualified persons shall be permitted to work on electrical conductors or circuit parts that have been put into an electrically safe work condition.

2-1.1.3 An electrically safe work condition shall be achieved when performed in accordance with procedures 2-1.2 of Part II and verified by the following process:

(a) Determine all possible sources of electrical supply to the specific equipment. Check applicable, up-to-date drawings, diagrams, and identification tags.

(b) After properly interrupting the load current, open the disconnecting device(s) for each source.

(c) Where it is possible, visually verify that all blades of the disconnecting devices are fully open or that drawout-type circuit breakers are withdrawn to the entirely disconnected position.

(d) Apply lockout/tagout devices in accordance with a documented and established policy.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

(e) Use an adequately rated voltage detector to test each phase conductor or circuit part to verify they are de-energized. Before and after each test, determine that the voltage detector is operating satisfactorily.

(f) Where the possibility of induced voltages or stored electrical energy exists, ground the phase conductors or circuit parts before touching them. It could be reasonably anticipated that the conductors or circuit parts being de-energized could contact other exposed energized conductors, or circuit parts apply ground connecting devices rated for the available fault duty.

2-1.2 On or Working Near Deenergized Electrical Conductors or Circuit Parts that Have Lockout/Tagout Devices Applies. Each employer shall identify, document, and implement lockout/tagout procedures conforming to Chapter 5 to safeguard employees from exposure to electrical hazards while they are working on or near de-energized electrical conductors or circuit parts that are likely to result in injury from inadvertent or accidental contact or equipment failure. The lockout/tagout procedure shall be appropriate for the experience and training of the employees and conditions as they exist in the workplace.

2-1.3 Working On or Near Exposed Electrical Conductors of Circuit Parts that Are or Might Become Energized.

2-1.3.1 Where working on live parts that have not had lockout/tagout devices applied in accordance with 2-1.1.3 and Chapter 5 of Part II, 2-1.3.2 through 2-1.3.5 of Part II shall apply to the work.

2-1.3.2 If the live parts are not placed in electrically safe work conditions, other safety-related work practices shall be used to protect employees who might be exposed to the electrical hazards involved. Such work practices shall protect each employee from arc flash and contact with live parts directly with any part of the body or indirectly through some other conductive object. The work practices that are used shall be suitable for the conditions under which the work is to be performed and for the voltage level of the live parts.

2-1.3.3 Flash Hazard Analysis. Flash hazard analysis shall be done before a person approaches any exposed electrical conductor or circuit part that has not been placed in an electrically safe work condition.

2-1.3.3.1 General. In certain instances, the flash protection boundary might be a greater distance than the limited approach boundary, and the greater distance shall be utilized to trigger the need for personal protective equipment.

2-1.3.3.2 Flash Protection Boundary. For systems that are 600 volts and below, the flash protection boundary shall be 4.0 ft, based upon the product of clearing times of 6 cycles (0.1 seconds) and available bolted fault current of 50 kA or any combination not exceeding 300 kA cycles (5000-ampere seconds). For clearing times and bolted fault currents other than 300 kA cycles or under engineering supervision, the flash protection boundary shall alternatively be permitted to be calculated in accordance with the following general formula.

$$D_c = [2.65 \times MVA_{bf} \times t]^{1/2} \text{ or}$$
$$D_c = [53 \times MVA \times t]^{1/2}$$

Where:

D_c = Distance of person from an arc source for a just curable burn in feet.

MVA_{bf} = Bolted fault MVA at point involved.

MVA = MVA rating of transformer. For transformers with MVA ratings below 0.75 MVA, multiply the transformer MVA rating by 1.25.

t = Time of arc exposure in seconds.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

At voltage levels above 600 volts, the flash protection boundary is the distance at which the incident energy level equals 1.2 cal/cm^2. For situations where fault clearing time is 0.1 second (or faster), the flash protection boundary is the distance at which the incident energy level equals 1.5 cal/cm^2.

2-1.3.3.3 Protective Clothing and Personal Protective Equipment for Application with a Flash Hazard Analysis. Where it has been determined that work shall be performed within the flash protection boundary by 2-1.3.3.2 of Part II, the flash hazard analysis shall determine, and the employer shall document, the incident energy exposure of the worker (in calories per square centimeter). This incident energy exposure level shall be based on the working distance of the employee's face and chest areas from a prospective arc source for the specific task to be performed. Flame Resistant (FR) Clothing and Personal Protective Equipment (PPE) shall be used by the employee based on the incident energy exposure associated with the specific task. As an alternative, the PPE requirements of 3-3.9 of Part II shall be permitted to be used in lieu of the detailed flash hazard analysis approach described in 2-1.3.3.2 of Part II.

NOTE: For information on estimating the incident energy exposure on 600-volt systems, see Appendix B-5 of Part II.

2-1.3.4 Approach Boundaries to Live Parts. No qualified person shall approach or take any conductive object closer to live parts than the restricted approach boundary set forth in Table 2-1.3.4 of Part II unless:

(a) The qualified person is insulated or guarded from the live parts (insulating gloves or insulating gloves and sleeves are considered insulation only with regard to the energized parts upon which work is being performed), and no uninsulated part of the qualified person's body enters the prohibited space set forth in Table 2-1.3.4 of Part II, or

(b) The live part is insulated from the qualified persona and any other conductive object at a different potential or

(c) The qualified person is insulated from any other conductive object during live-line bare-hand work.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TABLE 2-1.3.4
APPROACH BOUNDARIES TO LIVE PARTS FOR SHOCK PROTECTION
(ALL DIMENSIONS ARE DISTANCE FROM LIVE PART TO EMPLOYEE.)

(1)	(2)	(3)	(4)	(5)
	Limited Approach Boundary		Restricted Approach Boundary; Includes Inadvertent Movement Adder	Prohibited Approach Boundary[1]
Nominal System Voltage Range, Phase to Phase	Exposed Movable Conductor	• Exposed Fixed Circuit Part		
0 to 50	Not specified	Not specified	Not specified	Not specified
51 to 300	10 ft 0 in.	3 ft 6 in.	Avoid contact	Avoid contact
301 to 750	10 ft 0 in.	3 ft 6 in.	1 ft 0 in.	0 ft 1 in.
751 to 15 kV	10 ft 0 in.	5 ft 0 in.	2 ft 2 in.	0 ft 7 in.
15.1 kV to 36kV	10 ft 0 in.	6 ft 0 in.	2 ft 7 in.	0 ft 10 in.
36.1 kV to 46 kV	10 ft 0 in.	8 ft 0 in.	2 ft 9 in.	1 ft 5 in.
46.1 kV to 72.5 kV	10 ft 0 in.	8 ft 0 in.	3 ft 3 in.	2 ft 1 in.
72.6 kV to 121 kV	10 ft 8 in.	8 ft 0 in.	3 ft 2 in.	2 ft 8 in.
138 kV to 145 kV	11 ft 0 in.	10 ft 0 in.	3 ft 7 in.	3 ft 1 in.
161 kV to 169 kV	11 ft 8 in.	11 ft 8 in.	4 ft 0 in.	3 ft 6 in.
230 kV to 242 kV	13 ft 0 in.	13 ft 0 in.	5 ft 3 in.	4 ft 9 in.
345 kV to 362 kV	15 ft 4 in.	15 ft 4 in.	8 ft 6 in.	8 ft 0 in.
500 kV to 550 kV	19 ft 0 in.	19 ft 0 in.	11 ft 3 in.	10 ft 9 in.
765 kV to 800 kV	23 ft 9 in.	23 ft 9 in.	14 ft 11 in.	14 ft 5 in.

Notes:
For SI units: 1 in. = 25.4 mm; 1 ft = 0.3048 m.

2-1.3.5 Unqualified Persons.

2-1.3.5.1 Unqualified persons shall not be permitted to enter spaces that are required under 1-8.2 or Section 1-9 of Part I to be accessible to qualified employees only unless the electric conductors and equipment involved are in an electrically safe work condition.

2-1.3.5.2 Where an unqualified person(s) is (are) working at or close to the limited approach boundary, the designated person in charge of the workspace where the electrical hazard exists shall cooperate with the designated person in charge of the unqualified person(s) to ensure that all work can be done safely. This shall include advising the unqualified person(s) of the electrical hazard and warning him or her to stay outside of the limited approach boundary.

2.2 Work On or Near Uninsulated Overhead Lines.

2-2.1 Uninsulated and Energized. Where work is performed in locations containing uninsulated energized overhead lines that are not guarded or isolated, precautions shall be taken to prevent employees from contacting such lines directly with any unguarded parts of their body or indirectly through conductive materials, tools, or equipment. Where the work to be performed

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

is such that contact with uninsulated energized overhead lines is possible, the lines shall be de-energized and visibly grounded at the point of work or suitably guarded.

2-2.2 Deenergizing or Guarding. If the lines are to be de-energized, arrangements shall be made with the person or organization that operates or controls the lines to de-energize them and visibly ground them at the point of work. If arrangements are made to use protective measures, such as guarding, isolating, or insulation, these precautions shall prevent each employee from contacting such lines directly with any part of his or her body or indirectly through conductive materials, tools, or equipment.

2-2.3 Employer and Employee Responsibility. The employer and employee shall be responsible for ensuring that guards or protective measures are satisfactory for the conditions. Employees shall comply with established work methods and the use of protective equipment.

2-2.4 Approach Distances for Unqualified Persons. When employees without electrical training are working on the ground or in an elevated position near overhead lines, the location shall be such that the employee and the longest conductive object the employee might contact cannot come closer to any unguarded, energized overhead power line that the limited approach boundary. If the voltage on the line exceeds 50 kV, the distance shall be 10 ft plus 4 in. for every 10 kV over 50 kV.

NOTE: Objects that are not insulated from the voltage involved shall be considered to be conductive.

2-2.5 Vehicular and Mechanical Equipment.

2-2.5.1 Where any vehicle or mechanical equipment structure shall be elevated near energized overhead lines, they shall be operated so that the limited approach boundary distance of Table 2-1.3.4 of Part II, Column 2, is maintained. However, under any of the following conditions, the clearances shall be permitted to be reduced:

(a) If the vehicle is in transit with its structure lowered, the limited approach boundary to overhead lines in Table 2-1.3.4 of Part II, Column 2, shall be permitted to be reduced by 6 ft (1.83m).

(b) If insulated barriers, rated for the voltages involved, are installed, and they are not part of an attachment to the vehicle, the clearance shall be permitted to be reduced to the design working dimensions of the insulating barrier.

(c) If the equipment is an aerial lift insulated for the voltage involved, and if a qualified person performs the work, the clearance (between the uninsulated portion of the aerial lift and the power line) shall be permitted to be reduced to the restricted approach boundary given in Table 2-1.3.4 of Part II, Column 4.

2-2.5.2 Employees standing on the ground shall not contact the vehicle or mechanical equipment or any of its attachments unless:

(a) The employee is using protective equipment rated for the voltage or

(b) The equipment is located so that no uninsulated part of its structure (that portion of the structure that provides a conductive path to employees on the ground) can come closer to the line than permitted in 2-2.5.1 of Part II.

2-2.5.3 If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding may not stand at the grounding location whenever there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation, shall be taken to protect employees from hazardous ground potentials (step and touch potential), which can develop within a few feet or more outward from the grounded point.

2.3 Electrical Safety Program.

2-3.1 General. The employer shall implement an overall electrical safety program that directs activity appropriate for the voltage, energy level, and circuit conditions.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

NOTE: Safety-related work practices are just one component of an overall electrical safety program.

2-3.1.1 **Awareness and Self Discipline.** The electrical safety program shall be designed to provide an awareness of the potential electrical hazards to the employees who might, occasionally, work in an environment influenced by the presence of electrical energy. The program shall be developed to provide the required self-discipline to the employees who occasionally must perform work on or near exposed energized electrical conductors and circuit parts. The program shall instill safety principles and controls.

2-3.1.2 **Electrical Safety Program Principles.** An electrical safety program shall identify the principles upon which it is based.

NOTE: For examples of typical electrical safety program principles, see Appendix C of Part II.

2-3.1.3 **Electrical Safety Program Controls.** An electrical safety program shall identify the controls by which it is measured and monitored.

NOTE: For examples of typical electrical safety program controls, see Appendix C of Part II.

2-3.1.4 **Electrical Safety Program Procedures.** An electrical safety program shall identify the procedures for working on or near live parts before work is started.

NOTE: For an example of a typical electrical safety program control, see Appendix C of Part II.

2-3.1.5 **Hazard/Risk Evaluation Procedure.** An electrical safety program shall identify a hazard/risk evaluation procedure to be used before work is started on or near live parts.

NOTE: For an example of a hazard risk procedure, see Appendix D of Part II.

2-3.1.6 **Job Briefing.** Before starting each job, the employee in charge shall conduct a job briefing with the employees involved. The briefing shall cover such subjects as hazards associated with the job, work procedures involved, special precautions, energy source controls, and personal protective equipment requirements.

If the work or operations to be performed during the work day or shift are repetitive and similar, at least one job briefing shall be conducted before the start of the first job of the day or shift. Additional job briefings shall be held if significant changes that might affect the safety of the employees occur during the work.

A brief discussion shall be satisfactory if the work involved is routine and if the employee, by virtue of training and experience, can reasonably be expected to recognize and avoid the hazards involved in the job. A more extensive discussion shall be conducted if:

(a) The work is complicated or particularly hazardous or
(b) The employee cannot be expected to recognize and avoid the hazards involved in the job.

2-3.2 Alertness.

2-3.2.1 Employees shall be instructed to be alert at all times when they are working near live parts and in work situations where unexpected electrical hazards might exist.

2-3.2.2 Employees shall not knowingly be permitted to work in areas containing live parts or other electrical hazards while their alertness if recognizably impaired due to illness, fatigue, or other reasons.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

2-3.2.3 Blind Reaching. Employees shall be instructed not to reach blindly into areas that might contain live parts.

2-3.3 Illumination.

2-3.3.1 Employees shall not enter spaces containing live parts unless illumination is provided that enables the employees to perform the work safely.

2-3.3.2 Where lack of illumination or an obstruction precludes observation of the work to be performed, employees shall not perform any task near live parts.

2-3.4 Conductive Articles Being Worn. Conductive articles of jewelry and clothing (such as watchbands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, metal headgear, or unrestrained metal frame glasses) shall not be worn where they present an electrical contact hazard with live parts, unless such articles are rendered nonconductive by covering, wrapping, or other insulating means.

2-3.5 Conductive Materials, Tools, and Equipment Being Handled.

2-3.5.1 Conductive materials, tools, and equipment that are in contact with any part of an employee's body shall be handled in a manner that shall prevent accidental contact with live parts. Such materials and equipment include but are not limited to long conductive objects, such as ducts, pipes and tubes, conductive hose and rope, metal-lined rules and scales, steel tapes, pulling lines, metal scaffold parts, structural members, bull floats, and chains.

2-3.5.2 Means shall be employed to ensure that conductive materials approach live parts no closer than that permitted by Table 2-1.3.4 of Part II.

2-3.6 Insulated Tools and Equipment. Employees shall use insulated tools and/or handling equipment when working inside the limited approach boundary of live parts where tools or handling equipment might make accidental contact. Insulated tools shall be protected from damage to the insulating material.

NOTE: See 2-1.3.4 of Part II for working on live parts.

2-3.6.1 Fuse or fuse holder handling equipment, insulated for the circuit voltage, shall be used to remove or install a fuse if the fuse terminals are energized.

2-3.6.2 Ropes and handlings used near live parts shall be nonconductive.

2-3.7 Protective Shields. Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working near live parts that might be accidentally contacted or where dangerous electric heating or arcing might occur. When normally enclosed live parts are exposed for maintenance or repair, they shall be guarded to protect unqualified persons from contact with the live parts.

2-3.8 Portable Ladders. Portable ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact live parts.

2-3.9 Confined or Enclosed Work Spaces. When an employee works in a confined or enclosed space (such as a manhole or vault) that contains live parts, the employer shall provide, and the employee shall use protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts. Coors, hinged panels, and the like shall be secured to prevent their swinging into an employee and causing the employee to contact live parts.

2-3.10 Safety Interlocks. Only a qualified person following the requirements for working inside the restricted approach boundary as covered by 2-1.3.4 of Part II shall be permitted to defeat or bypass an electrical safety interlock over which the person has sole control, and then only temporarily while the qualified person is working on the equipment. The safety interlock system shall be returned to its operable condition when the work is completed.

2-3.11 Housekeeping Duties. Where live parts present an electrical contact hazard, employees shall not perform housekeeping duties inside the limited approach boundary where there is a possibility of contact unless adequate safeguards (such as insulating equipment or barriers) are provided to prevent contact. Electrically conductive cleaning materials (including conductive solids such as steel wool, metalized cloth, and silicon carbide, as well as conductive

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

liquid solutions) shall not be used inside the limited approach boundary unless procedures to prevent electrical contact are followed.

2-3.12 Occasional Use of Flammable Materials. Where flammable materials are present only occasionally, electric equipment capable of igniting them may not be used unless measures are taken to prevent hazardous conditions from developing. Such materials include but are not limited to, flammable gases, vapors, or liquids; combustible dust; and ignitable fibers or flyings.

NOTE: Electrical installation requirements for locations where flammable materials are present on a regular basis are contained in Chapter 5 of Part I.

2-3.13 Overcurrent Protection Modification. Overcurrent protection of circuits and conductors shall not be modified, even on a temporary basis, beyond that permitted by 2-5.1 and 2-5.2 of Part I.

2-3.14 Anticipating Failure. When there is evidence that electric equipment could fail and injure employees, the electric equipment shall be de-energized unless the employer can demonstrate that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Until the equipment is de-energized or repaired, employees shall be protected from hazards associated with the impending failure of the equipment.

CHAPTER 3 PERSONAL AND OTHER PROTECTIVE EQUIPMENT

3-1 General. Employees working in areas where there are electrical hazards shall be provided with and shall use, protective equipment that is designed and constructed for the specific part of the body to be protected and for the work to be performed.

NOTE: Personal protective equipment requirements are contained in 3-3.8 and 3-4.11 of Part II.

3-2 Care of Equipment. Protective equipment shall be maintained in a safe, reliable condition. The protective equipment shall be visually inspected before each use.

NOTE 1: Specific requirements for periodic testing of electrical protective equipment are given in 3-3.8 and 3-4.11 of Part II.

NOTE 2: Requirements relating to the use of leather protectors over rubber insulating gloves are given in 3-3.8 and 3-3.9.5.3 of Part II.

3-3 Personal Protective Equipment.

3-3.1 General. When an employee is working within the flash protection boundary, he/she shall wear protective clothing and other personal protective equipment in accordance with 2-1.3.3.3 of Part II.

3-3.2 Movement and Visibility. When flame-resistant, flame-retardant, or treated clothing is worn to protect an employee, it shall cover all ignitable clothing and shall allow for movement and visibility.

3-3.3 Head, Face, Neck, and Chin Protection. Employees shall wear nonconductive head protection wherever there is a danger of head injury from electric shock or burns due to contact with live parts or from flying objects resulting from an electrical explosion.

3-3.4 Eye Protection. Employees shall wear protective equipment for the eyes whenever there is the danger of injury from electric arcs, flashes, or flying objects resulting from electrical explosions.

3-3.5 Body Protection. Employees shall wear clothing resistant to flash flame wherever there is possible exposure to an electric arc flash. Employees entering energized MCC buildings shall wear a minimum of HRC/Level 1 flame retardant clothing unless more stringent requirements are dictated by the client/employer.

NOTE: Such clothing can be provided as shirt and trousers, or as coveralls, or as a combination of jacket and trousers, or, for maximum protection, as coveralls and jacket. Various

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

weight fabrics of 4 oz, 6 oz, or 10 oz are available. The higher degree of protection is provided by heavier weight fabrics or by layering combinations of natural fiber clothing resistant to electric arc flash.

3-3.6 Head and Arm Protection. Employees shall wear rubber-insulating gloves where there is a danger of hand and arm injury from electric shock and burns due to contact with live parts. Hand and arm protection shall be worn where there is possible exposure to arc flash burn. Arm protection shall be accomplished by apparel described in 3-3.5 of Part II.

3-3.7 Foot and Leg Protection. Where insulated footwear is used as protection against step and touch potential, dielectric overshoes shall be required.

NOTE: Insulated soles are not intended to be used as primary electrical protection.

3-3.8 Standards for Personal Protective Equipment. Personal protective equipment shall conform to the standards given in Table 3-3.8.

3-3.9 Selection of Personal Protective Equipment.

3-3.9.1 Personal Protective Equipment Required for Various Tasks. Listed in Table 3-3.9.1 of Part II are a number of common work tasks with the respective Hazard/Risk Category associated with each task. Once the Hazard/Risk Category has been identified, refer to Table 3-3.9.2 of Part II. The assumed “normal” short circuit current capacities and fault clearing times for various tasks conducted on low-voltage (600 V and below) equipment are listed in the notes to Table 3-3.9.1 of Part II. For tasks not listed, or for power systems of greater than the assumed “normal” short circuit current capacity or for longer than assumed fault clearing times (for the assumed current and time values, see the Notes to Table 3-3.9.1 of Part II), a flash hazard analysis is required in accordance with 2-1.3.3 of Part II.

NOTE: Energized parts that operate at less than 50 volts are not required to be de-energized to satisfy an “electrically safe work condition.” Consideration should be given to the capacity of the source, any overcurrent protection between the energy source and the worker, and whether the work task related to the source operating at less than 50 volts increases exposure to electrical burns or to explosion from an electric arc.

3-3.9.2 Protective Clothing and Personal Protective Equipment Matrix. Once the Hazard/Risk Category has been identified, refer to Table 3-3.9.2. Table 3-3.9.2 lists the requirements for protective clothing and other protective equipment based on Hazard/Risk Category numbers 0 through 4. This clothing and equipment shall be used when working on or near energized equipment within the Flash Protection Boundary.

NOTE 1: See Appendix F of Part II for a suggested simplified approach to ensure adequate PPE for electrical workers within facilities with large and diverse electrical systems.

NOTE 2: The PPE requirements of this section are intended to protect a person from arc-flash and shock hazards. While some situations may result in burns to the skin, even with the protection described in Table 3-3.9.2, any burn injury should be relatively minor and survivable. Due to the explosive effect of some arc events, physical trauma injuries may occur. The PPE requirements of this section do not protect against physical trauma.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TABLE 3-3.8

STANDARDS ON PROTECTIVE EQUIPMENT

Subject	Number and Title
Head protection	ANSI Z*9.1, *Requirements for Protective Headwear for Industrial Workers,* 1997
Eye and face protection	ANSI Z87.1, *Practice for Occupational and Educational Eye and Face Protection,* 1989
Gloves	ASTM D 120, *Standard Specification for Rubber Insulating Gloves,* 1995
Sleeves	ASTM D 1051, *Standard Specification for Rubber Insulating Sleeves,* 1995
Gloves and sleeves	ASTM F 496, *Standard Specification for In-Service Care of Insulating Gloves and Sleeves,* 1997
Leather protectors	ASTM F 696, *Standard Specification for Leather Protectors for Rubber Insulating Gloves and Mittens,* 1997
Footwear	ASTM F 1117, *Standard Specification for Dielectric Overshoe Footwear*, 1993
	ANSI Z 41, *Standard for Personnel Protection, Protective Footwear,* 1991
Visual inspection	ASTM F 1236, *Standard Guide for Visual Inspection of Electrical Protective Rubber Products,* 1996
Apparel	ASTM F 1506, *Standard Specification for Protective Wearing Apparel for Use by Electrical Workers When Exposed to Momentary Electric Arc and Related Thermal Hazards,* 1998

ANSI – American National Standards Institute
ASTM – American Society for Testing and Materials

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TABLE 3-3.9.1
HAZARD RISK CATEGORY CLASSIFICATIONS

Task (Assume Equipment is Energized, and Work is Done Within the Flash Protection Boundary)	Hazard/Risk Category	V-rated Gloves	V-rated Tools
Panelboards rated 240 V and below – Notes 1 and 3	--	--	--
Circuit breaker (CB) or fused switch operation with covers on	0	N	N
CB or fused switch operation with covers off	0	N	N
Work on energized parts, including voltage testing	1	Y	Y
Remove/install CBs or fused switches	1	Y	Y
Removal of bolted covers (to expose bare, energized parts)	1	N	N
Opening hinged covers (to expose bare, energized parts)	0	N	N
Panelboards or Switchboards rated >240 V and up to 600 V (with molded case or insulated case circuit breakers) – Notes 1 and 3	--	--	--
CB or fused switch operation with covers on	0	N	N
CB or fused switch operation with covers off	1	N	N
Work on energized parts, including voltage testing	2*	Y	Y
600 V Class Motor Control Centers (MCCs) – Notes 2 (except as indicated) and 3	--	--	--
CB or fused switch or starter operation with enclosure doors closed	0	N	N
Reading a panel meter while operating a meter switch	0	N	N
CB or fused switch or starter operation with enclosure doors open	1	N	N
Work on energized parts, including voltage testing	2*	Y	Y
Work on control circuits with energized parts 120 V or below, exposed	0	Y	Y
Work on control circuits with energized parts >120 V exposed	2*	Y	Y
Insertion or removal of individual starter “buckets” from MCC – Note 4	3	Y	N
Application of safety grounds after voltage test	2*	Y	N
Removal of bolted covers (to expose bare, energized parts)	2*	N	N
Opening hinged covers (to expose bare, energized parts)	1	N	N
600 V Class Switchgear (with power circuit breakers or fused switches) – Notes 5 and 6	0	N	N
CB or fused switch operation with enclosure doors closed	0	N	N
Reading a panel meter while operating a meter switch	0	N	N
CB or fused switch operation with enclosure doors open	1	N	N
Work on energized parts, including voltage testing	2*	Y	Y
Work on control circuits with energized parts 120 V or below, exposed	0	Y	Y
Work on control circuits with energized parts >120 V exposed	2*	Y	Y
Insertion or removal (racking) of CBs from cubicles, doors open	3	N	N
Insertion or removal (racking) of CBs from cubicles, doors closed	2	N	N
Application of safety grounds after voltage test	2*	Y	N

EXCEL

TABLE 3-3.9.1
HAZARD RISK CATEGORY CLASSIFICATIONS (CONTINUED)

Task (Assume Equipment is Energized, and Work is Done Within the Flash Protection Boundary)	Hazard/Risk Category	V-rated Gloves	V-rated Tools
Removal of bolted covers (to expose bare, energized parts)	3	N	N
Opening hinged covers (to expose bare, energized parts)	2	N	N
Other 600 V Class (277 V through 600 V, nominal) Equipment – Note 3	--	--	--
Lighting or small power transformers (600 V, maximum)	--	--	--
Removal of bolted covers (to expose bare, energized parts)	2*	N	N
Opening hinged covers (to expose bare, energized parts)	1	N	N
Work on energized parts, including voltage testing	2*	Y	Y
Application of safety grounds after voltage test	2*	Y	N
Revenue meters (kW-hour, at primary voltage and current)	--	--	--
Insertion or removal	2*	Y	Y
Cable trough or tray cover removal or installation	1	N	N
Miscellaneous equipment cover removal or installation	1	N	N
Work on energized parts, including voltage testing	2*	Y	Y
Application of safety grounds after voltage test	2*	Y	N
NEMA E2 (fused contactor) Motor Starters, 2.3 kV through 7.2 kV	--	--	--
Contactor operation with enclosure doors closed	0	N	N
Reading a panel meter while operating a meter switch	0	N	N
Contactor operation with enclosure doors open	2*	N	N
Work on energized parts, including voltage testing	3	Y	Y
Work on control circuits with energized parts 120 V or below, exposed	0	Y	Y
Work on control circuits with energized parts >120 V, exposed	3	Y	Y
Insertion or removal (racking) of starters from cubicles, doors open	3	N	N
Insertion or removal (racking) of starters from cubicles, doors closed	2	N	N
Application of safety grounds after voltage test	3	Y	N
Removal of bolted covers (to expose bare, energized parts)	4	N	N
Opening hinged covers (to expose bare, energized parts)	3	N	N
Metal Clad Switchgear, 1 kV and above	--	--	--
CB or fused switch operation with enclosure doors closed	2	N	N
Reading a panel meter while operating a meter switch	0	N	N
CB or fused switch operation with enclosure doors open	4	N	N
Work on energized parts, including voltage testing	4	Y	Y
Work on control circuits with energized parts 120 V or below, exposed	2	Y	Y
Work on control circuits with energized parts >120 V, exposed	4	Y	Y
Insertion or removal (racking) of CBs from cubicles, doors open	4	N	N
Insertion or removal (racking) of CBs from cubicles, doors closed	2	N	N
Application of safety grounds after voltage test	4	Y	N
Removal of bolted covers (to expose bare, energized parts)	4	N	N
Opening hinged covers (to expose bare, energized parts)	3	N	N
Opening voltage transformer or control power transformer compartments	4	N	N
Other Equipment 1 kV and above	--	--	--

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TABLE 3-3.9.1
HAZARD RISK CATEGORY CLASSIFICATIONS (CONTINUED)

Task (Assume Equipment is Energized, and Work is Done Within the Flash Protection Boundary)	Hazard/Risk Category	V-rated Gloves	V-rated Tools
Metal clad load interrupter switches, fused or unfused	--	--	--
Switch operation, doors closed	2	N	N
Work on energized parts, including voltage testing	4	Y	Y
Removal of bolted covers (to expose bare, energized parts)	4	N	N
Opening hinged covers (to expose bare, energized parts)	3	N	N
Outdoor disconnect switch operation(hookstick operated)	3	Y	Y
Outdoor disconnect switch operation (gang-operated, from grade)	2	N	N
Insulated cable examination in manhole or other confined space	4	Y	N
Insulated cable examination in open area	2	Y	N

Legend:
V-rated Gloves are gloves rated and tested for the maximum line-to-line voltage upon which work shall be done.
V-rated Tools are tools rated and tested for the maximum line-to-line voltage upon which work shall be done.
2* means that a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2 requirements of Table 4.
Y = yes (required)
N = no (not required)
Notes:
1. 25 kA short circuit current available, 0.03 second (2 cycle) fault clearing time.
2. 65 kA short circuit current available, 0.03 second (2 cycle) fault clearing time.
3. For <10 kA short circuit current available, the Hazard/Risk Category required may be reduced by one Number.
4. 65 kA short circuit current available, 0.33 second (20 cycle) fault clearing time.
5. 65 kA short circuit current available, up to 1.0 second (60 cycle) fault clearing time.
6. For <25 kA short circuit current available, the Hazard/Risk Category required may be reduced by one Number.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

TABLE 3-3.9.2
PROTECTIVE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT (PPE) MATRIX

Protective Clothing & Equipment	Protective Systems for Hazard/Risk Category					
Hazard/Risk Category Number	**-1 (Note 3)**	**0**	**1**	**2**	**3**	**4**
Untreated Natural Fiber	--	--	--	--	--	--
a. T-shirt (short-sleeve)	X			X	X	X
b. Shirt (long-sleeve)		X				
c. Pants (long)	X	X	X (Note 4)	X (Note 6)	X	X
FR Clothing (Note 1)	--	--	--	--	--	--
a. Long-sleeve shirt			X	X	X (Note 9)	X
b. Pants			X (Note 4)	X (Note 6)	X (Note 9)	X
c. Coverall			(Note 5)	(Note 7)	X (Note 9)	(Note 5)
d. Jacket, parka, or rainwear			AN	AN	AN	AN
FR Protective Equipment	--	--	--	--	--	--
a. Flash suit jacket (2-layer)						X
b. Flash suit pants (2-layer)						X
Head protection	--	--	--	--	--	--
a. Hard hat			X	X	X	X
b. FR hard hat liner					X	X
Eye protection		--	--	--	--	--
a. Safety glasses	X	X	X	AL	AL	AL
b. Safety goggles				AL	AL	AL
Face protection double-layer switching hood				AR (Note 8)	X	X
Hearing protection (ear canal inserts)				AR (Note 8)	X	X
Leather gloves (Note 2)			AN	X	X	X
Leather work shoes			AN	X	X	

Legend:
An = As needed
AL = Select one in group
AR = As required
X = Minimum required

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Notes:

1. See Table 5. (ATPV is the Arc Thermal Performance Exposure Value for a garment in cal/cm^2.)
2. If voltage-rated gloves are required, the leather protectors worn external to the rubber gloves satisfy this requirement.
3. Class –1 is only defined if determined by Notes 3 or 6 of Table 3.
4. Regular weight (minimum 12 oz/yd^2 fabric weight), untreated, denim cotton blue jeans are acceptable in lieu of FR pants. The FR pants used for Hazard/Risk Category 1 shall have a minimum ATPV of 5.
5. An alternative is to use FR coveralls (minimum ATPV of 5) instead of FR shirts and FR pants.
6. If the FR pants have a minimum ATPV of 8, long pants of untreated natural fiber are not required beneath the FR pants.
7. An alternative is to use FR coveralls (minimum ATPV of 5) over untreated natural fiber pants and T-shirts.
8. A double-layer switching hood and hearing protection are required for the tasks designated 2* in Table 3.
9. An alternate is to use two sets of FR coveralls (each with a minimum ATPV of 5) over untreated natural fiber clothing instead of FR coveralls over FR shirts and FR pants over untreated natural fiber clothing.

3-3.9.3 Protective Clothing Characteristics. Table 3-3.9.3 lists the characteristics and degree of protection for various clothing. The protective clothing selected for the corresponding Hazard/Risk Category Number shall have an arc thermal performance exposure value (ATPV) of at least the value listed in the last column of Table 3-3.9.3.

NOTE: The ATPV for a particular clothing system may be obtained from the FR clothing manufacturer.

3-3.9.4 Factors in Selection of Protective Clothing. Protective clothing includes shirts, pants, coveralls, jackets, and parkas worn routinely by workers who, under normal working conditions, are exposed to momentary electric arc and related thermal hazards. Arc and flame-resistant rainwear worn in inclement weather are included in this category of clothing.

Clothing and equipment that maximize worker protection shall be utilized. Clothing and equipment required by the degree of exposure shall be permitted to be worn alone or integrated with normal apparel. It shall cover associated parts of the body and all normal apparel that is not flash-flame resistant while allowing movement and visibility. All personal protective equipment shall be maintained in a sanitary and reliable condition. Individual protection items shall normally be used in conjunction with one another as a system to provide appropriate protection.

3-3.9.4.1 Layering. FR and natural fiber garments shall be permitted to be used for a layered system for added protection. A typical layering system may include an undershirt, a shirt, trousers, and a coverall. Specific tasks may call for specific protection systems.

3-3.9.4.2 Outer Layers. Garments worn as outer layers over FR clothing, such as jackets or rainwear, shall also be made from FR material.

3-3.9.4.3 Underlayers. Meltable synthetic fibers shall be avoided in fabric underlayers next to the skin. Garments worn as underlayers (underwear) that neither ignite nor melt and drip in the course of exposure to the electric arc and related thermal hazards may provide additional thermal protection.

3-3.9.4.4 Coverage. Clothing shall cover potentially exposed areas as completely as possible.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

3-3.9.4.5 **Fit.** Tight-fitting clothing shall be avoided. Loose-fitting clothing provides additional thermal insulation due to air spaces. FR apparel shall fit properly such that it does not interfere with the work task.

3-3.9.4.6 **Interference.** The garment selected shall result in the least interference with the task but still provide the necessary protection. The work method, location, and task may influence the protective equipment selected.

TABLE 3-3.9.3
PROTECTIVE CLOTHING CHARACTERISTICS

Hazard Risk Category	Clothing Description (Number of clothing layers is given in parentheses)	Total Weight oz/yd^2	Minimum Arc Thermal Performance Exposure Value (ATPV)* or Breakopen Threshold Energy (E_{BT})* Rating Of PPE cal/cm^2
0	Untreated cotton (1)	4.5 – 7	N/A
1	FR shirt and FR pants (1)	4.5 – 8	5
2	Cotton underwear plus FR shirt and FR pants (2)	9 – 12	8
3	Cotton underwear plus FR	16 – 20	25
4	Cotton underwear plus FR shirt and FR pants plus double layer switching coat and pants (4)	24 – 30	40

*ATPV is defined in the ASTM P S58 standard arc test method for flame-resistant (FR) fabrics as the incident energy that would cause the onset of a second-degree burn (1.2 cal/cm^2). E_{BT} is reported according to ASTM P S58 and is defined as the highest incident energy that did not cause FR fabric to break open and did not exceed the second-degree burn criteria. E_{BT} is reported when ATPV cannot be measured due to FR fabric breakopen.

3-3.9.5 **Arc Flash Protective Equipment**.

3-3.9.5.1 **Flash Suits.** Flash suits and their closure design shall permit easy and rapid removal. The entire flash suit, including the window, shall have energy-absorbing characteristics that are suitable for arc-flash exposure.

3-3.9.5.2 **Face Protection.** Face shields made of polycarbonate material are more appropriate for use in situations with relatively low radiation exposure. Safety glasses and goggles provide lesser protection, but in low-risk tasks, they may be justified if the task involves substantial physical work in combination with good visual requirements. Eye protection (safety glasses or goggles) shall always be worn under face shields or hoods.

3-3.9.5.3 **Hand Protection.** Gloves made from layers of flame-resistant material provide the highest level of hand protection. Heavy-duty leather gloves also provide good protection. Where voltage-rated gloves are used, leather protectors shall be worn over the rubber gloves. The leather protectors also provide good arc-flash protection for the hands.

3-3.9.5.4 **Foot Protection.** Heavy-duty leather work shoes normally provide a significant degree of protection to the feet. They are recommended for all tasks and shall be used for incident energy exposure levels 5 cal/cm^2 and higher (Hazard/Risk Category 2 and higher).

3-3.9.6 **Care and Maintenance of FR Clothing and FR Flash Suits.**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

3-3.9.6.1 Inspection. FR apparel shall be inspected before each use. Work clothing or flash suits that are contaminated, greasy, worn, or damaged to the extent their protective qualities are impaired shall be cleaned, repaired, or replaced. Protective items that become soiled with grease or flammable liquids shall be removed from service and cleaned.

3-3.9.6.2 Manufacturer's Instructions. The garment manufacturer's instructions for the care and maintenance of FR apparel shall be followed.

3-3.9.7 Clothing Material Characteristics.

NOTE: Flame-retardant treated cotton, meta-aramid, para-aramid, and poly-benzimidazole (PBI) fibers provide thermal protection. Para-aramid adds strength to fabric to prevent the fabric from breaking open due to the blast energy of the arc.

3-3.9.7.1 Melting. Synthetic materials, such as polyester, nylon, and synthetic cotton blends, shall not be used. These materials shall melt into the skin when exposed to high temperatures and aggravate the burn injury.

3-3.9.7.2 Flammability. Cotton and polyester-cotton, silk, wool, and nylon fabrics are flammable. Flame-retardant treated cotton, meta-aramid, para-aramid, and PBI fabrics may ignite but shall not continue to burn after the ignition source is removed. Clothing made from natural materials, such as cotton, wool, or silk, shall be considered acceptable if it is determined by flash hazard analysis that the fabric shall not ignite and continue to burn under the arc conditions to which it shall be exposed.

NOTE: The weight of the fabric is a factor in meeting this requirement.

3-3.9.8 Clothing Not Permitted. Clothing made from synthetic materials such as acetate, nylon, polyester, and rayon, either alone or in blends with cotton, shall not be worn.

3-4 Other Protective Equipment.

3-4.1 Insulated Tools.

3-4.1.1 Qualifications for Insulated Tools

3-4.1.1.1 Insulated tools shall be rated for the voltages on which they are used.

3-4.1.1.2 Insulated tools shall be designed and constructed for the environment to which they are exposed and the manner in which they are used.

3-4.1.2 Fiberglass-Reinforced Plastic Rods. Fiberglass-reinforced plastic rod and tube used for live line tools shall meet the requirements of ASTM F 711.

3-4.2 Temporary Protective Grounding Equipment.

3-4.2.1 Temporary protective grounds shall be placed at such locations and arranged in such a manner as to prevent each employee from being exposed to hazardous differences in electrical potential.

3-4.2.2 Temporary protective grounds shall be capable of conducting the maximum fault current that could flow at the point of grounding for the time necessary to clear the fault.

3-4.2.3 Temporary protective grounding equipment shall meet the requirements of ASTM F 855.

3-4.2.4 Temporary protective grounds shall have an impedance low enough to cause immediate operation of protective devices in case of accidental energizing of the electric conductors or circuit parts.

3-4.3 Nonconductive Ladders. Nonconductive ladders shall meet the requirements of ANSI standards for ladders given in Table 3-4.11 of Part II.

3-4.4 Rubber Insulating Equipment. Rubber insulating equipment used for protection from accidental contact with lie parts shall meet the requirements of ASTM standards given in Table 3-4.11 of Part II.

3-4.5 Voltage-Related Plastic Guard Equipment. Plastic guard equipment for the protection of employees from accidental contact with live parts or to protect the employee or energized

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

equipment or material from contact with ground, shall meet the requirements of the ASTM standards given in Table 4-4.11 of Part II.

3-4.6 Physical or Mechanical Barriers. Physical or mechanical (field fabricated) barriers shall be installed no closer than the restricted approach distance given in Table 2-1.3.4 of Part II.

NOTE: The restricted approach distance specified in Table 2-1.3.4 of Part II shall be maintained, or the live parts must be placed in an electrically safe working condition while the barrier is being installed.

3-4.7 Safety Signs and Tags. Safety signs, safety symbols, or accident prevention tags shall be used where necessary to warn employees about electrical hazards that might endanger them. Such signs and tags shall meet the requirements of ANSI Standard Z535 given in Table 3-4.11 of Part II.

3-4.8 Barricades. Barricades shall be used in conjunction with safety signs where it is necessary to prevent or limit employee access to work areas containing live parts. Conductive barricades shall not be used where it might cause an electrical hazard. Barricades shall be placed no closer than the limited approach boundary given in Table 2-1.3.4 of Part II.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TABLE 3-4.11
PROTECTIVE CLOTHING CHARACTERISTICS

Subject	Number and Title
Ladders	ANSI A14.1, *Safety Requirements for Portable Wood Ladders,* 1994 ANSI A14.3, *Safety Requirements for Fixed Ladders,* 1984 ANSI A14.4, *Safety Requirements for Job-Made Ladders,* 1992 ANSI A14.5, *Safety Requirements for Portable Reinforced Plastic Ladders,* 1992
Safety signs and tags	ANSI Z535, *Series of Standards for Safety signs and Tags,* 1998
Blankets	ASTM D 1048, *Standard Specification for Rubber Insulating Blankets,* 1998
Covers	ASTM D 1049, *Standard Specification for Rubber Covers,* 1998
Line hoses	ASTM D 1050, *Standard Specification for Rubber Insulating Line Hoses,* 1990
Line hoses and covers	ASTM F 478, *Standard Specification for In-Service Care of Insulating Line Hose and Covers,* 1992
Blankets	ASTM F 479, *Standard Specification for In-Service Care of Insulating Blankets,* 1995
Fiberglass tools/ladders	ASTM F 711, *Standard Specification for Fiberglass-Reinforced Plastic (FRP) Rod and Tube Used; in Line Tools,* 1989 (R 1997)
Plastic guards	ASTM F 712, *Standard Test Methods for Electrically Insulating Plastic Guard Equipment for Protection of Workers*, 1988 (R 1995)
Temporary grounding	ASTM F 855, *Standard Specification for Temporary Protective Grounds to Be Used on De-energized Electric Power Lines and Equipment*, 1997
Insulated hand tools	ASTM F 1505, *Standard Specification for Insulated and Insulating Hand Tools*, 1994

ASTM – American Society for Testing and Materials
ANSI – American National Standards Institute

3-4.9 Alternate Alerting Techniques – Attendants. If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant shall be stationed to warn and protect employees. The primary duty and responsibility of an attendant providing manual signaling and alerting shall be to keep unqualified employees outside a work area where the employee might be exposed to electrical hazards. An attendant shall remain in the area as long as there is a potential for employees to be exposed to electrical hazards.

3-4.10 Test Instruments and Equipment.

3-4.10.1 Test instruments, equipment, and their accessories shall be rated for circuits and equipment to which they shall be connected.

3-4.10.2 Test instruments, equipment, and accessories shall be designed for the environment to which they shall be exposed and for the manner in which they shall be used.

3-4.11 Standards for Other Protective Equipment. Other protective equipment required in Sections 3-4 of Part II shall conform to the standards given in Tables 3-4.11 of Part II.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ELECTRICAL TOOLS

GENERAL

- This policy intends to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.

- Do not use ungrounded electrical tools. Ground wires should be checked frequently.

- Do not use electrical power tools with frayed cords.

- Do not operate a machine you are not familiar with.

- Examine extension cords carefully for worn insulation and exposed strands of wire before using. Do not drag cords over sharp edges or run them across aisles where they can be damaged or cause someone to trip. Never hang extension cords across sharp objects.

- Extension cords should be elevated 7’ above ground to avoid tripping hazards and damage to the cord. Use non-conductive material to secure cords. Never use nails or tie wire.

- Lock out and tag the power supply to machines while repairing or adjusting them. A qualified electrician should make electrical repairs.

- Keep machine guards in position at all times. Guards shall be in place and operable at all times while the tool is in use. The guard may not be manipulated in such a way that shall compromise its integrity or compromise the protection intended. Guarding shall meet the requirements set forth in ANSI B15.1.

- Do not wear loose or torn clothing, gloves, neckties, wristwatches, etc., when working with electrical equipment.

- Ensure that electrical cords are clear of any moving parts.

- Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects or exposed to harmful dust, fumes, mists, vapors, or gases shall be provided with particular PPE necessary to protect them from the hazard.

- Any tool that is not in compliance with any applicable requirement of this procedure is prohibited. The tool found not in compliance shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.

- Unplug hand tools before changing parts or attempting to adjust them.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ELECTRICAL EQUIPMENT AND SAFETY

GENERAL

- It is the intent of this policy to fully comply with the requirements of the Occupational Safety and Health Act of 1970, 10 U.S.C. 651 et seq. (the Act), and any rules and regulations properly promulgated by the Occupational Safety and Health Administration (OSHA) under the authority of the Act, including 29 CFR Parts 1910 and 1926.
- Electricity as low as 110 volts has been known to cause fatal injuries.
- If you ever see someone who appears to be getting a 110-v shock, do not touch them. Turn off the power, pull them away with a rope, or push them away with a board.
- Remember, electrical shock typically stops the heart and the voluntary breathing reflex. Call for help and begin CPR.

BASIC PROTECTION

- Never plug in a cord or tool with wet hands or feet or while standing in water.
- Do not use defective equipment, and never attempt repairs unless you are a qualified technician.
- Be sure the cord or tool is properly grounded and has the current inspection tape on it.
- Never use an electric tool in the presence of flammable or combustible gases unless it is specifically designed for such use and states so on the UL label.
- Store cords and tools properly out of the weather.
- Never use the cord of a tool for carrying or lowering – use a tagline.
- Do not use metal ladders or scaffolds in or around high-voltage areas.
- Consider ALL exposed wires as “HOT.”
- Never work or operate equipment within ten feet of any outside power line.
- Treat all electrical tools with respect and use the proper personal protective equipment for the situation.
- When you must use electric tools in misty areas or where water is standing, do so ONLY by plugging into a ground fault circuit interrupter and then plugging into the power supply.

TEMPORARY POWER FOR CONSTRUCTION SITES

- All temporary power for construction sites, including power panels, generators, etc., shall be checked, tested, and documented under the assured grounding program. Using ground fault circuit interrupters either at the power source or at the tool shall protect all electrical equipment and power tools. Electrical equipment and tools shall also be checked for assured grounding prior to any work starting on a construction site. Please reference 19 CFR 1926.404 – Wiring Design and Protection of NEC Code 305.6 for any additional information.

TEMPORARY LIGHTING

- Temporary lights shall be equipped with guards to prevent accidental contact with the bulb.
- Temporary lights shall be equipped with heavy-duty electric cords with connection and insulation maintained in safe condition. Electric cords shall not suspend temporary lights unless cords and lights are designed for this means of suspension. Splices shall have insulation equal to that of the cable.
- Portable electric lighting used in moist or other hazardous locations (drums, tanks, vessels, pipes, etc.)) shall be operated at a maximum of 12 volts.
- Cords shall not be placed in working spaces and, walkways or other locations exposed to damage.

CORDS AND PORTABLE TOOLS

- All extension cords, portable electric tools, and equipment shall be of three-wire type.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Portable tools will have any trigger lock devices removed.
- Flexible cords shall be used only in continuous lengths without splice unless the insulation is equal to the cable being spliced and wire connections soldered.
- Cables passing through work areas shall be covered or elevated.
- Worn or frayed electric cables shall not be used.
- Extension cords shall not be fastened with staples, hung from nails, or suspended by wire.

DISCONNECTING MEANS

- Disconnecting means being located or shielded so that employees will not be injured and still be readily accessible.
- Boxes and disconnecting means installed in damp or wet locations shall be waterproof.

ELECTRICAL SAFETY

- All electrical work, installations, and wire capacities shall be in accordance with OSHA and pertinent provisions of the National Fire Protection Association No. 70-1980, National Electrical Code, National Electric Safety Code, and National Bureau of Standards, Part 4 (ANSI C2.4), unless otherwise provided by regulations of this part.
- These regulations apply to electrical installations used on the job site, both temporary and permanent.
- No Contractor or Supervisor shall permit an employee to work in proximity to any part of an electric power circuit that the employee may contact in the course of his work unless the employee is protected against electric shock by de-energizing and grounding the circuit or guarding it by effective insulation. In work areas where the exact location of underground electric power lines is unknown, those employees using jackhammers, bars, or other hand tools that may machine into physical contact with a line shall be provided with insulated protective gloves. The Contractor shall post and maintain proper warning signs where such an exposed circuit exists and advise the employees of the location of such lines, the hazards involved, and the protective measures to be taken. Prior to any digging or excavating on the project, the area will be assessed as to the possible presence of underground utilities. No work will commence until approval by the Area Construction Supervisor.

PASSAGEWAYS AND OPEN SPACES

- Suitable barriers or other means shall be provided to ensure that the workspace for electrical equipment will not be used as a passageway during periods when energized parts of electrical equipment are exposed.

WORKSPACE AROUND EQUIPMENT

- Sufficient space shall be provided and maintained in the area of electrical equipment to permit ready and safe operation and maintenance of such equipment.
- When parts are exposed, the minimum clearance for the workspace shall not be less than 6-1/4 feet high nor less than a radius of 3 feet wide, and there shall be clearance sufficient to permit at least a 90-degree opening of all doors or hinged panels. All working clearances shall be maintained in accordance with Article 110-16, National Electrical Code, NFPA 70-1980.

LOAD RATINGS

- In existing installations, no changes in circuit protection shall be made to increase the load in excess of the load rating of the circuit wiring as specified in the National Electrical Code, Article 310.
- All breaker switches shall be labeled as to the equipment or circuit they control.
- All switch boxes and panels of 240 volts and higher shall be labeled according to the voltage.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

LOCKOUT AND TAGGING OF CIRCUITS

- Equipment or circuits that are de-energized shall be rendered inoperative, and tags and locks/lockout devices shall be attached at all points where such equipment or circuits can be energized per the Lock/Tag procedure.
- During the start-up phase, controls that are to be deactivated during the course of work on energized equipment or circuits shall be tagged.

GROUNDING AND BONDING

- Portable and/or cord and plug connected equipment.
  - The non-current carrying metal parts of portable and/or plug-connected equipment shall be grounded.
  - Portable tools and appliances protected by an approval system of double insulation or equivalent need not be grounded. Where such an approved system is employed, the equipment shall be distinctively marked.
- Fixed Equipment
  - Exposed non-current carrying metal parts of fixed electrical equipment, including motors, generators, frames, and racks of electrically operated cranes, electrically driven machinery, etc., shall be grounded.
- Effective Grounding
  - The path from circuits, equipment, structures, and conduit or enclosures to ground shall be permanent and continuous, have ample carrying capacity to safely conduct the potential currents to be imposed on it, and have the impedance sufficiently low to limit the potential above ground and to result in the operation of the overcurrent devices in the circuit.
- Ground Resistance
  - Driven rod electrodes shall, where practicable, have a resistance to ground not to exceed 25 ohms. Where the resistance is less than 25 ohms, two or more electrodes connected in parallel shall be used.
- Testing of Grounds
  - Grounding circuits shall be checked to ensure that the circuit between the ground and the grounded power conductor has a resistance that is low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.
- Extension cords
  - Extension cords used with portable electric tools and appliances shall be of three-wire type and shall be maintained in good condition in accordance with the Assured Grounding Program.
- Bonding
  - Conductors used for bonding and grounding stationary and moveable equipment shall be of ample size to carry the anticipated current.
  - When attaching bonding and grounding clamps or clips, secure and positive metal-to-metal contact shall be made. Such attachments shall be made before closures are opened, material movements are stopped, and closures are made.
- Temporary Wiring
  - All Temporary wiring shall be effectively grounded in accordance with the National Electrical Code, NFPA No. 70-1980, Articles 300-23 and 310.
- Construction site
  - Every precaution shall be taken to make any unnecessary open wiring inaccessible to unauthorized personnel.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ENVIRONMENTAL MANAGEMENT PLANS

PURPOSE

- The purpose of this procedure is to provide general Environmental Management Plan (EMP) guidance. A well-written and project-implemented EMP allows the project to "reduce or minimize potential environmental impacts that may be associated with EXCEL's activities or operations and facilitates project compliance "with applicable legislation, relevant industry standards, and contractual environmental requirements." Therefore, an EMP furthers EXCELS's environmental commitments, as fully described in this Environmental Reference Manual.
- EMPs are typically required for larger or major projects (e.g., EPC) and also serve to:
  1. Describe the environmental management system.
  2. Describe the requirements for environmental compliance and
  3. Describe the organization and facilities that shall be required to ensure compliance and continual improvement.
- Fundamentally, the EMP is a compilation of procedures to manage project environmental aspects through all phases of a project, including planning, design and engineering, procurement, construction, and commissioning.
- Corporate HSE may be contacted for specific examples of well-written EMPs that may already be tailored to specific projects, thereby facilitating the preparation of an EMP. Depending on the project size and/or complexity, client requirements, and the complexity of environmental aspects, an EMP may be a standalone document or may be incorporated into the project HSE plan.

EMP CONTENT GUIDELINES

- An EMP must take into account and be developed in accordance with the client's Environmental Impact Analysis (EIA) or Environmental Impact Statement (EIS) or equivalent document and address compliance with all country, state, and/or local environmental laws and regulations, including any permits, standards, guidelines, and other internal or external requirements, applicable to the project. Work scope areas typically addressed in the EMP shall include:
  - Air Emissions,
  - Drinking Water,
  - Wastewater,
  - Hazardous Materials,
  - Hazardous Waste,
  - Solid Waste,
  - Medical Waste,
  - Pollution Prevention,
  - Petroleum, Oils & Lubricants,
  - Pesticides,
  - Historic & Cultural Resources,
  - Natural Resources & Endangered Species,
  - Asbestos, Lead and Polychlorinated Biphenyls,
  - Spill Prevention and Response, and
  - Storm Water and Sediment/Erosion
  - Storage Tanks.
- The EMP shall also include performance metrics to measure the effectiveness of impact mitigation measures and demonstrate compliance with applicable environmental laws, regulations, etc.
- The various environmental laws and regulations (generic), guidelines, requirements, and policies that may apply to a project are briefly presented below.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

COUNTRY SPECIFIC ENVIRONMENTAL LAWS AND REGULATIONS

- In addition to the EIA or EIS requirements and client contractual requirements, including any permit stipulations, the host country may have environmental-related laws and regulations that apply to the project. These laws and regulations are referenced in the EIA or EIS and EMP documents.

WORLD BANK AND EXPORT-IMPORT BANK OF THE US GUIDELINES

- Projects that are financed in part or wholly by either the World Bank and/or the Export-Import Bank of the US are subject to the environmental guidelines published by these entities. The specific guidelines should be called out in the EIAs/EIS and contract. These guidelines are readily available on the internet.

WHO AND UN GUIDELINES

- Some EIAs/EISs and/or contracts require compliance with WHO or UN guidelines. The specific guideline should be called out in the EIA and contract. These guidelines are readily available on the internet.

CLIENT AND CONTRACT REQUIREMENTS

- The contract shall frequently state client environmental compliance requirements and specify procedures to be followed. The contract and all references must be carefully evaluated to determine applicability and risk and to summarize the requirements and procedures.
- Client requirements may conflict with the EIA or EIS or other requirements, in which case, written confirmation of applicable requirements must be obtained. Generally, EIA and permit requirements govern, but it is essential that this be confirmed in writing and the confirmation be placed in the appropriate project files.

EXCEL OR JV REQUIREMENTS

- Joint Venture HSE values and operational practices are materially equivalent to EXCEL's policies, practices, and procedures.
- During the development of the JV Agreement and review and approval by the ERC and/or BDO group, there may be further refinement of HSE expectations, roles, legal responsibilities, and risks to EXCEL.

NON-GOVERNMENTAL ORGANIZATIONAL REQUIREMENTS

- Other non-governmental organizational requirements may be imposed on the project. These requirements may be the result of contractual agreements with suppliers, subcontractors, or subcontractor agreements with local communities, etc.

CONSULTANT AND SUBCONTRACTOR CONSIDERATIONS

- It is often necessary to utilize consultants and subcontractors during the life of the project. Most of the consultants shall be local in the country and provide environmental-related support, including media sampling. Local subcontractors are frequently used to perform environmental tasks, such as collecting, storing, and disposing of solid wastes, operating sewage treatment plants, operating incinerators, etc. The roles and responsibilities of consultants and subcontractors should be clearly described in the organizational section of the EMP, and the methods of operation should be covered in procedures.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

HSE / ENVIRONMENTAL AUDITS

- Audits verify project environmental compliance with the EMP. Audits should be described in the EMP, including audit frequency and who audits what. Specifically, the EMP should include an Environmental Auditing Procedure with checklists.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ENVIRONMENTAL SAMPLING, TESTING, AND ANALYSIS

PURPOSE

- The purpose of this procedure is to provide general and specific guidance to HSE or environmental personnel who shall develop and manage technically sound specifications for environmental-related sampling, testing, and analysis. The specifications for environmental sampling, testing, and analysis may also be referred to as a sampling and analysis plan or a statement of work.
- Environmental Sampling, Testing, and Analysis specifications are generally required when:
    1. A spill has occurred, and cleanup documentation (field screening kit and/or laboratory analysis) is required or recommended.
    2. Preparing certain wastes for transportation by others.
    3. Required by the Environmental Impact Assessment or other permit and/or
    4. Required by the client or owner/operator.
- The Specifications provide the statement of work for conducting environmental sampling, testing, and analyses. The specifications are also likely to include QA/QC requirements to ensure the collection of representative samples and legally defensible data.
- Failure to properly manage environmental sampling, testing, and analysis activities can have significant negative legal and cost consequences for the corporation. Conversely, proper management of environmental sampling, testing, and analysis activities shall ensure and provide proof that the project or activity meets corporate policies and objectives or client requirements. In some instances, liability concerns or contractual requirements may require environmental sampling and testing to be performed by the client or the client's consultant.
- Prior to developing specifications for consultants or deploying field screen test kits, contractual requirements should be reviewed to identify if there are liability concerns or contractual requirements that may preclude EXCEL's sampling, testing, or performing field screening. The Environmental Process Engineers who worked on the project during the design phase are an invaluable source of information on sampling, testing, and analyses that may be required for the project.

INTRODUCTION

- Sampling and testing may be defined in the HSE or Environmental Management Plan, associated schedules such as a register of planning conditions and environmental constraints, or as specified or implied in the contract, client requirements, or client-supplied procedures.
- Sampling and testing is typically required for (but not necessarily limited to):
    - Sewerage and industrial-type wastewater influents and/or effluents (necessary to ensure the wastewater plant or plants are operating within the contract or permit parameters)
    - Stormwater or runoff discharges (necessary to ensure the stormwater discharges meet the stormwater discharge plan and standards)
    - Solid waste (necessary to characterize for treatment, storage, or disposal)
    - Stack Emissions (necessary to determine if stack emissions meet contract or permit limits)
    - Fugitive emissions (e.g., dust generation)
    - Flare emissions
    - Generator, automotive, and heavy equipment emissions
    - Noise Pollution (necessary to determine if fence line or other noise meets contract and permit limits); and
    - Other sampling and testing as required (e.g., organic compounds in air, soil contamination, potential asbestos-containing materials, lead, potable water, groundwater quality, biodiversity archaeology, cultural heritage)

- The Environmental Manager or equivalent HSE Manager is responsible for and shall supervise all sampling, testing, and analyses during the construction phase of the project. Operational sampling or characterization sampling, if applicable, may be performed by operations personnel with primary

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

responsibility for the operation, such as wastewater treatment plant operators/technicians or waste management personnel.

- All environmental sampling, testing, and analysis must be performed by qualified personnel with qualified equipment using internationally accepted methods and standards. EXCEL has limited resources in this area of expertise; therefore, consultants who specialize in the type of sampling and testing are typically used.
- It is imperative to prequalify consultants prior to receiving quotes for the work. Consultants must have proper credentials and certifications, and their staff must be appropriately trained and certified and have the requisite knowledge and experience in conducting the type of work required. Corporate HSE is available to assist in this aspect.
- Since potable water testing and wastewater testing and analyses are/can typically be handled by the same laboratory due to the similarity of tests or methodology, it is usually convenient to combine these activities into one contract. The Environmental Manager should coordinate with the Health or Medical Manager to explore this further.
- In summary, sampling and testing may be required as part of the EMP, the WMP, and specialized plans, including but not limited to a stormwater management plan and a waste management plan.

TESTING AND LABORATORY ANALYSES

- Field testing and laboratory analyses performed to ensure compliance with contractual or governmental stipulations or requirements must be performed by qualified and appropriately licensed laboratories. This also requires consultants to be utilized for the actual media sampling and field-related testing.
- However, on-site screening or field testing (with exceptions noted below) may be performed by EXCEL's personnel utilizing field screening kits as follows:
    1. Operational testing of a sewage plant. Operators may test for chlorine to adjust the chlorine dosage; sludge to adjust air and return sludge rates; oxygen to adjust blowers and calibrate instruments; oxygen uptake to verify biological activity and organic loading; TOC and/or COD to determine organic loading rate; pH and alkalinity to adjust chemical feed rates; sludge dryness to adjust sludge equipment, etc. However, suppose test results shall be reported to the owner and/or regulatory authorities. In that case, all site screening, field testing, sample collection, and laboratory analyses must be performed by qualified and appropriately certified/licensed consultants and laboratories.
    2. Testing for lead in paint, asbestos, soil contamination, etc. If lead, asbestos, or soil contamination is suspected, a consultant must be hired to verify suspicion(s) and make recommendations for abatement. Soils expected to be listed as hazardous waste due to concentrations of chemicals, etc., do not need to be confirmed; however, if the soil amount is greater than can be economically or physically handled by the site's hazardous waste facilities, it may be necessary to confirm hazardous waste nature with a certified lab with the goal of reducing the quantity of material to be disposed of as a hazardous waste.
    3. Sampling for certified analysis. With Corporate HSE concurrence, environmental personnel can sample for certified analysis by certified and licensed laboratories. In such cases, the laboratory should provide sampling kits and should train the samplers. The samplers must properly obtain the samples, properly preserve them, and fill out the chain of custody forms under qualified supervision in conformance with the sampling plan and QA/QC requirements. However, care must be taken to avoid any appearance of bias or conflict in obtaining such samples and sampling strategies.

- In some countries and as per some contracts, insurance is required to perform field sampling and testing. Corporate HSE should be contacted concerning liability for field sampling and testing performed by EXCEL staff. Insurance and liability issues may require all sampling and testing to be performed by qualified and insured consultants.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SOLICITING AND HIRING CONSULTANTS

- Local consultants or local offices of national or international consultants are usually within a reasonable distance from the job site. Following the appropriate procurement procedures, the Environmental Manager should develop a list of potential consultants as soon as possible.
- In coordination with project procurement, the Environmental Manager may generate a list of approved potential consultants that meet the required technical specifications for various aspects of the work. For example, certain laboratories that may sample and analyze water may conduct air testing and vice-versa. Air testing laboratories may specialize in stack testing or ambient air testing. Lists of potential consultants for each type of work should be developed in the project planning stage for each type of work expected.
- When it is decided to hire a consultant, a Request for Quote ("RFQ") should be written, which includes, at a minimum, a request for the following information from the prospective consultants:
    1. A brochure describing the consultant's facilities, personnel, type of work the consultant specializes in, equipment available, client references for the same type of work, certifications and licenses from governmental agencies and professional organizations, and mission statement.
    2. Details of the consultant's insurance coverage, including professional liability (required in some countries)
    3. A copy of the consultant's QA/QC Plan, which should include information on how the consultant maintains sampling accuracy and integrity and testing procedures
    4. A list of charges by sample or test. This list should also include a total anticipated charge. The request for quote should have a complete list of tests required and the number of tests required, as well as what the consultant's responsibility for sampling is. The list should include references to Standard Methods, ASTM, or other references to define the type of test required for each test. The request for quote should list locations where samples are to be taken, how often they are to be taken, when they are to be taken, how they are to be preserved, and the total number of samples to be collected for each test.
    5. A Sampling and Analysis Plan. The sampling plan must state how the samples are to be collected and preserved and the equipment to be used, and it must include a description and sample forms for chain of custody records. The request for quote should reference sampling methods where necessary, such as applicable regulatory stack sampling procedures or Standard Methods sampling procedures for wastewater or solid wastes, etc.
    6. A list of personnel proposed to work on the project, their curriculum vitae, and copies of their certifications, degrees, and licenses
    7. A list of third-party certifications that the laboratory holds
    8. Relevant references confirming similar work undertaken in the areas/countries requested

- Generally, the RFQ, written by the Environmental Manager, is then provided to the Subcontracts Manager along with a list of prescreened and qualified consultants. The Subcontracts Manager shall send out the RFQs on project letterhead with the standard terms and conditions the project has deemed necessary for quotes.
- Upon receipt of quotes, the quotes are reviewed for completeness. If any of the above information or any requested information is missing, either the quote must be discarded as non-responsive, or the consultant must be given a chance to provide the information. If the information is not provided, the quote must be deemed non-responsive and rejected.

- In coordination with the Subcontracts Manager and Quality Manager, the Environmental Manager should evaluate each complete quote for technical competence. A visit to each consultant's place of business should be made by, at a minimum, the Environmental Manager to determine if the

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

consultant has the supplies and equipment to perform the job to meet the personnel who potentially shall be working on the job and to check credentials, certifications, licenses, etc. Once the Environmental Manager has determined that certain consultants are competent to do the work, the matter can be turned over to the Subcontracts Manager for final negotiations. The Environmental Manager should continue to be involved throughout the entire selection process.

NOISE TESTING

- If noise dosimetry testing is required during the construction phase for anything other than testing around construction machinery (e.g., fence line noise testing, ambient noise testing, etc.), the EXCEL Noise Control group must be consulted. Noise dosimetry or testing is a highly complex specialty area requiring significant expertise and specialized equipment. Contact the EXCEL Noise Engineers for advice regarding the proper course of action.

AIR EMISSIONS

- Typical air emission testing includes stack testing, fugitive dust, particulates, and opacity.
- In most cases, emission tests shall be the responsibility of the client engineering or consultant personnel. For overseas projects, incinerator stacks may also be included in emission(s) testing. This is the preferred approach since emissions testing requires specialized equipment and trained personnel to perform. Should EXCEL be required as part of the contract with the client to perform this specialized testing, it is recommended that the Process Engineering Environmental Group or equivalent group be consulted to develop a stack sampling RFQ for camp incinerators or any facility for which stack sampling may be required. In this case, a qualified consultant should be sought through project procurement personnel.
- For any other air emission(s) issues encountered, please consult the Process Engineering Environmental Group or Corporate HSE.

SOLID WASTES

- During the construction or operations phase or during decommission activities of a project, the classification of solid waste is likely to revolve around whether or not a waste should be classified as hazardous or non-hazardous. Field screening kits are helpful in determining waste classification.
- Although it is easy to classify waste as hazardous based on a field screening result, it is much more challenging to declassify a previously classified hazardous waste to make it a non-hazardous waste. One example includes incinerator ash from the incineration of hazardous wastes. Usually, a Toxicity Characteristic Leaching Procedure (TCLP) or using the "rule of 20" as a preliminary screening method is required to prove the ash is non-hazardous. Generally, if field screening indicates the waste is hazardous, the field data should be confirmed through additional sampling and laboratory analyses.
- During the commissioning and startup phases, it is common for some unusual wastes to be produced, which may or may not be hazardous. Process knowledge understanding and a review of material safety data sheets may indicate that waste is hazardous; therefore, it shall be necessary for the laboratory to make the final determination. For example, a material may be advertised as "green" and/or "biodegradable," but that does not necessarily make it non-hazardous, or for that matter, biodegradable under all conditions. Furthermore, many unknown or unanticipated reactions can occur during the use of the product, that may render it hazardous. In general, most of the hazardous material generated on a construction site occurs at the end of the project and during commissioning.

- Any issues not resolvable at the site or questions concerning the sampling and testing of solid wastes should be referred to Global HSE.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

LIQUID WASTES

- Generally, any liquid wastes that may be produced in significant quantities over the life of a project are sanitary related (e.g., gray and black water). For those projects near populated areas in countries with developed infrastructure, sanitary waste collection and disposal are typically subcontracted to "Port-O-John" contractors who provide and service temporary toilet facilities. There is usually little or no testing required for these types of operations by project personnel. However, volumes should be tracked. In such cases, project procurement and QHSE must regularly document the final disposition of the waste.
- Chemical, heavy industrial or manufacturing plants, and some isolated international construction sites shall have their wastewater treatment facilities that must meet permit, environmental impact report, and/or contract conditions. Therefore, sampling and testing by qualified consultants shall be required if EXCEL is operating or is responsible for the wastewater treatment facility. The testing requirements shall be described in the permit and/or contract.
- In addition to sanitary waste, other types of liquid waste may be produced, including an oil-water separator, pipe cleaning, hydrotesting, jet blast waste, etc. All of these wastes must meet the permit and contract requirements for disposal and may require laboratory testing to determine the proper method of disposal.
- Any issues not resolvable at the site or for questions concerning the sampling and testing of liquid waste should be referred to Corporate HSE.

STORMWATER

- There may be permit and contractual conditions and requirements for the collection and discharge of stormwater from the site during construction or facility operation, including sampling and laboratory testing of the stormwater. The Environmental Manager should become familiar with these conditions and requirements, including the stormwater management plan and/or erosion and sediment control plan or other applicable regulatory-driven documents.
- Any issues not resolvable at the project level or questions concerning the sampling and testing of stormwater should be referred to Corporate HSE.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

WASTE MANAGEMENT PLAN GUIDANCE

PURPOSE

- The purpose of this procedure is to guide the use and content of a Waste Management Plan (or its equivalent) covering all wastes to be managed or owned by EXCEL on the project. For specific directions and requirements for managing hazardous, scheduled, industrial, or solid wastes, refer to Section 3.
- A WMP is necessary when:
    - Wastes are expected to be generated during project and/or construction-related activity
    - Managing EXCEL-generated wastes
    - Managing waste on behalf of a client
    - Required by the Environmental Impact Assessment or other permit and/or
    - Required by the client or owner/operator
- A WMP provides the basis for actions to ensure proper waste management and compliance with applicable laws and regulations. The WMP may also identify the steps that shall be taken to divert construction and demolition debris from landfills through various recycling/reuse efforts and construction practices.
- In summary, the WMP (specific to the US or Australia) or Site Waste Management Plan (specific to the United Kingdom) should outline the means and methods by which compliance with location-specific and applicable laws, regulations, contract stipulations, and/or project specifications is maintained, thereby ensuring proper management of all applicable waste.
- Corporate HSE is available to provide assistance or templates of WMPs for modification.

GENERAL

- A WMP is an extension or part of the Environmental Management Plan (EMP) as described in Section 2 of this manual. More details and methods for waste management may be provided in a WMP or a Waste Management Procedure. A WMP should only be as detailed as necessary to ensure compliant management of wastes.
- Any definition of waste herein is general and should not supersede or replace any country-specific and/or contractually defined definition, which definition(s) should be presented and described in detail in the WMP. Moreover, this procedure is not designed to be used without the applicable local waste regulations in drafting a WMP.
- In addition to outlining the means and methods by which compliance is maintained, the WMP shall typically provide waste quantity estimates expected to be produced during both construction and operational phases and define disposal methods for these wastes based on applicable laws and regulations, contract with client, and/or cost-effectiveness. Waste projections are initially developed during the design phase (based on process calculations); hence, a basic WMP is written during the design phase.
- The Environmental Process Engineers who worked on the project during the design phase are an invaluable source of information for waste management questions (e.g., anticipated waste characteristics, estimated volumes, and other management considerations), including construction-related waste and other issues that may arise; therefore, they should be consulted as needed.
- The Construction HSE Manager is responsible for and shall supervise all waste management operations during construction in conjunction with the subcontracts manager and construction engineers. Generally, one or more subcontractors are employed to manage and dispose of wastes from construction sites. They are required to comply with EXCEL's HSE policies, practices, and procedures as part of their subcontract with EXCEL.

- It is crucial to prequalify subcontractors prior to receiving quotes for the work. Subcontractors must have the required credentials and certifications, and their staff must be properly trained, certified,

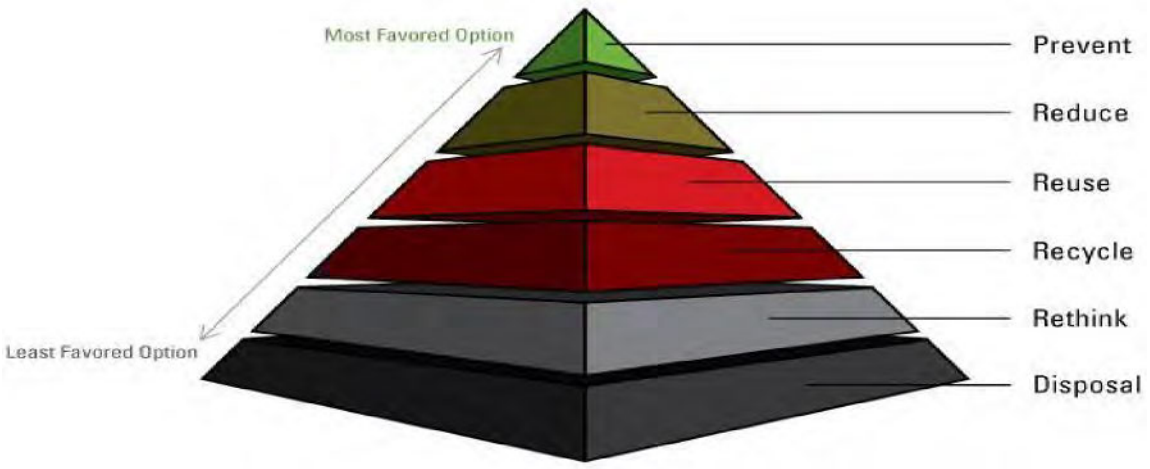
Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

and have knowledge and experience in performing the type of work required. Specifically, the subcontractor must be an approved vendor.

- All waste management and disposal-related subcontractors must use equipment designed for the task, using methods based on applicable regulations and/or contracts with the client.
- In the absence of applicable regulations and contractual requirements, internationally accepted methods and standards shall be used with additional guidance from Corporate HSE.

WASTE MANAGEMENT HIERARCHY

- EXCEL is committed to the minimization of waste and the conservation of resources. The waste management hierarchy is used to minimize the waste generated and disposed of by the project or site. The waste management hierarchy refers to the "3 R's", i.e., reduce, reuse, and recycle.
- The waste management hierarchy pyramid is shown in Figure 3.1. The highest two tiers on the pyramid, namely prevention and minimization or reduction, can be achieved by utilizing sustainable development techniques and materials. The least desirable option is disposal because disposal means that a material has been used to its limit, and the project must bear a cost for disposal. It also means the material is potentially a detriment to the environment and must be handled and ultimately disposed of using means to protect the environment.
- This hierarchy classifies waste management strategies according to desirability and importance. It seeks to maximize the conservation of resources or minimize the quantities of resources used while maximizing the quantities of materials reused/recycled as far as practical.
- A 'fourth R': "Re-think," with the implied meaning that new information or processes may be available that was not available initially or the present system may have fundamental flaws, and a thoroughly effective system of waste management may require an entirely new way of looking at waste is a helpful step in waste management. Some "re-think" solutions may be counter-intuitive, such as cutting patterns with slightly more "waste material" left - the now larger scraps are then used for cutting small parts of the pattern, resulting in a decrease in net waste. This type of solution is by no means limited to a single industry.
- EXCEL encourages consideration of source reduction to reduce waste and other materials by modifying waste generation processes. Another available process includes toxics use reduction, a process that targets and measures reductions in the upstream use of toxic materials. Toxics use reduction emphasizes the more preventive aspects of source reduction, but due to its emphasis on toxic chemical inputs, it has been opposed more vigorously by chemical manufacturers.
- Chemical substitution is also a viable waste reduction technique where a less toxic or non-toxic chemical is substituted for a more toxic or more regulated chemical.



Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Figure 3.1 Waste Management Hierarchy Pyramid

- Management of wastes should consider sustainable resources, i.e., the use of materials from sources that can be renewed or from recycled sources. An example is using recycled paper and wood from sustainable forests.

SOLID AND HAZARDOUS WASTES

- Classification of solid and hazardous waste shall be in accordance with relevant regulations and procedures.
- Large projects may have available determinations of respective waste amounts and the proper treatment and/or disposal methods for both solid and hazardous wastes expected to be generated or produced during the construction and operation of the facility.
- Smaller construction projects or operation and maintenance projects shall not likely have this information available.
- Wastes generated at construction-related sites (temporary offices, man camps, and project or facility-related) are generally classified into three categories: non-hazardous inert, municipal type, and hazardous. There may be sub-categories for recyclable wastes and other types of wastes that can be reused or disposed of uniquely.
- Typical non-hazardous inert solid waste generated during a project life includes:
    - Excessive non-contaminated soils
    - Concrete or refractory debris – non asbestos-containing
    - Steel or piping scrap – non-naturally occurring radioactive material containing
    - Wood scrap
    - Cable scrap
    - Glass
    - Non-asbestos-containing insulation debris

- Depending on the applicable regulations, permits, and/or contract stipulations, these non-hazardous inert solid wastes can be disposed of on-site as engineered fill or placed in an approved landfill. Many of these inert wastes can be recycled or reused by contractors that are approved by and registered with relevant authorities. These recyclable wastes could include concrete, metal, wood and cable scrap, glass, and insulation debris.
- Municipal-type waste generated during a project life includes:
    - Garbage and refuse
    - Lunchroom or office/man camp-related waste
- Depending on the applicable regulations, permits, and/or contract stipulations, these municipal-type wastes can be incinerated or sent to an approved landfill. There may be opportunities for recycling some municipal-type wastes (e.g., cardboard, glass, plastics, and paper). Food wastes also present recycling opportunities, including use as food for swine and livestock.
- Potential Hazardous Waste generated during construction includes:
    - Waste fuel and filters
    - Waste oils (includes lubricants/engine oils, hydraulic, transmission, and brake fluids, grease, etc.) and filters
    - Waste paint and painting materials
    - Waste construction-use chemicals
    - Waste permanent-use catalysts and chemicals
    - Lead acid and lithium-type batteries
    - Waste solvents

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

  - Contaminated soils
  - Used containers or drums for hazardous materials unless exempt due to any applicable regulatory status
- Excluded from this definition are municipal solid wastes, domestic sewage sludge, household wastes, and medical wastes.
- Hazardous wastes are called Scheduled wastes in some countries (e.g., Australia). The formal definition of scheduled waste in Australia is: a material or article containing a chemical, or mixture of chemicals, exceeding the threshold concentration and threshold quantity, which is:
  - Organic in nature
  - Resistant to degradation by chemical, physical, or biological means
  - Toxic to humans, animals, vegetation, or aquatic life
  - Bioaccumulative in humans, flora, and fauna
  - Listed on Schedule X

- By definition, hazardous waste liquids are classified as solid hazardous wastes in the US. Materials that are recycled or reclaimed, such as fuel, are typically not considered hazardous wastes because they become feedstock for a recycling plant. Depending on the location of the project, available approval recycling or reuse vendors may be an option to minimize ultimate waste generation volumes. Recycle or reuse vendors must be approved using the same procurement and HSE approval processes as waste and transportation vendors.
- The WMP should clearly define the waste types to be generated, the degree of hazard associated with the waste streams, and the management requirements under the laws and regulations of the country in which they are generated. If uncertain regarding waste classification, contact Corporate HSE.
- Hazardous wastes can be costly to dispose of properly; therefore, it is expedient to ensure that only truly hazardous wastes, as defined under the laws and regulations of the country in which they are generated or by contract, are disposed of as hazardous wastes.
- EXCEL's hazardous and scheduled waste management practices require that the wastes are inventoried, manifested, and properly stored, typically in a paved, curbed, and fenced area to ensure proper segregation and secondary containment. Liquid hazardous wastes must be kept in sealed drums, which are stored on containment pallets, preferably under a roof, to prevent rainwater from filling the pallets or otherwise coming into contact with the drums. Hazardous wastes must then be transported by a licensed and approved transporter to a permitted hazardous waste incinerator or a permitted and controlled hazardous waste landfill site for final disposal.

- Finally, the WMP should provide detailed instructions on how hazardous wastes are to be collected, stored, and transported, as well as the final disposition arrangements. The WMP should also include forms for the inventorying and manifesting of these wastes.

LIQUID WASTES

- Classification of liquid wastes shall be in accordance with relevant regulations and procedures.
- Large projects shall have information on the anticipated waste amounts and the proper treatment and/or disposal methods for the liquid wastes expected to be generated or produced during the construction and/or operation of the facility.
- During the construction phase of the project, liquid wastes usually consist of sanitary waste from port-o-johns, camp-related or portable wastewater plants, toilet and washing facilities, used oils, and a few liquid wastes from construction activities, such as excess paint.
- For a project involving an addition to an existing facility, the facility may have an existing wastewater treatment plant with excess capacity, which can accept liquid sanitary-related wastes from the temporary construction activity.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Sanitary wastes are typically the only liquid wastes generated in substantial quantities during the construction cycle. If project workers live off-site, the use of Port-O-John contractors on-site may be feasible in countries with developed infrastructures.
- Isolated or remote construction sites may have their wastewater treatment plant to treat sanitary-related wastes from both the man camp and the construction site. Permit requirements and contract conditions for the project must be met.
- Finally, commissioning operations can produce substantial quantities of water from vessel and pipe cleaning operations. This water typically contains pipe cleaning waste, hydrostatic testing waste, jet blast waste, cleaning-related chemicals, etc. This water can be hazardous due to chemical additions to the water, the materials cleaned out of the pipes or vessels, or chemical or biological interactions during and after cleaning operations.
- Disposal of this commissioning water requires careful planning due to its nature (it may be considered hazardous) and the production of substantial volumes in short periods. This produced water must meet the permit requirements and contract conditions for disposal and may require testing (in addition to process knowledge) to determine the proper disposal method.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SITE ENVIRONMENTAL MANAGEMENT PLAN

Site Environmental Management Plan

for:

Project Name

Project Address

Project City, State, Zip

Project Site Telephone (if applicable)

EMP Original Preparation Date:

MM/DD/YYYY

Project Site Dates:

Start Date: **MM/DD/YYYY**

Estimated Completion Date: **MM/DD/YYYY**

Actual Completion Date: **MM/DD/YYYY**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

TABLE OF CONTENTS

TABLE OF CONTENTS 2

SECTION 1.0: SITE EVALUATION, ASSESSMENT, AND PLANNING 3

1.1 SITE INFORMATION 3
1.2 CONTACT INFORMATION/RESPONSIBLE PARTIES 4
1.3 SITE MAPS 4
1.4 SITE ACTIVITIES 5
1.5 APPLICABILITY OF SITE-SPECIFIC ACTIVITIES 5

SECTION 2.0: WATER MANAGEMENT 9

2.2 SPILL RESPONSE CONTACT INFORMATION 9
2.3 STORM WATER POLLUTION PREVENTION 9
2.4 DESIGNATE WASHOUT AREAS 10
2.5 ESTABLISH PROPER EQUIPMENT/VEHICLE FUELLING AND MAINTENANCE PRACTICES 10
2.6 CONTROL EQUIPMENT/VEHICLE WASHING 10
2.7 RECEIVING WATERS 10
2.8 MATERIAL STORAGE 11
2.9 WETLANDS 11

SECTION 3.0: FAUNA & FLORA 11

SECTION 4.0: HISTORIC PRESERVATION 12

SECTION 5.0: ASBESTOS, LEAD PAINT & POLYCHLORINATED BIPHENYL (PCB) 12

SECTION 6.0: CHEMICAL & POLLUTION INVENTORY 13

SECTION 7.0: HOUSEKEEPING 13

7.1 SITE HOUSEKEEPING IMPLEMENTATION 13

SECTION 8.0: WASTE MANAGEMENT 14

8.1 WASTE DETERMINATION 14

SECTION 9.0: AIR QUALITY 14

9.1 EMISSION SOURCE IDENTIFICATION 14
9.2 CFC'S 14

SECTION 10.0: PESTICIDES, HERBICIDES & RODENTICIDES 15

SECTION 11.0: UNDERGROUND (UST)/ABOVEGROUND (AST) STORAGE TANKS 15

SECTION 12.0: INSPECTIONS 16

SECTION 13.0: EMP MANAGEMENT 16

13.1 DELEGATION OF AUTHORITY 16
13.2 CORRECTIVE ACTION LOG 17
13.3 LOG OF CHANGES TO THE EMP 17

SECTION 14.0: SITE CLOSURE/SITE COMPLETION 18

SECTION 15.0: CERTIFICATION(S) AND NOTIFICATION(S) 19

15.1 EMP CERTIFICATION 19
15.2 SAMPLE SUBCONTRACTOR CERTIFICATION(S)/AGREEMENT(S)-(CONSTRUCTION) 19

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

15.3 EMP REVIEW.....20

Instructions:
All sites are required to complete Section 1.0, Section 2.0, and Sections 13.0 – 16.0.
The site risk assessment results, applicable regulations, and customer/contract requirements will determine if Sections 3.0 – 12.0 are required.
Additional Sections may be required to meet contract/customer requirements.

SECTION 1.0: SITE EVALUATION, ASSESSMENT, AND PLANNING

1.1 Site Information

Location				
Site Name:				
Site Street/Location:				
City:	State:			
Waste Generator Identification				
Generator ID Number:				
Anticipated Hazardous Waste Monthly Generation (pounds):				
Environmental Permit Information				
Environmental Media/ Category	**Permit Name**	**ID Number/ Registration Number**	**Issuing Agency**	**Responsible Party**

Applicable Environmental Regulations/Requirements* **Include any applicable local/state regulatory requirement applicable to the site*		
Regulation/Law/Ordinance/etc.	**Requirement**	**Agency**

The following can be estimates if exact data is not available.	
Total site area:	(In acres)
If this is a construction site, state the area to be disturbed:	(In acres)
Description of features that are to be preserved at the site:	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

EXCEL

1.2 Contact Information/Responsible Parties

Operator(s):		
Company Name:		Contact Name:
Site Street/Location:		
City:	State/Providence:	
Phone:	Fax:	Email:
Site Manager(s):		
Company Name:		Contact Name:
Site Street/Location:		
City:	State/Providence:	
Phone:	Fax:	Email:
HSE Contact(s):		
Company Name:		Contact Name:
Site Name:		
Site Street/Location:		
City:	State/Providence:	
Phone:	Fax:	Email:
This EMP was prepared by:		
Company Name:		Contact Name:
Site Street/Location:		
City:	State/Providence:	
Phone:	Fax:	Email:
Is this a joint venture? ☐ Yes ☐ No		
Company Name:		Contact Name:
Site Street/Location:		
City:	State/Providence:	
Phone:	Fax:	Email:
Emergency 24-Hour Contact:		
Company Name:		
Contact Name:	Phone:	

1.3 Site Maps

Instructions:

Attach site maps, (planned &/or actual).

These maps should identify the following locations:

Major structural and non-structural items;
Material storage, laydown yards, equipment storage areas;
All water bodies (streams, creeks, rivers, etc.), including wetlands;
Stormwater discharges to a surface water;
Storm drain inlets;
Waste storage areas;

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Tanks, fueling stations, transformers, and Emission points (may include, but is not limited to, stacks, vents, exhaust, etc.)

1.4 Site Activities

Instructions: Briefly describe site activities and approximate time frames for tasks.	
INSERT TEXT HERE	
What is site function? (Check multiple, if applicable) ☐ Utility ☐ LNG ☐ New Construction ☐ Commercial ☐ Industrial ☐ E&I ☐ Maintenance ☐ Shop ☐ Other (please specify):	
Estimated Activity Start Date:	Actual Date:
Estimated Activity Completion Date:	

1.5 Applicability of Site-Specific Activities

Instructions: Respond to the following questions: If the item applies to your site, then answer "yes." If "no" is selected, provide a reason.

No.	Item	Check (√)	If No, provide the reason below.
1	Will the site have the capability to store 1,320 gallons or more of oil on-site at any one time?	☐ Yes	*Section 2: Water Management*
		☐ No	
2	Will the site disturb 1 acre or more of soil?	☐ Yes	*Section 2: Water Management*
		☐ No	
3	Will the site wash vehicles or equipment?	☐ Yes	*Section 2: Water Management*
		☐ No	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4	Will the site generate paint waste?	☐ Yes	*Section 2: Water Management*
		☐ No	
5	Will the site generate the hydrotest water?	☐ Yes	*Section 2: Water Management*
		☐ No	
6	Will the site store materials exposed to stormwater or runoff?	☐ Yes	*Section 2: Water Management*
		☐ No	
7	Does the site have a transformer?	☐ Yes	*Section 2: Water Management*
		☐ No	
8	Will the site generate wastewater discharges? (this will require evaluation and approval in writing for discharge to stormwater or sanitary sewer)	☐ Yes	*Section 2: Water Management*
		☐ No	
9	Does the site have monitoring wells?	☐ Yes	*Section 2: Water Management*
		☐ No	
10	Will the site have outdoor secondary containment(s)?	☐ Yes	*Section 2: Water Management*
		☐ No	
11	Will the site have compressors?	☐ Yes	*Section 2: Water Management*
		☐ No	
12	Will the site have maintenance tanks/parts washers?	☐ Yes	*Section 2: Water Management*
		☐ No	
13	Will the site be on or near a wetland?	☐ Yes	*Section 2: Water Management* *Section 3: Flora and Fauna*
		☐ No	
14	Will the site have outdoor uncovered waste storage?	☐ Yes	*Section 2: Water Management* *Section 7: Housekeeping* *Section 8: Waste Management*

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

		☐ No	
15	Will the site need to control dust?	☐ Yes	*Section 2: Water Management* *Section 9: Air Quality*
		☐ No	
16	Are historical/archeological finds expected?	☐ Yes	*Section 4: Historic Preservation*
		☐ No	
17	Will demolition be conducted?	☐ Yes	*Section 5: Asbestos, Lead Paint & PCBs* *Section 7: Housekeeping*
		☐ No	
18	Does the site have asbestos, or is it suspected to have asbestos on site?	☐ Yes	*Section 5: Asbestos, Lead Paint & PCBs* *Section 8: Waste Management*
		☐ No	
19	Does the site have or suspect to have lead-containing materials?	☐ Yes	*Section 5: Asbestos, Lead Paint & PCBs* *Section 8: Waste Management*
		☐ No	
20	Will the site manufacture, process, or use any Emergency Planning and Community Right-To-Know Act (EPCRA) chemical?	☐ Yes	*Section 6: Chemical & Pollution Inventory*
		☐ No	
21	Will the site purchase and/or store hazardous materials?	☐ Yes	*Section 6: Chemical & Pollution Inventory*
		☐ No	
22	Will the site generate any fluorescent lamps, mercury switches, devices, thermostats, cathode ray tubes, or batteries?	☐ Yes	*Section 7: Housekeeping* *Section 8: Waste Management*
		☐ No	
23	Will the site have dewatering activities?	☐ Yes	*Section 8: Waste Management*
		☐ No	
24	Will the site use aerosol cans?	☐ Yes	*Section 8: Waste Management*
		☐ No	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

25	Will the site generate medical waste?	☐ Yes	*Section 8: Waste Management*
		☐ No	
26	Will the site have x-ray chemicals?	☐ Yes	*Section 8: Waste Management*
		☐ No	
27	Will the site generate “used oil” or waste oil?	☐ Yes	*Section 8: Waste Management*
		☐ No	
28	Will the site generate universal waste?	☐ Yes	*Section 8: Waste Management*
		☐ No	
29	Will the site have a radioactive source?	☐ Yes	*Section 8: Waste Management*
		☐ No	
30	Will the site have dry abrasive blasting, machining, grinding, spray painting, other spray coating, or welding operations?	☐ Yes	*Section 8: Waste Management* *Section 9: Air Quality*
		☐ No	
31	Has the site evaluated the need for an air permit?	☐ Yes	*Section 9: Air Quality*
		☐ No	
32	Will the site have CFCs or CFC-containing equipment? (e.g., coolers, chillers, etc.)	☐ Yes	*Section 9: Air Quality*
		☐ No	
33	Will the site utilize and/or dispose of any pesticides, herbicides, rodenticides, or fertilizers?	☐ Yes	*Section 10: Pesticides*
		☐ No	
34	Will underground or above-ground storage tanks be present at any time?	☐ Yes	*Section 11: UST/AST*
		☐ No	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SECTION 2.0: WATER MANAGEMENT

2.1 Oil Storage Capacity

Instructions: If oil storage capacity is less than 10,000 gallons, attach the appropriate completed Spill Prevention, Control, and Countermeasure (SPCC) plan. If oil storage is more than 10,000 gallons, contact Corporate Environmental for assistance with SPCC completion.

2.2 Spill Response Contact Information

Instructions:

For quick reference, in case of a reportable spill, complete the following table.

List the local water regulatory agency contact information.

Add emergency and regulatory numbers applicable to your site, such as the United States Coast Guard, US EPA, etc.

Organization	**Phone Numbers**	
Site Manager Name:	Office:	Cell:
HSE Manager Name:	Office:	Cell:
Environmental Coordinator Name:	Office:	Cell:
Corporate Environmental Manager Name:	Office:	Cell:
Environmental Regulatory Agencies		
Other Important Contact Phone Numbers		
Local Fire Department		
Local Police Station		
Local Hospital		

2.3 Storm Water Pollution Prevention

Instructions: If your site requires a National Pollution Discharge Elimination System (NPDES) program permit, attach a site permit. Attach the completed Storm Water Pollution Prevention Plan (SWPPP).

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

2.4 Designate Washout Areas

Instructions:

Describe location(s) and controls to eliminate the potential for discharges from washout areas/pads for concrete mixers, paint, etc.

2.5 Establish Proper Equipment/Vehicle Fuelling and Maintenance Practices

Instructions:

- Describe equipment/vehicle fueling and maintenance practices that will be implemented to control spills and leaks (e.g., automatic shut-off valves, secondary containment, drip pans, spill kits, etc.)

2.6 Control Equipment/Vehicle Washing

Instructions:

Describe equipment/vehicle washing practices that will be implemented.
Detail chemicals involved in washing practices.

2.7 Receiving Waters

Instructions:

List the waterbody(s) that will receive stormwater from your site, including streams, rivers, lakes, coastal waters, and wetlands.
Attach maps illustrating water bodies. Indicate the location of all water bodies, including wetlands, relative to the site on the maps.
Identify stream crossings if applicable.
Include site features on the map(s).
Indicate if the waterbodies are impaired/and or subject to a special sampling protocol.

What type of sewer system is on the site? (Check all that apply)

☐ Storm Sewer ☐ Sanitary Sewer ☐ Combined Sewer ☐ Other

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Describe unique site features, including streams, stream buffers, wetlands, specimen trees, natural vegetation, steep slopes, or highly erodible soils that are to be preserved.
Describe measures/practices to protect site features from erosion.

2.8 Material Storage

Instructions: Attach maps illustrating storage areas. Describe the secondary containment used.

2.9 Wetlands

Instructions: Describe how wetland(s) determination was made.

SECTION 3.0: FAUNA & FLORA

Instructions: Before beginning construction, determine whether endangered or threatened wild feral species or their critical habitats are on or near the site. Adapt this section as needed for endangered species requirements and, if applicable, document any measures deemed necessary to protect endangered or threatened species or their critical habitats.	
Are endangered or threatened species and/or critical fauna habitats on and/or near the site area?	☐ Yes ☐ No
If yes, describe the species and/or critical habitat:	
Describe how this determination was made:	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Describe or refer to documentation that determines the likelihood of an impact on identified species and/or habitat and the steps taken to address that impact.
Describe the process to address/remove animals that may migrate on-site.

SECTION 4.0: HISTORIC PRESERVATION

Instructions: Before construction begins, review federal, applicable state, and local laws and determine if there are historic sites on or near the site. If so, adjustments may need to be made to construction plans or to stormwater controls to ensure that these historic sites are preserved.
Are there any historic sites on and/or near the construction site? ☐ Yes ☐ No
Detail specifically how this determination was made:
If yes, describe and refer to the documentation that determines the likelihood and magnitude of an impact on a historic site and the steps taken to prevent impact.

SECTION 5.0: ASBESTOS, LEAD PAINT & POLYCHLORINATED BIPHENYL (PCB)

Instructions: Attach asbestos determination survey (to be completed by an accredited subcontractor/consultant). If the site was determined to have asbestos present, attach the Asbestos Abatement Plan.
Are any known or anticipated asbestos present on-site? ☐ Yes ☐ No
Detail specifically how this determination was made:
Is any known or suspected lead paint present on-site? ☐ Yes ☐ No

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Detail specifically how this determination was made:	
Are any known or suspect PCB items present on-site?	☐ Yes ☐ No
Detail specifically how this determination was made:	

SECTION 6.0: CHEMICAL & POLLUTION INVENTORY

Instructions:

- Attach complete site chemical inventory list.
- Consider applicability to regulatory reporting requirements under 311, 312 & 313 Toxic Release Inventory (TRI) and Emergency Planning and Community Right-To-Know Act.

SECTION 7.0: HOUSEKEEPING

7.1 Site Housekeeping Implementation

Instructions:

Detail how the site will implement the Housekeeping Best Practices.

Activity	Implementation

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SECTION 8.0: WASTE MANAGEMENT

8.1 Waste Determination

Instructions: Identify anticipated waste streams (including recyclables) that will be generated. Attach identified waste streams and supporting characterization/classification below. List waste disposal and recycling companies used (including refuse).	
Waste Profiles	
Waste Stream	***Characterization / Classification*** *(hazardous waste, universal waste, refuse, special waste, etc.)*

Disposal, Recycle Companies / TSDF Information *(repeat block as necessary)*		
Company or Organization Name:		
Contact Name:		
Street Address:	**City:**	**State:**
Phone:	**Fax:**	**Email:**

SECTION 9.0: AIR QUALITY

9.1 Emission Source Identification

Instructions: Attach a list detailing emission points, identification numbering, and potential to emit (PTE).		
Identify all potential air pollution sources. The air pollution sources identified might include the following :		
☐ Burning of debris	☐ Dust generation	☐ Release of chlorofluorocarbons (CFCs)
☐ Nitrogen oxides (NOx) and fine particulates from diesel engines	☐ Mobile equipment	☐ Fuel transfer
☐ Abrasive blast operations	☐ Visible stack emissions	☐ Welding
☐ Volatile Organic Compounds (VOCs) from paint and cleaning solvents	☐ Combustion gases	☐ Oxy-fuel cutting
☐ Grinding	☐ Burn tables	☐ Other _____

9.2 CFC's

Instructions: Proper management of CFCs is required. Attach SDS of CFC containing products that will be used on site.

Attach/List CFC containing equipment list. Attach/List vendor(s) licenses that maintenance and service the CFC equipment. Attach/List service log identifying when the equipment was serviced, the amount of CFCs that were added, and the volume lost (if any).
Will there be any CFCs or CFC-containing equipment on site? ☐ Yes ☐ No
List the types of CFCs that are present on-site as well as their location.

SECTION 10.0: PESTICIDES, HERBICIDES & RODENTICIDES

Instructions: Proper management of pesticides and herbicides is required.
Will there be any pesticides, herbicides, or rodenticides used on site? ☐ Yes ☐ No
Detail specifically how this determination was made:
If yes, describe the storage, use, and disposal plans for said chemicals.
If yes, list the product names and specify which constituents (if any) are identified on the SDS that are reportable under EPCRA or other reports required under Section 6 of this EMP.

SECTION 11.0: UNDERGROUND (UST)/ABOVEGROUND (AST) STORAGE TANKS

Instructions: Identification of USTs/ASTs is important as regulations require specific actions based on location, capacity, and contents. Identify the tank(s), capacity, and contents. Describe the management plan based on local regulations and applicable permits. Identify which tanks are pre-existing and which are new construction. Identify tank locations on the site map.	
Are there any USTs on site?	☐ Yes ☐ No
Are there any ASTs on site?	☐ Yes ☐ No
If yes, list each tank with capacity and contents and if it is above or underground.	
If yes, detail specific management plan and local management requirements.	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SECTION 12.0: INSPECTIONS

Instructions:

Identify the individual(s) responsible for conducting HSE inspections along with the company name. Attach a copy of the inspection forms used.

1. Inspection Personnel: Identify the person(s) who will be responsible for conducting inspections:

Name	Title	Company Name

2. Inspection Type and Frequency

Inspection Type	Frequency

SECTION 13.0: EMP MANAGEMENT

13.1 Delegation of Authority

Instructions:

Identify the individual(s) and specifically describe the position of the operator's representative who is responsible for maintaining certifications, permits, signing inspection reports, etc.

Complete a Delegation of Authority Form where the construction site owner/operator has delegated authority for the purposes of signing inspection reports, certifications, and/or additional information. **DO NOT COMPLETE IF OWNER HAS RETAINED AUTHORITY**

Attach the signed delegation of authority form used.

Duly Authorized Representative(s) or Position(s):		
Company or Organization Name:		
Contact:	**Title/Position:**	
Street Address:		
City:	**State:**	**Zip/Postal Code:**
Phone:	**Fax:**	**Email:**

Delegation of Authority Form

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the _____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans, and all other documents required by the permit.

Name of Person:	**Position/Title:**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Company:		**Phone:**
Address:	**City**	
State	**Zip Code**	**Date:**
By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in _____ (Reference State Permit) and that the designee above meets the definition of a "duly authorized representative" as set forth in _____ (Reference State Permit).		
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		
Name:	**Title/Position:**	
Company:	**Date:**	
Signature:		

13.2 Corrective Action Log

Instructions:

- This corrective action log will be used to describe repair, replacement, and maintenance of BMPs undertaken as a result of inspections and maintenance procedures described above. Actions related to inspection findings should reference the specific inspection report including inspection date.

EMP Corrective Action Log			
Site Name:		**EMP Contact:**	
Corrective Action No.	**Description of the Problem**	**Description of the Corrective Action**	**Date Complete**

13.3 Log of Changes to the EMP

Instructions:

Create a log here, or include as an attachment, of changes and updates to EMP. Include additions of new BMPs, revised BMPs, significant changes in site activities, changes in personnel, changes in inspection and maintenance procedures, updates to site maps, etc.

EMP Amendment Log	
Site Name:	**EMP Contact:**

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Amendment No.	Description of the Amendment	Amendment Date	Amendment Prepared by [Name and Title]

SECTION 14.0: SITE CLOSURE/SITE COMPLETION

Instructions: Modify the list below as necessary to capture closure/completion activities. Attach documentation for verification.	
Stormwater Permit Cancelled	☐ Yes ☐ No ☐ Transferred to Owner
Air Permits Cancelled	☐ Yes ☐ No ☐ Transferred to Owner
Waste Disposal Number Cancelled	☐ Yes ☐ No ☐ Transferred to Owner
All Waste Removed	☐ Yes ☐ No
All Waste Manifests Returned	☐ Yes ☐ No
All HSE Records Archived Per Catamaran Policy	☐ Yes ☐ No

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

SECTION 15.0: CERTIFICATION(S) AND NOTIFICATION(S)

15.1 EMP Certification

EMP CERTIFICATION			
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.			
Name:		**Title/Position:**	
Signature:		**Date:**	
Revision Number:			

15.2 Sample Subcontractor Certification(s)/Agreement(s)-(Construction)

SUBCONTRACTOR CERTIFICATION		
Site Number:	**Site Title:**	**Operator:**
As a subcontractor, you are required to comply with the site EMP for any work that you perform on-site. Any person or group who violates any condition of the EMP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this site of the requirements of the EMP.		
Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement: ***I certify under the penalty of law that I have read and understand the terms and conditions of the EMP for the above-designated site and agree to follow the practices described in the EMP.***		
This certification is hereby signed in reference to the above-named site:		
Company:		**Phone:**
Person/Name:	**Title/Position:**	
Address:		**City:**
State:	**Zip Code:**	**Revision Number:**
Signature:	**Date:**	
Type of construction service to be provided:		

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

15.3 EMP Review

Instructions:			
Add additional signature blocks as necessary. ***Your signature indicates that you have reviewed the EMP and, to the best of your knowledge, the above is accurate and complete.***			
As data is updated - additional reviews and signatures are required.			
The EMP should be reviewed at a minimum of annually.			
Site Manager			
Name:		Title:	
Signature:		Date:	
Site HSE Manager			
Name:		Title:	
Signature:		Date:	
Corporate HSE Director			
Name:		Title:	
Signature:		Date:	

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT F

EMR FOR LAST FIVE YEARS

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

McGriff

April 30, 2025

Excel Contractors, LLC
8641 United Plaza Boulevard, Suite 102
Baton Rouge, Louisiana 70809

RE: Experience Modification Rate (EMR)

Named Insureds: Excel Contractors, LLC.; Excel Group, Inc.; Excel Group Services, Inc.; Excel Maintenance Services, Inc.; Excel Industrial Services, LLC; Excel Midstream Solutions, Inc.; Excel Constructors, Inc.; Excel Fabrication & Construction, Inc.; Brown Industrial Services, Inc.; Excel Construction and Maintenance VI, Inc. ; Momentum Building Services, LLC

To Whom It May Concern,

This letter is to confirm Excel Contractor, LLC's and the Named Insured entities referenced above current Experience Modification Rate (EMR) is as follows:

PERIOD	EMR
10/01/2024 - 10/01/2025	0.58
10/01/2023 - 10/01/2024	0.82
10/01/2022 - 10/01/2023	0.90
10/01/2021 - 10/01/2022	0.85
10/01/2020 - 10/01/2019	0.74

Sincerely,

[redacted]

David D. Nichols
Senior Vice President
Construction Risk Services

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT G

QUALITY CONTROL MANUAL

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To establish the basis of operations to ensure that construction activities and work in place conform to approved drawings and specifications, applicable codes and standards, contractual requirements, and the EXCEL Quality Control Program Manual.

1.1.2 To give practicable construction site position titles to EXCEL Operation.

1.2 Scope

1.2.1 This procedure applies to both force account (direct hire) and subcontracted construction activities under the responsibility of EXCEL unless otherwise established by contract or corporate management.

2 REFERENCES

2.1 EXCEL Engineering Manual

2.2 QMS-1003 Quality Control Functions, Responsibilities, Training & Qualifications

2.3 QMS-1004 Technical Document Control

2.4 QMS-1005 Quality Control Records, System Tracking and Reporting

2.5 QC.02.3001 Nonconformance and Stop Work Reporting

2.6 QC.02.3002 QC Interface with Clients and Subcontractors

2.7 QC.02.3003 Material and Equipment Receipt, Control, Storage and Maintenance

2.8 QC.02.3004 Measuring and Test Equipment

2.9 QC.02.3005 Welding & NDE

2.10 QC.02.3006 Job Quality Assessment

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 None

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.2 Management Responsibility

4.2.1 Specific duties and responsibilities of personnel outlined in this procedure are generic and functional in nature and are subject to modification and/or delegation to allow for effective implementation under varying site organizational conditions.

4.2.2 This program has been developed to effectively provide an organized, planned approach to ensure that applicable construction activities are performed in compliance with specified engineering and contract requirements, whether the work is subcontracted or performed by force account (direct hire). An essential part of this program is to monitor various construction activities, bringing to the attention of responsible personnel those conditions that need attention or rework to correct and/or resolve them prior to presenting completed work for formal acceptance.

4.2.3 The quality accountability aspects of this program will assist the construction site staff in identifying those problem areas requiring closer attention to prevent or mitigate the effects of repetitive problems.

4.2.4 Vice President (VP) and Director of Quality Control (DQC)

The VP, and the DQC shall determine how and to what degree this program will be implemented. This determination will normally be made based upon, but not limited to, the following:

- Size of the project
- Scope of work
- Whether the work will be performed force account (direct hire) or subcontracted
- If subcontracted, whether the subcontractor will implement their own quality program (as accepted by EXCEL) or work to the appropriate sections of this Construction Quality Program (QCP)
- Past experience
- Owner and contractual considerations

4.2.5 Vice President (VP)

The VP is responsible for reviewing and approving the Construction Execution Plan and ensuring that the QCP is implemented, consistent with the plan's requirements, and for operational aspects of construction activities for EXCEL's Construction.

4.2.6 Director of Quality Control(DQC)

The DQC is responsible for coordinating the project quality control activities in a staff capacity. This shall generally include participation in the following areas: program establishment at the construction site, program monitoring activities, nonconformance resolution, field assistance and program close-out guidance.

The DQC assures assessments of the Construction Quality Control Program as deemed necessary during the life of the construction activities to verify compliance. Perform the necessary quality planning activities to ensure consistency with other requirements of the quality system and suitability to meet project quality objectives as stated in the construction execution plan. Such activities should include:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Preparation of the job specific Construction Quality Program Manual if required; identification of the requisite controls, inspection equipment and personnel skills needed; ensure compatibility of construction processes and procedures with the inspection and test procedures and documentation; identify the inspection required at various stages of construction and provide clarification of acceptability standards.

The DQC evaluates the need for formal qualification of personnel performing specialized operations, processes, assessments, tests or inspections and ensure qualification needs are satisfied.

4.2.7 Quality Control Manager (QCM)

If the construction is force account work (direct hire), the QCM is responsible for implementing Quality Control on the site in accordance with the Quality Control Program Manual and the Construction Execution Plan. This includes hiring (with site approval) and supervision of EXCEL staff/contract quality control inspectors as needed to meet project needs.

The QCM is responsible for the administration of the Construction Quality Program (QCP) at the construction site. Their functions and reporting responsibilities are addressed in Reference 2.2.

4.2.8 Quality Control Inspector (QCI)

The QCI is responsible for monitoring and inspecting field activities to ensure compliance with the requirements of the project specifications and codes. The QCI shall coordinate all required testing activities (e.g., soil testing, grout testing). The QCI will monitor, perform in-process and final QC inspections and test and secure required signatures from Client for final acceptance. Records will be maintained of all test reports and signoffs. Certifications of testing personnel and certificates for testing equipment must be submitted and approved by the Client.

4.2.9 Subcontractor

If the construction is subcontracted, the construction subcontractor is responsible for supplying their own quality personnel and will be responsible for quality and for implementing the measures necessary to achieve and document the compliance to specified requirements. Subcontractors are required to comply with their own accepted program or the EXCEL Quality Control Program (QCP) as applicable. Subcontractor quality programs shall contain the necessary quality procedures and documentation forms for implementing the quality program. The Subcontractors Quality Program shall include provisions for agreed EXCEL and Client hold and witness points.

The QCM is responsible for monitoring subcontractor construction and quality control to the extent necessary to provide construction management with adequate confidence that appropriate measures are taken by the subcontractors to control and achieve quality. Reference 2.6 *"QC Interface with Clients and Subcontractors"* describes the Company Quality Control interface with subcontractors and Reference 2.10 "*Job Quality Assessment"* describes the Job Quality Assessment and its administration.

4.2.10 Construction Site Manager (CSM)

The CSM is responsible for implementation of this program at the construction site. The title "Construction Site Manager" applies to the EXCEL representative who is assigned overall responsibility for site construction activities. When conditions adverse to proper program execution are identified, the CSM shall initiate timely corrective actions,

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

coordinating activities with the QCM, and responsible Superintendent/Engineers to resolve the problem and prevent recurrence.

4.2.11 Area Site Manager (ASM)

The ASM is responsible for the overall quality of work performed by construction personnel for his assigned area, and shall have full responsibility for the direction of the work. The title "Area Site Manager" applies to the EXCEL representative who is assigned overall responsibility for site construction activities in a particular area. The ASM is responsible for providing input to the area plan and provide training for field personnel on the requirements of this procedure. The ASM shall delegate assignments and monitor the performance in the assigned area to assure the requirements of the Procedures are properlyimplemented.

4.2.12 Project Engineer (PE)

The PE is the responsible engineering liaison between the site and the design engineering organization and for supervision of the technical staff at the field office. The PE is also responsible for maintaining site files to provide accurate, current information, including drawings, schedules, correspondence, purchase orders, and other field-originated data, and for the retention of records generated as a result of the QCP (Reference2.1).

4.2.13 Responsible Superintendent (RS)/Field Engineer (FE)

The RS/FE is responsible for directing and/or overseeing assigned construction work. Additionally, the RS/FE is responsible for verifying and documenting that work in progress is performed in accordance with applicable specification, drawing, and procedural requirements; maintaining an up-to-date status of construction progress; and informing responsible personnel about unsatisfactory items, while ensuring that corrective actions are taken to resolve these conditions. The RS is responsible to supervise and coordinate the manpower, tools and equipment required to accomplish site excavation and backfill operations in a safe and productive manner, to ensure that construction workers are qualified to perform the work, to develop the weekly work plan for all activities and to ensure the quality of workmanship.

4.2.14 Responsible Person (RP)

The RP is the individual on the construction team responsible for directing work (e.g., Craft Supervisor, General Foreman). The RP is also the front line supervisor for craft workmanship and maintaining a safe working environment.

4.2.15 Planner Scheduler

The PS is responsible for assisting the Superintendents in planning and scheduling the installation activities.

4.2.16 Systems Turnover Manager (STM)

The STM is responsible for providing liaison between the construction and testing/commissioning authority. The STM is responsible for supervision and assignment of the System Turnover Supervisors (STO), System Foremen (SF) and Field Engineers (FE)necessary to provide technical support, and assist the RS, RP, and QCI with the project requirements along with demands of the site. The STM is responsible for providing input as needed on quality control documentation requirements.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.2.17 Subcontracts Administrator

The Subcontracts Administrator is responsible for the administration of contracts, including maintenance of accurate, current contract status information in the site master contract files (Reference 2.1).

5 PROCEDURES

5.1 Quality System Overview

5.1.1 The primary objective of this quality system is to ensure that construction conforms todrawings and specifications. A second objective is to produce auditable quality records that will provide written confirmation that the primary objective has been met. The program is primarily aimed at preventing nonconformances to drawings and specifications but provides the means to detect and correct them if they occur.

5.1.2 The Construction QUALITY MANAGEMENT SYSTEM (QMS) describes the construction quality control system and the methods applied by the construction staff to obtain quality in construction. The manual is the governing document for EXCEL's construction quality control system and will be maintained and implemented to achieve project quality objectives. The quality control system provides for administration, construction quality procedures and documentation of construction quality activities.

5.1.3 Implementation of the Quality Control administrative activities requires the participation of the Construction Management team.

5.1.4 The methods by and degree to which the requirements of the program are invoked on a subcontractor will be established in the contract documents. The QMS procedures detailing the control and monitoring of fabrication and erection activities (contained in the QMS) provide descriptions of responsibilities and documentation requirements for both force account (direct hire) and subcontracted work. The responsibilities and documentation requirements contained in this Manual are typical for large construction projects. The Quality Control Program may be tailored to meet individual project requirements and needs. Inspection criteria in each section can be adapted/revised to show actual contract quality requirements.

5.2 Contract Review

5.2.1 EXCEL management shall review the initial contract for projects to assure that EXCEL has the capability to meet the contractual requirements, the requirements are adequately defined andthe requirements are the same as the tender documents or the differences resolved. The resultant schedules, bid/budget estimates, organization charts, alignment meetings, owner meetings, etc., provide evidence that a thorough review of the prime contract has occurred. Amendments tothe contract are also reviewed in a similar manner. Documentation of this review shall be maintained in the project documentation files.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.3 EXCEL Engineering Manual (Reference 2.1)

5.3.1 The EXCEL Engineering Manual, shall be referenced for design control requirements to identify, document and ensure the appropriate reviews and approvals of changes and modifications to design documents that are requested by field personnel.

5.3.2 The EXCEL Engineering Manual shall be referenced for document and data control requirements to control documents and data to ensure the latest applicable drawings, specifications and instructions required by contract documents as well as authorized changes thereto are used for fabrication, inspection and testing. Reference 2.4 *"Quality Control Records, System Tracking and Reporting"* shall apply to technical document control on the construction site.

5.3.3 The EXCEL Engineering Manual shall be referenced for purchasing requirements for field procurement and documentation of products purchased by EXCEL.

5.3.4 The EXCEL Engineering Manual shall be referenced for control of customer supplied product requirements that are to be incorporated into the work.

5.3.5 Typically, identification and traceability requirements for equipment and materials are defined in the contract specifications and purchase orders. The purpose of the identification and traceability system is to prevent the use of incorrect or defective items. This topic is further addressed in in the EXCEL Engineering Manual and the "*Material and Equipment Receipt, Control, Storage and Maintenance" (Reference 2.7)*.

5.4 Process Control

5.4.1 Specifications and codes establish the quality criteria and requirements for the processes of welding, heat treatment, nondestructive examination and pressure testing. Procedures shall be prepared to control these processes. The requirements for these procedures include personnel and procedure qualifications, materials, tests and examinations, and documentation.

5.4.2 Project specifications contain the requirements for controlling welding. The referenced Codes establish requirements for welding procedure, material and welder qualifications. Construction site welding control is addressed in Reference 2.9 *"Welding and NDE"*.

5.4.3 Specifications and codes establish the requirements for Nondestructive Examination (NDE). Construction Management is responsible for ensuring that required NDE tests and examinations are accomplished and documented. NDE is addressed in Reference 2.9 "*Welding and NDE"*.

5.5 Inspection and Testing

5.5.1 Appropriate procedures shall be used for inspection and testing activities to verify that the purchased materials and constructed items meet the requirements of the purchasing/contract documents, Reference 2.7 *"Material and Equipment Receipt, Control, Storage and Maintenance"*.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.5.2 Equipment, components, and materials received in the field require inspection to varying extent based upon the type and criticality of the item, extent of shop inspection, project requirements and EXCEL experience. Incoming items will be held until the required receiving inspections are completed (Reference 2.7).

5.5.3 The Field Construction organization has primary responsibility for quality and will implement the measures necessary to build quality into the work and perform pre-commissioning, checkout and testing requirements in accordance with drawings, specifications and contractrequirements.

5.5.4 Inspection measures to be applied are presented in this QMS and are generally contained in the applicable sections by construction discipline. These procedures provide for the in-process inspections and tests necessary to determine that the product is acceptable and for the documentation to record compliance with the established acceptance criteria. Adequate inspection will be performed to cover construction operations. The work shall be inspected for quality, workmanship and completeness.

5.5.5 Records that provide evidence that the constructed items have passed inspection and/or testing in accordance with the engineering design shall be prepared and maintained as a Quality Record in accordance with Reference 2.4 *"Quality Control Records, system Tracking and Reporting"*.

5.6 Control of Inspection, Measuring and Test Equipment

5.6.1 Inspection, measuring and testing equipment (M&TE) and devices used for acceptance inspections shall be controlled and maintained by the organization performing the measurements or tests in accordance with Reference 2.8 "*Measuring and Test Equipment"*.

5.7 Inspection and Test Status

5.7.1 A system to identify inspection and test status and acceptability of items throughout fabrication, test and field installation shall be established in accordance with the Quality Control Records and Nonconformance procedures (References 2.4 and 2.5).

5.8 Control of Nonconforming Products

5.8.1 Measures shall be taken to ensure that any feature of the work containing uncorrected deficiencies is not built upon or concealed until satisfactorily corrected or the disposition approved by designated authority. Acceptance authority of conditions which violate contract requirements belongs to Design Engineering and/or Client. Any authority delegated to EXCEL will be established in writing. Repair or rework of nonconforming material shall be performed in accordance with approved procedures. Control of nonconforming product on construction site is addressed in Reference 2.5 "*Nonconformance and Stop Work Reporting"*.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.9 Corrective and Preventive Action

5.9.1 The QCP requires prompt identification of nonconforming or unsatisfactory conditions. This identification occurs as a result of inspections, examinations, tests, reviews and assessments by Corporate Office and/or field personnel. Corrective and preventive actions are initiated upon discovery of conditions adverse to quality that are identified in nonconformance reports, inspection reports, OS&D (Over, Short and Damage) reports, receipt inspection deficiency reports or assessment reports. The corrective and preventive action taken should correspond to the level of risk encountered and the impact that the activity has on the project costs, schedules, safety, quality, performance and client satisfaction. Selection of the appropriate corrective and preventive action should be coordinated between the Construction Site Manager (CSM) and the Construction Site Quality Control Manager (QCM) and the Project Engineer (PE). Corrective and preventive action will extend to the performance of suppliers and subcontractors.

5.9.2 In implementing the corrective and preventive action process, the Construction Site Quality Control Manager and staff will perform the following:

5.9.2.1 Evaluate the nonconforming or unsatisfactory condition in conjunction with the Construction Supervisor/Engineer to determine the need for corrective action.

5.9.2.2 Determine the cause of the nonconforming or unsatisfactory condition, analyze trends and institute prompt corrective action measures to prevent recurrence of these conditions.

5.9.2.3 Follow up by assessment/surveillance or other appropriate means to verify that the corrective and preventive action was effective.

5.9.2.4 Document and report to appropriate levels of management the cause of the conditions and the corrective/preventive action taken.

5.10 Handling, Storage, Packing, Preservation and Delivery

5.10.1 Handling, Storage, Packing, Preservation and Delivery shall be in accordance with Reference 2.1 *"EXCEL Engineering Manual"* and 2.17 "*Material Receipt and Control"* and 2.18 *Material and Equipment Storage and Maintenance* shall be followed to document and track the handling, storage, packing, preservation and delivery of materials and equipment.

5.11 Control of Quality Records

5.11.1 The Construction Quality Program provides for maintaining control of records of inspections and tests. These records shall be addressed in accordance with Reference 2.13 "*Quality Control Records, System Tracking and Reporting"*.

5.11.2 The maintenance of quality control records is decentralized, under the control of the individual/department responsible for the quality of the work being performed, including subcontractors, until the work is completed (Reference 2.1).

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.12 Internal Quality Assessments

5.12.1 The Director of Quality Control shall prepare a schedule of site quality assessments to verify compliance to the requirements of the EXCEL Quality Control Program, Construction Procedures and the Construction Execution Plan. The assessments shall be planned in such a manner to evaluate site control of construction activities. The assessment schedule shall be coordinated so that construction quality program implementation and effectiveness have been assessed at least once during the construction duration depending on the size and type of project. Site control of subcontractor's work shall also be included in the assessment schedule incorporating the requirement of the *"EXCEL Engineering Manual"* (Reference 2.1). Where project size, duration or location warrant, responsibility may be delegated to the Construction Site Quality Control Manager.

5.12.2 The Director of Quality Control or his qualified designee shall select and train the assessed personnel (when required) in assessment techniques and assist in the preparation of assessment checklists. Documentation of this training shall be maintained as a Quality Record.

5.12.3 Assessment findings shall be presented to the Construction Site Manager, Project Engineer and Site Quality Control Manager in an exit meeting at the end of the assessments. Assessments shall be documented on an assessment report. The implementation and effectiveness of Assessed personnel's corrective action shall be verified to the satisfaction of the Assessor or the Director of Quality Control.

5.13 Training

5.13.1 Orientation of the construction staff shall be conducted to ensure an understanding of the Quality Control Program and of the tools and techniques to be used in the operation of the program requirements and 2.14 "*Quality Control Functions, Responsibilities, Training and Qualifications"*.

5.14 Quality Control Program

5.14.1 The extent to which the QCP is to be implemented for each individual project is addressed in the Construction Execution Plan, prepared in accordance with Reference 2.1 "EXCEL's Engineering Manual".

5.14.2 In situations where construction activities will be accomplished by a subcontractor, the conditions of the contract shall be reviewed and applicable procedural and contractual requirements shall be included in the Construction Execution Plan in accordance with Reference 2.1.

5.14.3 The construction subcontractors have primary responsibility for quality and are to implement the measures necessary to build quality into the product and perform inspections, mechanical completion checkout and testing requirements in accordance with the drawings and specifications and contract requirements.

5.14.4 The frequency of in-process monitoring and verification activities shall be consistent with the construction progress and specification requirements, in addition to past performance; i.e. the

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

frequency maybe increased or decreased if the quality of workmanship warrants. Those activities showing a higher incidence of problems or difficulty shall be given special attention in an effort to determine their root cause.

5.14.5 Authority for control and/or oversight of construction activities at the site rests with the Construction RS/FE and the CSM, in conjunction with the QCM. The start and termination of any activity must be authorized through the RS/FE and adhere to the followingcriteria.

5.14.5.1 Work shall not start until specified preconditions and prerequisites have been met including an understanding of the task requirements by involved personnel.

5.14.5.2 Work shall not proceed beyond specified inspection points without proper authorization. QCP activities shall be planned to preclude undue delays in the work at inspection points. Construction schedules shall allow adequate time for required inspections.

5.14.5.3 If it is observed that work is not conforming to specifications and drawings, the RS/FE shall initiate prompt corrective action.

5.14.6 In situations where continued work would cause damage to permanent plant equipment, systems, or structures, jeopardize the safety of personnel, preclude further inspection, or render corrective actions ineffective, the CSM shall stop the work in progress. This will be consistent with Reference 2.5, *Nonconformance and Stop Work Reporting,* until an adequate resolution is provided.

5.14.7 Turnover of construction work to the testing or commissioning authority shall be in accordance with project procedures. The RS/FE, in conjunction with the QCM, shall resolve any open items affecting a component or system, or portion thereof, being turned over to the Plant Services/Operations group or Client.

5.14.8 Quality Control (QC) Documentation Forms, Construction Supervisor Reports, Nonconformance Reports, and punch lists (if applicable), in addition to providing the basis for controlling, dispositioning, and correcting reported conditions, shall provide the basic input to the site quality accountability program.

5.14.9 The QCM shall prepare a monthly quality report for the CSM that summarize the information contained in the various Quality Control, Nonconformance, and Construction Supervisor Reports from the previous report period.

5.14.10 The CSM shall review the reports and, if necessary, convene and chair a quality meeting with the project's management staff and, if warranted, representatives of subcontractors which, as indicated by the data, show a high incidence of problems. Normally these meetings will be conducted in conjunction with regular project planning and coordination meetings. The object of the meeting is to review the reports, establish responsibilities, and identify specific courses of action to resolve the problems and/or minimize the potential of the problems reoccurring. These efforts shall also assess the effectiveness of previously assigned preventative actions to assure a cooperative and coordinated effort in solving problems. The results of these meetings shall be summarized in

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

the QCM's quality report, with copies distributed to the Construction Site Manager and the Director of Quality Control.

6 FORMS (SEE SECTION IV)

6.1 None

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To define the construction site position titles to quality control functions, responsibilities and the training process for all personnel.

1.2 Scope

1.2.1 This procedure applies to both force account (direct hire) and subcontracted construction activities under the responsibility of EXCEL unless otherwise established by contract or the Construction Execution Plan.

1.2.2 This procedure is to be implemented in conjunction with the EXCEL Project Quality Plan (PQP).

1.2.3 This procedure is to ensure that personnel assigned to a project are properly trained in their primary craft area. In addition, supervisory personnel charged with the management and leadership on a project must have the necessary skills to effectively carry out the requirements of their positions.

1.2.4 This procedure is intended to familiarize all field personnel with site specific training requirements. In addition, it is also intended to refresh all field personnel on additional construction skills topics.

2 REFERENCES

2.1 QMS Procedures and Forms

2.2 QMS-1002 Basis of Operation

2.3 QMS-1007 Project Quality Plan (PQP)

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 NCCER – the National Center for Construction Education and Research is not-for-profit education foundation created to develop industry-driven standardized craft training programs with portable credentials and help address the critical workforce shortage facing the construction industry.

4.1.2 NCCER Skill Assessment – is a series of journey level assessments. These assessments evaluate the knowledge and skill level of an individual in a specific craft area. All assessments are based upon the Contren Learning Series curriculum and have been developed in conjunction with Prov, NCCER's test development partner. Prov stores all test results allowing customers to access scores and obtain historical performance summaries.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.1.3 ABC – the Associated Builders and Contractors is a training facility that offers craft training programs for the construction and maintenance industries. At ABC, craft training begins with learning the core skills that provide the foundation needed to work for all the other crafts in the NCCER curriculum. These skills include math, basic communication, introduction to blueprint reading, the proper use of power tools and especially safety. Once the core skills are complete, specific craft courses begin. The ABC courses combine learning in the classroom with hands-on training, giving students the preparation needed to successfully enter the industry.

4.1.4 Project - Project shall mean the work at a field location(s) designated by Excel Contractors, where fabrication, construction or installation is performed under the controls specified in this Manual.

4.2 Responsibility

4.2.1 Corporate Office

4.2.1.1 Vice President of Operations

The Vice President (VP) of Excel Contractors reports to the President of Excel Group concerning cost, schedule, technical compliance, and contractual commitment for each project.

4.2.1.2 Construction Manager

The Construction Manager (CM) of Excel Contractors, Inc. reports to the Vice President of Excel Contractors, Inc. and is responsible for managing all field activities for all projects.

4.2.1.3 Director of Quality Control (DQC)

DQC reports to the Chief Operating Officer (COO) of Excel Contractors, Inc. concerning corporate policies and project concerns that may affect the Quality Control System.

4.2.2 PROJECT MANAGEMENT (FIELD SITES)

Project Management shall mean all personnel assigned to a Project responsible for administrative, operational, and supervisory control of the work. This organization may consist of a Site Manager, Project Engineer, Project Management Staff, Project Controls Staff, Craft Superintendents, General Foremen, Foremen, and any other classifications as deemed necessary by the Site Manager. Project Manager, as used in this Manual, shall refer to the senior Project Supervisor regardless of actual classification. In a general context, this organization shall be referred to as Project Management throughout this Manual, unless specific reference is required

4.2.2.1 Site Manager (SM)

The SM reports to the Project Manager and is responsible to plan, direct, and supervise the manpower and work activities at the Project. SM also ensures this program is appropriately implemented at the construction site. SM as used in this Manual, shall refer to the Senior Project Supervisor regardless of actual classification. In a general context, this organization shall be referred to as Project Management throughout this Manual, unless specific reference is required.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The SM with the concurrence of the QCM, may utilize personnel other than their assigned quality control function provided they are qualified for the additional function(s).

4.2.2.2 Area Site Manager (ASM)

ASM is responsible for the overall quality of work performed by construction personnelfor their assigned area. The ASM is responsible for providing input into the training plan and providing training for field personnel on the requirements of this procedure. The ASM shall delegate assignments and monitor the performance of Superintendents to ensure the requirements of EXCEL are properly implemented.

4.2.2.3 Responsible Superintendent (RS)

RS is responsible for the overall quality of work performed by construction personnel for their assigned area. The RS shall delegate assignments and monitor the performance of the field supervisors to ensure the requirements of EXCEL are properly implemented.

4.2.2.4 Responsible Person (RP)

RP is the individual on the construction team responsible for the onsite training plan (e.g., Craft Supervisor, General Foreman). The RP is also the front-line supervisor for craft workmanship and maintaining a safe working environment.

4.2.2.5 Quality Control Group

The Quality Control Group shall mean all personnel responsible for the Quality Control functions, and may include Quality Control Management, Supervisors and Inspectors. In general context, this organization shall be referred to as Quality Control throughout this Manual, unless specific reference is required. Quality Control shall verify that work activities are being conducted in accordance with client specifications, State and Federal Requirements and applicable Codes, or approved written procedures to achieve the prescribed quality requirements to fabricate, construct, or install materials, systems and components

4.2.2.5.1 QUALITY CONTROL MANAGER (QCM)

QCM is responsible for the day-to-day administration of this program at the construction site and shall report directly to the SM. He shall also have an indirect reporting responsibility to the Director of Quality Control (DQC) for clarification of construction site quality issues. The QCM shall have the authority and organizational freedom to independently identify construction problems and to initiate corrective actions, as necessary. Corrective actions shall be forwarded through the SM to assure compliance with engineering, contract, and procedural requirements.

QCM is responsible for scheduling, performing, and documenting periodic verifications and independent inspections to confirm overall program implementation and effectiveness for both direct hire and subcontractor performed construction. Problems that cannot be resolvedbetween the SM and the QCM shall be brought to the attention of the DQC for a resolution.

QCM shall ensure that EXCEL and Subcontractor quality control personnel are appropriately qualified and certified to perform the quality functions to which they are assigned. Assure that required inspections and tests are performed and documented in accordance with this program and the engineering design.

QCM shall establish an appropriate interface with Subcontractors, the PE, the STM, and the Client to assure a collective, uniform understanding of requirements and expectations. Personnel performing quality control inspection

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

functions shall have a direct reporting responsibility to the QCM for matters affecting quality. Specific numbers and functional categories of personnel assigned to construction site quality control will be adjusted to meet the needs of each type and size project. Certain quality control functions may be delegated to qualified craft supervisory personnel. The QCM shall approve subcontractor quality control personnel assignments, in accordance with contract requirements.

4.2.2.5.2 QUALITY CONTROL SUPERVISOR

Quality Control Management has a direct line function reporting to the Quality Control Manager concerning the implementation of the Quality Control Manual and Code Compliance. Quality Control Management shall be an employee of Excel Contractors, Inc. They shall have organizational freedom to carry out duties, including the notification to Site Management in charge of the activities to stop work in areas where nonconformance of written procedures have been identified.

4.2.2.5.3 QUALITY CONTROL INSPECTORS

Quality Control Inspectors shall have a direct line function reporting to Quality Control Supervisor concerning surveillance, inspection, examination, documentation, and records required by the Quality Control Manual and the applicable codes and standards.

4.2.2.6 Materials Manager

The Materials Manager (Materials Control) reports to the Site Manager and is responsible for providing the necessary personnel for project procurement, receiving, and issuance of materials, components, and parts. Materials Manager is responsible to obtain any required Quality Control approvals of procurement and receiving inspections.

4.2.2.7 Training Supervisor (TS)

TS is responsible for supervising and coordinating the training sessions, to ensure that construction workers are qualified to perform the work, to develop the weekly training plan for field personnel, and to ensure the quality of workmanship. The TS shall also define additional construction skills topics that will be addressed monthly.

5 PROCEDURES

5.1 Construction Site Inspection Functions

5.1.1 The construction site inspection functions are universal and can generally be applied to subcontracted work as well as direct hire construction.

Construction Site Quality Control Management	Construction Site Quality Control Manager/ Project Engineer/Construction Superintendent (Multi-discipline)
Electrical Inspection	Electrical Inspector
Instrumentation Inspection	Instrument Inspector

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Civil Inspection	Civil Inspector/Field Engineer/Construction Superintendent (Civil Craft Supervisor)
Mechanical Inspection	Mechanical-Millwright Inspector/Field Engineer/Construction Superintendent (Mechanical-Millwright Craft Supervisor)
Piping Inspection	Piping Inspector/Field Engineer/Construction Superintendent (Pipe-fitter Craft Supervisor)
Welding Inspection/NDE	Welding-NDE Inspector/Construction Superintendent (Welding Craft) /NDE Subcontractor (NDE only)
Coatings Inspection	Painting-Insulation Inspector/Field Engineer/Construction Superintendent (Painting-Insulation Craft)/Civil Inspector or equal for fireproofing.
Materials Inspection	Materials Inspector/Field Engineer/warehouse Supervisor/Construction Superintendent (Craft Specific)

5.1.2 Electrical Inspection – shall conduct visual inspections, measurements, and tests on electrical systems and components to ensure compliance with project specifications, drawings, codes, standards, and regulations. Verifying the proper installation of electrical equipment, wiring, cables, conduits, fixtures, and devices according to approved plans, specifications, and industry standards. Inspecting and verifying the quality and suitability of electrical materials, components, and equipment, including cables, wires, transformers, switchgear, panels, and control systems, to ensure conformity with project requirements. Conducting electrical tests, including insulation resistance tests, continuity tests, voltage tests, ground tests, and functional tests, to verify the performance, safety, and functionality of electrical systems and components and maintaining the records of inspections and findings.

5.1.3 Instrument Inspection - Visually inspect, measure, test, and audit equipment and materials. Record inspection results, findings, and recommendations in reports. Recommend corrective actions, repairs, or replacements. Work with project teams, contractors, vendors, and clients. Ensure that systems and components meet safety and quality standards. Recognize defects or non-conformities. Guide technical staff on regulatory compliance and best practices.

5.1.4 Civil Inspection - shall include inspection, examination and testing of soils, piling, reinforcing steel, concrete, paving, fencing, railroads, structural steel and buildings. These inspections include both direct hire and subcontractor work. Inspection includes completion and sign-off of appropriate civil quality control documentation (Reference 2.1, Section IV).

5.1.5 Mechanical Inspection - shall include inspection, examination and testing of fixed and rotating mechanical equipment. These inspections include both direct hire and subcontractor work. Inspection includes verification of inspection/test equipment, and completion and sign-off of appropriate mechanical quality control documentation (Reference 2.1, Section IV).

5.1.6 Piping Inspection - shall include inspection, examination and testing of underground piping, aboveground piping and pipelines. These inspections include both direct hire and subcontractor

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

work. Inspection includes verification of test equipment, and completion and sign-off of appropriate piping quality control documentation (Reference 2.1, Section IV).

5.1.7 Welding Inspection/Nondestructive Examination (NDE) - shall include control, inspection, examination and testing of construction welding. These activities include both direct hire and subcontractor work. Inspections include verification of procedures, equipment and personnel; weld/NDE tracking; visual weld inspection; PWHT; NDE performance and reporting review; completion and sign-off of appropriate welding/NDE records (Reference 2.1 Section IV).

5.1.8 Coatings Inspection - shall include inspection, examination and testing of coating application and materials. These inspections address painting, insulation, fireproofing and coating of underground piping and shall include both direct hire and subcontractor work. Inspection includes verification of inspection equipment, and completion and sign-off of appropriate coatings documentation (Reference 2.1 Section IV).

5.1.9 Materials Inspection - shall include receipt inspection, storage inspection and preventive maintenance inspection for materials or equipment to be incorporated into the permanent construction. Inspection includes completion and sign-off of appropriate materials documentation (Reference 2.1 Section IV).

Note: All received lifting equipment shall be inspected by the construction site Safety Representative before release for use.

6 TRAINING

6.1 EXCEL has developed a training program for all levels of employment. Some of this training will be accomplished through a computer-based training program that all newly hired and transferred employees must complete and pass prior to assignment. The balance of this training as well as selected site-specific training will be conducted by competent trainers onsite. Records of training will be made available upon request through the document control process. The content of this training consists of a web-based training program through the area safety councils. Records of this training are kept in a database by the safety council, as well as the EXCEL HR Department.

7 SITE SPECIFIC TRAINING

7.1 Site Specific Training will be conducted for all new hire employees. The Training Supervisor (TS) will be responsible for coordinating all initial training onsite. The following areas will be covered:

- Project Orientation
- Firewatch
- Hole watch
- Confined Space Entry

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Aerial Lifts
- Extended Boom Forklifts

7.2 All site-specific training is documented in the *"Training Record"* log (Reference 6.1). The TS will be responsible for managing all training data that is collected for the project. Additional training will be available as the project goes forth.

7.3 Prior to executing a task, all workers shall perform a "Job Safety Analysis" or JSA. This written plan shall provide a vehicle for the employee, crew, and supervisor to identify, recognize, and eliminate hazards prior to the task being performed.

7.4 EXCEL Supervision, Site Management, and/or Safety professionals shall randomly assess this process. The assessment shall review the JSA for accuracy of hazard identification, assurance that crews have included proper field planning; and assurance of following the safe plan identified. Deficiencies shall be reviewed with the crews and corrected.

7.5 Pre-construction meetings shall be held prior to performing activities in an area to verify the construction and safety requirements. This meeting shall include as appropriate, but not be limited to the Area Site Manager (ASM), Responsible Superintendent (RS), Responsible Person (RP), and required field craftsman. This meeting shall present the selected witness and/or hold points requiring their verification. Informal meetings of interested parties may be held during the work process as needed.

8 ABC ENROLLMENT

8.1 The ABC Construction Training Center has regularly scheduled craft training classes in the core, electrical, instrumentation, millwright, boilermaker, pipefitting, civil carpentry, industrial painting, industrial insulation, welding and construction site safety technician. A local ABC Chapter will be utilized for all craft training requirements.

9 FORMS (SEE SECTION IV)

9.1 QC.04.1003A TrainingRecord

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

10 REVISION HISTORY

10.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 The purpose of this section is to establish responsibility for the control of all documents required for work to fabricate, construct or install materials, systems, components, or parts under the guidelines of applicable codes, client specifications and State and Federal Requirements and ensuring engineering documents and changes are received, distributed, tracked and controlled.

1.2 Scope

1.2.1 This procedure applies to both force account (direct hire) and subcontracted work. The scope of this section includes receiving, logging, storing, maintaining, reviewing, distributing, retrieving, and documenting the control of documents at the Project. Documents requiring control shall include, but are not limited to, any reference document subject to revision such as specifications, drawings, procedures, design calculations, and subsequent revisions thereof.

2 REFERENCES

2.1 EXCEL Engineering Manual

2.2 QMS-1007 Project Quality Plan (PQP)

2.3 QC.02.3001 Nonconformance and Stop Work Reporting

2.4 QC.02.3006 Job Quality Assessment Procedure

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 None

4.2 Responsibilities

4.2.1 Construction Site Manager

4.2.1.1 The CSM is responsible for ensuring that the requirements of the Technical Document Control Procedure are properly implemented.

4.2.2 Project Engineer (PE)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.2.2.1 The Project Engineer or assignee is responsible to establish and implement the construction site technical document control system in accordance with Reference 2.1 the "EXCEL Engineering Manual" to assure construction site personnel use the latest approved documents for construction.

4.2.3 Quality Control Manager (QCM)

4.2.3.1 The QCM is responsible for the document control of turnover in accordance to Reference 2.2 PQP. The QCM is responsible for assessments and deficiencies reporting for project documentation.

5 PROCEDURE

5.1 The QCM shall coordinate with the Project Engineer or Designee, Subcontractors, System Turnover Representatives, and the Client to assure a uniform understanding and agreement of document control procedures.

5.2 The QCM or designee shall perform routine scheduled assessments/surveillances of construction site document control in accordance with Reference 2.4 "Job Quality Assessment Procedure". Assessment shall include review of documents used at the construction sites.

5.3 Document Control deficiencies shall be addressed in accordance with Reference 2.3 "Nonconformance and Stop Work Reporting".

5.4 This procedure shall establish guidelines for standardization of format for correspondence and written documentation.

5.5 All applicable project documents shall be received and reviewed at the Project by the individual(s) designated by Site Management. The individual(s) responsible for receipt and review shall:

5.5.1 Verify all transmitted documents are received, collected, logged and distributed in a controlled manner. Any documents that are determined to be unaccounted for shall be reported to Site Management. Site Management shall resolve the document deficiencies prior to acceptance.

5.5.2 Record the document number, title, and revision number of each document on a document log form or computer file.

5.5.3 A documentation numbering system and a document distribution matrix shall be developed for the construction site distribution.

5.5.4 Maintain a current revision of each received document transmitted.

5.5.5 Verify the required number of copies are distributed to appropriate project personnel, the Quality Control Group and the Inspector, as requested.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.5.6 Review the original issues and revisions for scope of work and/or design changes and notify Project Management and the Quality Control Group of design changes.

5.5.7 Maintain a transmittal system to ensure that initial release and revisions of Project Documents are issued to appropriate Project Management, Craft and Quality Control Group personnel and other organizations or personnel. The transmittal shall contain document number, revision number, title, and quantity, issued to. Alternate forms may be utilized provided they contain the same information to assure compliance. The recipient shall acknowledge receipt by signing the transmittal and returning a copy of it to Document Control.

5.5.8 Retrieve, and mark void on the superseded copies of the appropriate project documents.

5.5.9 Records shall be suitably protected during retention to preclude damage, deterioration or loss.

5.5.10 A change control program shall be established and implemented.

5.5.11 An "As-Built" program shall be implemented to assure approved deviations from the engineering design are captured for incorporation into final deliverables.

5.5.12 Record documents shall be properly dispositioned at construction site closeout.

6 QCP FORMS (SECTION IV)

6.1 None

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

Purpose

1.1.1 To establish a system for construction personnel to identify and document the results of field inspections and tests.

1.1.2 This procedure sets forth requirements for recording the results of construction site examinations, inspections and tests.

1.1.3 To ensure that construction quality control elements related to systems turnover are planned and implemented in a defined, orderly manner.

Scope

1.1.4 This procedure applies to force account (direct hire) construction activities. This procedure may also be applied to subcontractors when invoked by contract documents.

1.1.5 Deficiencies identified during in-process monitoring and final inspections, shall be documented and tracked in accordance with the Project Quality Plan.

2 REFERENCES

2.1 EXCEL Engineering Manual
2.2 EXCEL QMS
2.3 QMS-1007 Project Quality Plan (PQP)
2.4 QC.02.3001 Nonconformance and Stop Work Reporting
2.5 QC.02.3006 Job Quality Assessment Procedure

3 ATTACHMENTS

None

4 GENERAL

Definitions

4.1.1 Form - Any form referenced in the QMS that provides data/information traceable to a specific item or work process, e.g., Pressure Test Report, Concrete Pour Card, etc.

4.1.2 QCP Inspection Report (IR) - A form used to document the results of inspections and tests when no Form is available for the process or item to be inspected.

4.1.3 Unsat - Any item, condition or material that deviates from engineering drawings or specifications, but which can be corrected within the scope of such documents.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.1.4 Nonconformance - Any item, condition, or material that deviates from engineering drawings or specifications and which cannot be corrected within the scope of such documents or otherwise requires input from the design engineering organization to resolve. These conditions shall be handled in accordance with Reference 2.4 "Nonconformance and Stop Work Reporting".

Responsibility

4.1.5 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirement of this procedure is properly implemented.

4.1.6 Project Engineer (PE)

The PE or designee is responsible for reviewing quality records and for maintaining site quality record files. This responsibility may be assumed by the Construction Site Quality Control Manager depending on project size and type.

4.1.7 The Responsible Superintendent (RS)/Field Engineer (FE)

The RS/FE is responsible for reviewing applicable engineering, design, and contract documents for identification of inspection and test requirements and subsequent implementation of the QMS.

4.1.8 System Turnover Manager (STM)

The STM is responsible for managing Turnover, system tracking and reporting.

4.1.9 Quality Control Manager (QCM)

The QCM is responsible for any required independent verification, witness, or inspection points in the work process. To review and accept subcontractor quality records. Coordinate scheduled inspections and tests with outside organizations and the Client. To assessment quality records in accordance with reference 2.5 *"Job Quality Assessment"* procedure.

4.1.10 Quality Control Inspector (QCI)

The QCI is responsible for review of applicable engineering, design, and contract documents for identification of inspection and test requirements and subsequent implementation of the QMS and any assignments directed by the PQP (Reference 2.3).

5 PROCEDURES

Forms

5.1.1 Forms referenced in this procedure shall be the primary document(s) for sign-off of construction quality control acceptance. Other forms and reports may be used to supplement or replace Forms as dictated by project needs with Director of Quality Control's approval.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.1.2 Quality Control forms use shall be decided early in the project including use of subcontractor or system turnover/start-up/commissioning forms, or any other QMS forms replacement proposed for construction documentation.

5.1.3 Construction site use of quality control forms, other than those agreed at the start of the project, shall be reviewed and agreed by the PE and QCM. Start-up/commissioning personnel and the Client shall be consulted, as appropriate.

5.1.4 Disputes concerning forms use shall be resolved by the Director of Quality Control.

6 APPLICATION

The amount and type of examination, inspection and testing will be performed as required by the engineering design, jurisdiction, & code.

QMS forms are the primary method for documentation of construction site examinations, inspections and tests.

Inspection Reports (IR) are required only when there is no applicable QMS form for that work activity and/or where additional inspections and tests are required.

Certain inspections and tests may require the presence of a representative from the Client, subcontractor, manufacturer, or third-party agency. A correctly signed and dated IR or QMS form will serve as documentation of inspection acceptance by EXCEL when the work is presented to others for acceptance.

Routine daily in-process inspections and verifications performed by the QCI or RS/FE may be documented using the IR form. This is not a replacement for QMS form sign-off.

Items presented for acceptance inspection or test and found to be in nonconformance shall be documented and processed for resolution in accordance with Reference 2.4 *"Non-conformance and Stop Work Reporting"*.

Use of Subcontractor quality control forms shall be approved by the QCM.

The QCI/RS/FE, in conjunction with the QCM, shall review applicable specifications, drawings, and procedures to identify required acceptance inspections and tests and assure items are appropriately covered by the applicable QMS procedures and QMS forms. Clients and subcontractors shall be included as appropriate.

Force account (direct hire) work will normally be presented directly to the QCM or designee for acceptance inspection. Subcontracted work will normally be inspected by the Subcontractor Quality Control Representative and monitored by the QCM. Hold points must be confirmed with the subcontractor.

When Inspections require participation of the Authorized Inspector, Client, jurisdictional authority and/or manufacturer's representatives, the RS/FE or subcontractor shall provide adequate advance inspection notification to allow for coordination of participants.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Upon completion of inspections, acceptance results shall be recorded on the appropriate Form or Inspection Report (IR). Client or other acceptance sign-off shall be obtained. The completed documents will then be forwarded to the QCM forreview.

The QCM or designee shall review the IR or Form, ensuring that required information has been included and that it is complete and accurate. Upon acceptance, the reviewer shall sign and date the document and forward to the PE.

The PE or designee will log the signed QMS form or IR and distribute copies in accordance with site distribution requirements and Reference 2.3 PQP. Inspection records/reports will be filed by the PE in an organized, retrievable fashion (usually by turnover system) and will become part of the project permanent recordfile.

Record storage facilities shall be such that wind, rain, snow and fire (within reason) cannot enter the record storage area and destroy or degrade the records. Quality records shall be easily retrievable for review upon request and will be archived on the Terminal Server for direct review.

The following shall be considered minimum required permanent quality records:

6.1.1 Marked-up drawings for traceability

6.1.2 Required records of personnel qualifications (special process)

6.1.3 Results of tests, inspection and examinations performed

6.1.4 Special process procedures

7 CLIENT HOLD POINTS

QMS forms are designed with line/column blanks to accommodate event sign-off as each inspection item is completed. Specific witness/hold points and the specific Client personnel authorized to witness the activity shall be agreed with the Client before the start of the affected construction work. Results of examinations, inspections and tests shall be recorded and signed off on the appropriate QMS form or IR and shall be traceable to affected item. IR forms do not have pre-determined hold-points.

8 SYSTEM TRACKING AND REPORTING

Prior to field mobilization, the elements in each system such as tagged equipment items, and piping test packages, E&I, Structural Steel, Fixed and Rotating equipment, Civil shall be identified and categorized for system completion tracking andreporting.

The appropriate quality control and completion documentation forms required to complete each item in a system shall be incorporated by form number into system tracking and reporting. These quality control acceptance documents must be included in each system's turnover package unless the contract states otherwise. In certain cases, the client may elect to receive quality control acceptance documentation as a blanket turnover at the end of construction.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

During construction, the STM, in coordination with the QCM, will compile quality control documentation to support systems turnover activities.

Systems tracking and reporting methodology will be dictated by project size and type as follows:

8.1.1 Small, limited scope projects may function more efficiently by tracking and reporting systems turnover using a manual system. Marked-up P&ID's and simple spreadsheets can be used to indicate status of system inspection and testing completion. Quality and STO activities may be delegated after consideration of project size, budget, and client requirements

8.1.2 Medium to large projects shall have dedication Quality and STO personnel assigned.

System tracking and reporting methodology are fully discussed in the execution procedures of the QMS (Reference 2.2).

Field drawings, sketches, isometrics, weld maps, etc. shall be used to identify and document inspection and process control of welding, PWHT and NDE. A quality tracking database shall be used. Welding and NDE related items should be considered as separate non-process system and should be turned over as a standalone document package. Welding, NDE, and testing documentation shall be included with each system turnover only when required bycontract.

Area based (non-process) systems are discussed in the QC.02.4000 procedures of the QMS (Reference 2.2).

Procedure implementation for construction project turnover is discussed in the *"QMS"* and *"PQP"* (References 2.2 and 2.3).

General safety and health considerations related to project turnover are discussed in Reference 2.3 *"PQP"*.

9 RECORDS, CLOSEOUT AND TRANSFER

At the completion of each turnover system or completion of construction, as agreed with the Client, the PE or designee shall assure the appropriate quality records are inventoried, packaged and distributed in accordance with project requirements (Reference 2.3). Transfer of records to the Client shall be accomplished by a signed "records received" inventory list.

10 FORMS (SEE SECTION IV)

QC.04.1005A Inspection Report

11 REVISION HISTORY

Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To help personnel understand the project and the Client's expectations. To ensure all necessary resources are available to complete the job with high quality and safety ratings.

1.2 Scope

1.2.1 This procedure applies to both force account (direct hire) and subcontracted work prior to the job execution phase on every project.

2 REFERENCES

2.1 None

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 Project Quality Plan (PQP) – provides structure and order to the processes through which EXCEL ensures construction performance, quality, and procedures that meet the appropriate internal and external requirements, such as through client expectations and/or federal/state laws. It includes a list of actions in the quality assurance process along with details about the responsibilities of the employees carrying them out.

4.2 Responsibility

4.2.1 Project Management Team (PMT)

The Project Management Team is responsible for establishing the project documentation and work plan. The PMT oversees the work of the team leads, monitors project status, risk and issues. The PMT is also responsible for resolving issues related to project execution and providing project status and reporting.

4.2.2 Director of Quality Control (DQC)

The DQC is responsible for establishing the project applicability of QMS procedures and obtaining concurrence of the Construction Project Manager for project QCP applications, and for maintaining liaison with other project organizations for quality program implementation. The DQC is also responsible for preparation, maintenance, and control of the QMS procedures.

4.2.3 Quality Control Manager (QCM)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The QCM is responsible for implementing Quality Control on the site in accordance with the Quality Control Program Manual and the PQP.

4.2.4 Project Manager (PM)

The PM is responsible for implementation of this program. The title "Project Manager" applies to the EXCEL representative who is assigned overall responsibility for project activities.

5 PROCEDURES

5.1 Review client reference documents

5.1.1 Review all applicable client documents concerning the construction site, authorities, restrictions and scope including Contract, Subcontract(s), Drawings, Specifications, Schedule, etc.

6 CONSTRUCTION SITE PERSONNEL AND SUBCONTRACTORS

6.1 The PMT determines the Construction QCM and the number of Field QC staff needed for the Job.

6.2 The PMT shall appoint subcontractors, as needed for Nondestructive Examination (NDE) or heat treatment, if not specified by the Client.

6.3 The PMT shall coordinate the Field Quality Control Team that includes a Client Representative and Third-Party Representative(s) if applicable; to develop, monitor, and manage all Turnover packages to ensure systems are tracked by the QCP system.

6.4 The Field Quality Control Team will coordinate system turnover packages anticipated and package numbering.

7 PRE-JOB PREPARATION

7.1 DQC and QCM shall develop a PQP for the project. Review the plan with the Project Manager and Site Manager.

7.2 Submit welding procedures, Inspection Plan, and qualification (as required) along with the QMS (as required) to the Client for review and approval via Transmittal.

7.3 Set up a meeting with the Client to include the Field Quality Control Team to present any specific questions or concerns regarding Quality Assurance/Quality Control for the project. Discuss and set expectations for the Project with the Client and Project Manager.

7.4 Meet with subcontractors to discuss details and expectations.

7.5 Meet with the Project Team to discuss and resolve remaining questions regarding practices and procedures such as:

7.5.1 Bolting Practices

7.5.2 Time Constraints for Radiography Tests (RT)

7.5.3 Cost concerning Heat Treatment

7.5.4 Hydro, NDE, PMI

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

7.5.5 Welding Practices suitability and planning

7.6 Setup the Quality Control Document System.

7.7 Arrange to participate in daily scheduled meetings as necessary and to monitor/manage systems (E&I, Piping, Structural, Civil, Testing, Welding Requirements, Flange Make-ups and/or Rotating Equipment).

8 FORMS (SEE SECTION IV)

8.1 None

9 REVISION HISTORY

9.1 Complete the following table for each document revision.

9.2

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Project Quality Plan

Revision 0

LOGO

CLIENT-PASTE – SITE-PASTE

PROJECT-PASTE

JOB# OR CONTRACT

Approval:

Title	*Signature*	*Date*
EXCEL Corp Quality Rep		
EXCEL Site Mgr		
Excel Site Quality Mgr		
Client QA Rep		

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Contents

1 INTRODUCTION 3

2 ROLES & RESPONSIBILITIES 4

3 ORGANIZATION AND INTERFACES 6

4 PROJECT QUALITY SYSTEM 6

5 CONTRACT REVIEW 6

6 DESIGN CONTROL 6

7 DOCUMENT AND DATA CONTROL 7

8 PROCUREMENT AND CONTRACTS 7

9 PURCHASING/MATERIAL CONTROL 8

10 CONTROL OF CUSTOMER SUPPLIED PRODUCT 10

11 PRODUCT IDENTIFICATION AND TRACEABILITY 10

12 PROCESS CONTROL 10

13 QUALIFICATION OF PROJECT INSPECTORS 12

14 INSPECTION AND TESTING 12

15 CONTROL OF INSPECTION, MEASURING AND TEST EQUIPMENT 13

16 INSPECTION AND TEST STATUS 13

17 CONTROL OF NONCONFORMING PRODUCT 14

18 REQUEST FOR INFORMATION (RFI) 15

19 CORRECTIVE AND PREVENTIVE ACTION 15

20 HANDLING STORAGE PACKAGING AND DELIVERY 15

21 CONTROL OF QUALITY RECORDS 16

22 QC DOCUMENTATION FLOW AND CONTROL 16

23 TURNOVER AND TRANSFER OF CARE, CUSTODY AND CONTROL 17

24 PROJECT RESOURCES AND TRAINING 17

25 ACCESS RIGHTS 17

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 INTRODUCTION

1.1 PURPOSE

The purpose of this Project Quality Plan (PQP) is to define the project quality system, procedures, organization and responsibilities for quality execution and completion of the identified scope to be performed by EXCEL for the CLIENT-PASTE (CLIENT) SITE-PASTE PROJECT-PASTE General Mechanical contract. Project specific plan adjustments may be made with approval from the Corporate Quality Control Director and/or Regional Quality Control Mgr. In the event this plan conflicts with the Owner's specifications, the Owner's specifications take precedence

1.2 SCOPE

This PQP has been written for the above listed project to include compliance with Owner Engineering specifications, EXCEL Quality System requirements and code / jurisdictional requirements for the general work planned during the above-listed project. This scope of work shall include but is not limited to Subcontractors, E&I, Civil, Structural Steel Erection, Fixed & Rotating Equipment Setting, and Piping installation and welding activities. This scope will include Project Management and Quality Control functions. Detailed information for EXCEL's scope of work for this project is defined in client provided scope of work with a general overview in the Process Control section of this Quality Plan.

1.3 OBJECTIVES

This document has been prepared to meet the specific quality requirements of the contract, (i.e., SITE-PASTE for Project Execution Services – Quality Management System).

The primary objectives of this Plan are:

- *To meet contract technical requirements*
- *To comply with EXCEL Quality System, EXCEL Quality Procedures, Code Requirements and CLIENT Quality Management Requirements, Engineering Practices and Standards.*
- *To comply with all relevant regulatory body requirements.*
- *To ensure that CLIENT Management is satisfied with EXCEL performance with regards to quality.*
- *All EXCEL Quality Procedures referenced within this quality plan are required to be used unless superseded by CLIENT engineering specifications.*

1.4 AUTHORITY

The EXCEL Corporate Quality Director, under the authority of the Chief Operating Officer and the Site Manager have developed this Quality Plan. This Plan will be used as a basis for executing work and managing quality control on this project. It is the responsibility of the EXCEL Site Manager and the Site Quality Manager or Supervisor to administer and implement this PQP and procedures as deemed necessary to verify and attain established quality requirements at the job site. Changes and or revisions to

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

this Plan will require approval by the Project Management and Client Quality Assurance Representatives prior to implementation.

2 ROLES & RESPONSIBILITIES

2.1 SCOPE

This section covers general roles and responsibilities for administration, execution, and maintenance of the Field Quality Control Plan. Detailed individual responsibilities are given throughout this manual.

2.2 APPLICATION

This section applies to the Project Superintendent, Site QC Manager/Coordinator, Craft Supervisors, Planners, Purchasing personnel, and Crafts personnel.

2.2.1 Corporate Quality Director

The Corporate QC Director / Manager has the ultimate responsibility for assuring the Quality Control Program is administered, executed, and maintained effectively to meet the Owner's requirements. The focus of that responsibility includes:

- Assuring appropriate QC manpower at all levels to facilitate QC functions.
- Assuring appropriate experience, training, and qualifications of "Welding" personnel and QC personnel at all levels.
- Ongoing assessment of the QC Program to assure effectiveness.
- Assuring appropriate maintenance and continuous improvement of the QC Program.
- Direct Supervision of the Site QC Manager

2.2.2 Regional Quality Manager

The EXCEL, Inc. Regional QC Manager shall audit the site on as needed basis and an offsite audit conducted monthly.

The audit format shall be "JQA QC.04.3006B" from the EXCEL QC Manual.

Audits shall be completed, signed and turned over to the Superintendent for review of commendable audit findings and areas for improvement.

Audit results may be made available to the Owner.

Continuous improvement will be achieved by assessment of audit results. The Site Superintendent will ensure that proper assessments are performed, and corrective actions are taken

2.2.3 Site Quality Manager

The Site QC Manager is responsible for administration, execution, and maintenance of the QC Program. The focus of that responsibility includes:

- Ongoing reporting of routine QC business and the status of the QC Program to the Project Superintendent.
- Communicating with Craft Supervisors to gain support and promote effective execution of QC activities.
- Carry out the duties and responsibilities given throughout this QC Manual.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Maintain the QC Program, Manual, and Procedures to comply with any changes to Owner requirements.

Work with Construction Planners / Sub-Contract Coordinators when dealing with proposed Sub-Contractors to ensure Sub-Contractor QC requirements are communicated and thoroughly understood. Facilitate progression of Owner approval of Sub-Contractor QC Plans, monitor field QC EXCEL, Inc. and ensure final Owner acceptance of the work quality and turnover documentation of Sub-Contractors.

Serve as the Owner's Inspector's direct contact for QC issues.

Quality meetings will be held on a weekly basis. They will be documented on our Quality Meeting outline form. Once completed they will be placed in a file in the QC Dept. We will use these meetings to discuss any areas of concern and hands-on procedures. We feel this is a useful tool to communicate quality concerns, issues, proactive measures, and an excellent forum for craftsmen feedback. Client Representatives are always invited to attend and participate.

2.2.4 Craft Supervisors

Craft Supervisors are responsible for the quality of the work produced by the personnel they supervise. Since the QC Manual (QC Plan) is considered a tool for providing quality workmanship, the Craft Supervisor's responsibilities include being familiar with the QC Manual/Plan and using it as a tool for producing superior quality work that complies with the Owner's specifications. The Craft Supervisor's role in the QC effort includes but is not limited to:

- Working with the Site QC Manager/Coordinator to promote built-in quality by Crafts personnel.
- Provide support to QC Activities based on QC information and feedback from the Site QC Manager/Coordinator.
- Carry out the duties and responsibilities given throughout this manual.

2.2.5 Construction Planners

Construction Planners are responsible for the inclusion of QC input and requirements into all phases of construction planning.

Planners should actively seek input from the site QC Manager/Coordinator regarding scheduling, job plans, procurement, and dealings with Sub-Contractors.

Planners are expected to carry out the duties and responsibilities as described in certain sections of this QC manual.

2.2.6 Purchasing Personnel

Purchasing Personnel are responsible for inclusion of QC requirements into purchasing documents. A request for Owner’s Source Inspection, when appropriate, is also the responsibility of the purchaser.

Purchasing personnel shall be familiar with and follow the purchasing practices given in Section 5 of this manual.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

2.2.7 Crafts Personnel

Crafts Personnel are responsible for providing an excellent quality product that meets the Owner's specifications. Crafts personnel are responsible for following procedures given in this manual.

3 ORGANIZATION AND INTERFACES

Attachment 1 of this Plan shows the Quality organizational chart for this Project. Quality Control inspection, examination, and testing activities shall be performed by qualified EXCEL Inspection personnel and/or subcontractor personnel that are organizationally independent of those performing the Project work for the project.

The EXCEL Site Manager shall interface with the CLIENT Project Manager or designated Representative on all Project issues. EXCEL Project Supervisory personnel shall interface with the CLIENT Project Coordinators for all site project-related issues. The Excel Site Quality Control Manager shall interface with the CLIENT Quality Assurance Representative or designee for all quality-related issues.

All conflicts between EXCEL quality or project personnel and CLIENT Project personnel involving interpretation or intent of design documents, standards, specifications, acceptance criteria, etc., shall be referred to the appropriate EXCEL Site Manager and CLIENT Project Team personnel for resolution.

4 PROJECT QUALITY SYSTEM

This project's operating/quality system is documented in this PQP, EXCEL Quality Management System (QMS), and the Client and Engineering Specification and Requirements.

Quality on this project is the responsibility of each member of the project team. Team members—from engineers and designers to suppliers and subcontractors, to project field personnel—all perform activities that are critical to the quality of the Project scope.

The responsibilities for verifying that certain actions related to quality are being properly performed by EXCEL and/or subcontractors are defined by this PQP and the EXCEL QMS.

5 CONTRACT REVIEW

Prior to performing any execution scope, EXCEL Project Management along with the required EXCEL Executives personnel shall conduct a Contract and Project Review meeting to determine all project requirements.

6 DESIGN CONTROL

EXCEL will control initial acceptance and changes to approved Design Documents during the project event by:

- *Implementing and controlling interfaces and communication between EXCEL Project Management personnel and the Client Project Engineering Representative(s).*
- *Performing internal reviews of project designs to determine execution requirements and initial needs for the project.*

- *Reviewing criteria for assurance to code compliance is achievable and performing constructability of total project requirements.*
- *Controlling interfaces and communication between EXCEL personnel and the Client Project Engineering Representative(s).*
- *Applying document control responsibilities in accordance with CLIENT required specifications and the EXCEL Quality Procedure.*
- *Documenting and obtaining CLIENT Project Engineering approvals of field or shop changes prior to implementation of the change. EXCEL will implement the written procedure that defines the methods to be used on this Project for documenting, communications and obtaining written approval for proposed field changes.*

7 DOCUMENT AND DATA CONTROL

Documents will be prepared, reviewed, approved, issued, and tracked by authorized personnel as detailed in the EXCEL Quality System, Project Documentation Procedures, and the following:

- *Document Control Procedure; Control of Quality Records; Project Documentation Procedure.*
- *CLIENT PROJECT Execution Management Facility Quality Assurance Standards.*
- *Contract for the work to be performed by EXCEL.*
- *Client Quality Assurance Standards.*
- *Project Inspection and Test Plans (ITP)*
- *Establish document registers or logs of all project documents and applicable revisions. The register or logs must be updated to reflect applicable document revisions. Initiate procedures for identifying, segregating, and/or destroying obsolete versions of documents to prevent use. Initiate a project filing system.*
- *Completed Project QA/QC project packages shall be submitted to CLIENT Quality Assurance Representative at the completion of the Project and any other CLIENT departments as deemed necessary via digital media and hard copied files or either.*

8 PROCUREMENT AND CONTRACTS

All Procurement and Contracts activities shall comply with the requirements of Procurement and Contract Management Corporate Policies. The following project-specific requirements shall also be met:

- *Site Project Management shall perform a contractual requirement review meeting upon award and upon mobilization with all onsite management to assure complete understanding of client project contract expectations.*
- *Each service and supporting department manager shall review client contract requirements with supporting staff prior to Project execution.*
- *Suppliers and subcontractors that may be subcontracted by EXCEL shall be selected from the CLIENT and EXCEL approved vendors list. The Excel Site Quality Control Manager and/or Site Manager will interface with the CLIENT Project Execution Services Project Management and Quality Assurance personnel to determine suitability of prospective suppliers and subcontractors.*
- *All Subcontractors shall be evaluated through the EXCEL Sub-Contract qualification process. Questionnaire evaluation documentation of internal processes, procedures,*

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

current business practices and KPI information is required from each sub-contractor or vendor for internal evaluations. Internal reviewed process included but not limited to Safety standings, Quality processes and data, and financial stability of the organization.

- *Purchase orders and subcontracts will be reviewed by the EXCEL Site Management, Site Quality Control Manager, prior to issuance, to assure that the CLIENT Project Execution management quality and technical requirements have been included where applicable.*
- *Excel Site Quality Control Manager along with the site Project Management will ensure all subcontractors are informed of their specific requirements and job functions in accordance with CLIENT Project Execution management quality and technical requirements.*
    - *The Site QC Manager/Coordinator & Project Supt. is responsible for specifying the requirement for Quality Control Plans to all Sub-Contractors. The Site QC Manager/Coordinator shall work with the Sub-Contractor to produce a QC Plan that meets all Owner requirements.*
- *A "Receiving Inspection Report" Attached This Section will be performed by the EXCEL Site Material Coordinator / Supervisor or his/her designee for all EXCEL purchased materials and or all materials purchased by CLIENT that will become permanent plant fixtures. All receiving handling and storage activities shall be in accordance with EXCEL quality procedure for Shop and Field Material Control Procedure and the CLIENT Project specifications for material control of owner purchased materials.*
- *If applicable the Excel Site Quality Control Manager or qualified designee will review MTRs and chemical analysis reports for accuracy and completeness.*

9 PURCHASING/MATERIAL CONTROL

9.1 SCOPE

This section describes purchasing practices and material control procedures intended to ensure that outside shop fabrication, components, and construction materials meet Owner specifications.

9.2 APPLICATION

This section is applicable to the Project Supt., Purchasing personnel, Craft Supervisors, QC Managers/Coordinator, and Requisitions.

9.3 REFERENCE DOCUMENTS

- *Construction Specifications*
- *EXCEL Quality Control Manual*
- *Bill of Materials on Issued for Construction Drawings*

9.4 GENERAL

- *Purchasing of pre-fabrication, components, and construction materials shall be according to Issued for Construction Drawings/Specifications.*
- *The Owner's QA/QC requirements and inspection documentation shall be applicable to all purchased manufactured items.*

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- *Purchase orders and attached specifications shall contain all necessary descriptions, explanations, and references needed by the supplier to meet Owner requirements.*
- *The Purchaser should consult the Site QC Manager/Coordinator if needed, prior to issuance of purchase orders.*

9.5 PURCHASING KEY ELEMENTS

- *Purchase orders and/or specifications must include all necessary and correct information regarding the purchase.*
- *Purchase documents must include requirements for all cleaning, testing and inspection documentation as applicable to ensure compliance to Owner specifications.*
- *Orders must be verified to meet purchase requirements (Owner specifications) upon delivery by receiving inspection.*
- *Owner required supplier inspection documentation must be furnished with delivery of the order. Such as MTR's.*

9.6 INSPECTION AND DOCUMENTATION REQUIREMENTS

- *Any inspection, testing, and documentation required by IFC drawings/specifications shall be specified in the order.*
- *General requirements for supplier cleaning, inspections, testing, and documentation are given in applicable sections of this manual for Site QC Manager/Coordinator reference.*

9.7 MATERIAL CONTROL

- *All orders delivered straight to the jobsite shall be isolated and inspected on the jobsite before release to the field. Receiving inspection, under the guidance of the Site Quality Control Manager, will be responsible for verification of materials as following the Purchase Order and the compliance of the MTR's (when required) against the material specification, and checking material identifications to material test reports and/or Manufacturer's Data Reports prior to releasing any material or items for use on the project. Receiving inspection will further visually inspect all incoming materials and or components for cleanliness, and shipping damage. Equipment received by EXCEL shall be documented on "Receiving Inspection Report" Attached This Section.*
- *Materials not having acceptable documentation will be referred to the Site Quality Representative for final disposition. Final disposition of material Non-Conformance will be documented by use of a Non-Conformance Report. Attached this Section.*
- *A filing system will be maintained consisting of the purchase order, mill test reports, and Manufacturer's Data Reports, when applicable, which will provide ready reference and identification of all back-up paperwork to all materials being used for the project.*
- *Material Control Personnel, under the guidance of the Project Supt. & the Site QC manager, will maintain the lay down areas to ensure that any materials stored on the job site are constantly stored properly. All open ends shall be covered with end caps, flange protectors, plugs, etc. Materials shall be kept out of the mud and water. All piping spools and straight run (if applicable) will be stored on cribbing. All bolting and gasket material will be stored indoors if facilities are available or*

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

covered protected from weather. Ferritic (carbon steel and low chrome alloy) shall be stored to avoid direct contact with alloy materials. The Site QC Manager will monitor and audit this area to ensure compliance.

- *Preventive maintenance log for specific equipment shall be maintained in accordance with project specifications. This log will be discussed at the pre-job meeting to determine specifics*

10 CONTROL OF CUSTOMER SUPPLIED PRODUCT

EXCEL will implement the written procedure for the control and maintenance of CLIENT material and equipment, including the reporting of lost, damaged, or otherwise unsuitable material to CLIENT Project Management.

11 PRODUCT IDENTIFICATION AND TRACEABILITY

EXCEL will implement the following written procedures in addition to CLIENT Specifications for the identification of material and equipment including maintenance of traceability to material manufacturer's documentation. (Reference: Quality Procedures –, Weld Accountability Control, Fixed & Rotating equipment, Material Traceability.

Equipment and materials including consumables shall be verified to have the correct identification and traceability control during all stages of fabrication and installation.

Project identification shall be identified within the applicable design documents, project scope, procedures, and specifications. Product identification may consist of nameplates, stamping and tags, etc. for equipment and markings, codes, color classification for bulk materials. EXCEL personnel shall confirm the appropriate product identification number, code or stamp for all material, part, or components prior to use.

For products in which traceability is required by applicable jurisdictional codes and standards, project scope or specifications, the scope and method of traceability shall comply with the provisions of such codes and standards.

Where traceability of products during fabrication and installation work is required, the scope of traceability, identification methods and items to be recorded shall be conducted in accordance with CLIENT Project specifications and EXCEL Quality System Requirements.

12 PROCESS CONTROL

12.1 PROJECT/PROJECT SITE ACTIVITIES

12.1.1 EXCEL contracted work execution scope for this event shall include the following:

- Civil
- Structural Steel Erection
- Piping and Installation
- Welding
- General Mechanical
- Equipment setting and installation.
- Technical Bolting (Torque and/or Tension Applications)
- Testing, Completion and Turnover of Mechanical Systems

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Subcontractors

12.1.2 EXCEL will ensure that self-performed and subcontracted Project activities directly affecting the quality of the assigned work are identified and conducted under controlled conditions as per the EXCEL Quality System procedures, Client Engineering Specifications, and this PQP. Examples of controlled conditions include (as appropriate):

- Creation and completion of documented work instructions including specific ITPs defining the manner of Project, installation, and testing (where the absence of such instructions would adversely affect quality).
- Use of suitable equipment, suitable working environment, and compliance with the appropriate revisions of standards, codes, and quality plans.
- Monitoring and control of suitable production methods and production quality during execution as per CLIENT specifications and EXCEL Quality Procedures include but are not limited to the Quality Procedures referenced within the attachment section 22 of this quality plan.
- Special methods are defined as those methods that produce results that cannot be fully verified by subsequent inspection and testing, and where continuous monitoring and compliance with documented procedures is needed to ensure that specified requirements are met. These methods require qualification and compliance with the controlled conditions. Records will be maintained for qualified Project methods, equipment, and personnel as appropriate. Inspections shall be documented on various inspection records provided in the EXCEL Quality System Manual and/or CLIENT Project Quality Specifications. These records shall be identified in the work-specific inspection and test plans to be developed specifically for this project. These methods include general mechanical service items such as exchanger maintenance, pressure vessel maintenance, process valve general maintenance and controlled and technical bolting applications.
- Client Quality Specifications and ASME Sec. IX will be used for the qualification or re-qualification of any welder, welding operator and required welding procedures. In the event a welder's original WPQ was not established by performing a destructive bend test or alternative RT examination, the welding operator will be required to re-qualify to the work specific WPS and have a destructive bend test or RT examination performed to establish his/her WPQ.
- All welding scope, if needed, shall be completed within the quality requirements per this Quality Plan, individual Inspection Test Plans (ITP), the EXCEL Quality System, Client specifications and Code requirements. It is the responsibility of the EXCEL Site Quality Manager to ensure this task is performed and documented.
- Project material control shall be in accordance with the EXCEL Quality Procedure and shall be documented in accordance with this Quality Plan.
- EXCEL Site Quality Control Inspection personnel shall update progress for all scope items utilizing written reporting and verbally if required with the Project/zone coordinators on Project scope items and issue action item list, if required, on a per shift basis.
- Weld inspection requirements if needed shall be strictly adhered to according to Client inspection specifications unless specified otherwise. A weld log will be developed documenting all welds and NDE requirements. Random inspection shall be based on the total number of welds for each welder/welding operator or as required by

Client standards. Welder/welding operator shall be represented in the percentage indicated for both the shop and field weld inspection.

- Mechanical work scope including but not limited to Pressure Vessel equipment, Process Valve, general mechanical action items shall be completed following the EXCEL Quality System procedures, individual test plans (ITP), Code requirements and any Client required specifications. All work shall be documented in accordance with the EXCEL Quality System for accountability and document control procedures.
- All components, system or equipment testing shall be conducted in accordance with the EXCEL Quality System procedures and Client Engineering Specifications.
- All ASME or NBIC Code repairs or alterations that are required during project activities shall be conducted in accordance with the EXCEL Code Quality Manual. Scope shall be submitted to the Corporate Quality Department for direction on National Code requirements prior to starting work.
- Project QC Package completion for all phases of identified scope items shall be completed in accordance with EXCEL Quality System procedures per discipline required per project.

13 QUALIFICATION OF PROJECT INSPECTORS

Qualification requirements of Site Quality Control Inspectors shall be in accordance with the requirements of EXCEL job description requirements and CLIENT Project Quality Specifications for each position required for this project.

Personnel performing visual inspection of welding shall be qualified in accordance with the Excel written practice.

Personnel performing mechanical quality surveillance shall meet the experience requirements set forth within the EXCEL Quality Control Coordinator job descriptions and have, at a minimum, completed the EXCEL Flange Assembly and Controlled Bolting training and testing requirements.

14 INSPECTION AND TESTING

Inspection and Test Plans (ITP) shall be developed through requirements from the EXCEL Quality System Manual, CLIENT Project Quality requirements and this PQP to provide clear direction on quality assurance steps for but not limited to the following:

- *Planning and implementing receiving inspection and testing, to ensure that incoming items are not used or processed, except under controlled conditions, until verified as conforming to specified requirements.*
- *Monitoring and control, through inspection and testing, during fabrication and installation, including provisions for identification of the item prior to installation or use, placement of hold points until required inspections and tests have been completed, and identification and control of nonconformance.*
- *Assurance, through documented evidence, that final inspection and testing has been performed and that the material, equipment, or facility is in conformance with specified drawings, standards, specifications, and procedures, as applicable to the project.*

- *EXCEL will be performing in-process and receiving inspections and shall perform NDE inspections through sub-contracted sources.*
- *Supplied hydro-test gauge calibration verification in accordance with CLIENT Project Quality Specifications and EXCEL Quality System requirements. Verification of calibration and usability shall be conducted prior to each use.*
- *Review of mill test and chemical analysis reports for all pressure containing components shall be completed prior to use of materials.*
- *EXCEL is required to obtain and review chemical analysis reports for filler material. The review will be by the EXCEL Quality Control Manager or qualified designee. Storage and conditioning of filler materials shall be in accordance with the manufacturer's recommendations. The requirements of ASME SFA 5.1 and 5.5 shall be followed to prevent moisture buildup in low hydrogen electrodes during storage and handling.*
- *Assurance that no material, equipment, or facility is delivered or commissioned until activities specified in the Project Specifications have been satisfactorily completed and associated data and documentation are packaged and made available to the CLIENT Project Quality Assurance representative for review and acceptance prior to commissioning. (In the event that material is shipped to the site with an open NCR, the site Quality Control department will see that measures are taken to ensure proper closure per the approved disposition prior to turnover).*

15 CONTROL OF INSPECTION, MEASURING AND TEST EQUIPMENT

EXCEL shall use written procedures (Measuring and Test Equipment) for control, calibration, and maintenance of inspection, measuring and test equipment.

All calibrations shall be documented. The following information at a minimum shall be recorded for all instrument calibrations as applicable:

- *Date of calibration*
- *Equipment identification*
- *Type of calibration*
- *Equipment reading vs. readings of the Standard and amount of variation from Standard*
- *Identification of Standard used for calibration*
- *Acceptance criteria for calibration*
- *Signature of the Individual who performed or reported calibration results*
- *Other data as required by the calibration method.*

All calibrated equipment shall contain a calibration label showing the identification of the equipment, date of calibration, next calibration due date and any operating limitations revealed by the calibration results.

16 INSPECTION AND TEST STATUS

EXCEL shall ensure that the inspection and test status of items used in this project are always identified by one or more of the following methods:

- *Tags, labels, or marking (with low-chloride Nissen marker or equivalent for S/S material) shall be used where applicable in accordance with CLIENT Project specifications and EXCEL Quality requirements.*
- *Test or inspection records.*

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- *All required pressure tests will be conducted in accordance with the CLIENT Quality Specifications and EXCEL Quality System requirements.*
- *All pressure tests will be documented on a pressure test report and approved by an authorized representative of CLIENT Project Quality Assurance team.*
- *Locations in controlled quarantine areas for items that have had non-conformances identified.*

Key performance indicators (KPI) pertaining to quality status shall be maintained throughout this project event. Data shall be documented daily within the EXCEL TEAMS channel by the EXCEL Site Quality Manager or designee. If required, reporting can be downloaded from TEAMS and submitted accordingly.

17 CONTROL OF NONCONFORMING PRODUCT

In the absence of a CLIENT Project Quality Assurance Non-Conformance procedures, EXCEL shall implement the documented EXCEL non-conformance system that detects and reports non-conformances, controls non-conforming items to prevent inadvertent use, and verifies that acceptable corrective action is taken. Documentation of any non-conformances shall be documented in the Non-Conformance Report in the absence of a client supplied quality form.

Non-conformances apply to any material, item of equipment, or maintenance activities whose deviation from project requirements renders the quality unacceptable or indeterminate. A nonconformance report will be required for all deficiencies identified by EXCEL personnel involving CLIENT Project supplied equipment, materials, or maintenance activities. Deficiencies that can be resolved through normal Project rework do not necessarily require the issuance of a nonconformance report provided the deficiency is documented and tracked through closure via other documents (e.g., Action Items Lists, Inspection, Examination, or Test Reports, etc.).

If a change to, an EXCEL or CLIENT Project Quality Specification requirement is sought, a formal waiver, concession or RFI request supported by detailed information will be submitted to the appropriate authorities for approval. A CLIENT Project deviation request form will be completed by EXCEL and submitted to the CLIENT Project Manager for approval when a deviation is sought to a CLIENT Project Engineering Standard.

EXCEL NCRs will normally be dispositioned as “Rework” to meet design or specification requirements. “Accept as-is” and “Repair” dispositions will require EXCEL to complete an NCR and an RFI and submit to CLIENT Project Management for approval if the disposition will result in a deviation to a CLIENT Project Engineering Standard. All “Accept as is” and “Repair” dispositions will require CLIENT Project Management or Quality Assurance approval prior to implementation by EXCEL.

All Nonconformance Reports will be followed up by the EXCEL Site Lead Inspector to verify that the appropriate dispositions have been implemented and completed before final closure to the Nonconformance Report can be indicated.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

18 REQUEST FOR INFORMATION (RFI)

Project information and or request shall be presented to the Client using an RFI format generated by Project Management. All requests shall be logged on a project RFI log and updated as corrected or answered.

All RFI documentation shall be transmitted via email and documented in accordance with the document control section of this Quality Plan.

19 CORRECTIVE AND PREVENTIVE ACTION

Appropriate changes to the field production technique, EXCEL QMS Manual or project-specific procedures, shall be made to prevent the recurrence of deficiencies. Corrective and Preventative action shall be documented on Nonconformance & Corrective Action Report. ***(Reference: Quality Procedure - Nonconformance & Stop Work Reporting)***

This process involves:

- *Identifying the root cause of the non-conformity*
- *Determining and implementing the appropriate level of preventive action.*
- *Modifying any field application issues and review of Quality Procedures and Project's documents as necessary*
- *Verifying that the corrective action is effective*
- *EXCEL shall respond to all deficiencies or non-conformances identified by CLIENT Project Quality Specifications personnel.*

20 HANDLING STORAGE PACKAGING AND DELIVERY

EXCEL shall ensure that handling, storage (including preventive maintenance), packaging, preservation and delivery activities of materials and components are conducted in accordance with CLIENT Project requirements, manufacturer recommendations and EXCEL Quality System procedures. ***(Reference: Quality Procedure Material and Equipment Receipt, Control, Storage and Maintenance***

All low hydrogen welding electrodes shall be kept in heating ovens which should be set at 250°F after being removed from their original shipping container. If there is conflict between this temperature and client requirements, the client requirements shall supersede. At no time shall low hydrogen electrodes be stored outside the ranges specified in ASME Section II (50°F to 250°F above ambient temperature).

All bare electrodes will be kept in their original shipping container until required to be used for production welding. Bare electrodes will be distributed on an as needed basis to the individual welding operator. Bare wire consumables shall be controlled by Heat Number and SMAW consumables shall be controlled by Heat numbers and Lot numbers of identifications.

All general Project materials shall be stored in secured designated areas, segregated, and identified in accordance with material specifications, protected from damage mechanical or environmental conditions that could cause damage and issued in accordance with project requirements.

If required, shop fabricated spools shall be prepared for shipment as follows:

- *Flange faces may be covered with a bolted or clamped wooden or plastic cover to prevent damage during shipment and handling.*
- *Bevel pipe ends may be covered with plastic protectors to prevent damage during shipment and handling. Tightly fitted protectors shall be vented to prevent their loss.*
- *All threaded connections may be plugged or capped. If plugs or caps are shown on the piping drawing, they shall be of the material specified. Temporary thread protectors used during shipment and handling shall be plastic.*
- *Pipe nipples and other slender branch connections not permanently braced, shall be temporarily braced to prevent damage during shipment and handling.*
- *Pipe larger than 36in OD, shall require internal spiders to retain circularity during shipment and handling.*
- *Any protection in place for shipment and handling shall remain in place until the item is field installed.*
- *Alloy materials are segregated by ferrous and non-ferrous materials. This includes welding consumables such as grinding disk, buffing wheels etc.*

21 CONTROL OF QUALITY RECORDS

EXCEL Site Quality Manager and designee shall identify, collect, index, file, store, and maintain records (including supplier records) in accordance with a Project File Index, to provide objective evidence that the requirements of the project are being achieved.

EXCEL shall ensure that records are legible before and after reproduction, (including, but not limited to, electronic media), identifiable with the product involved, and stored in a way to ensure protection, security, access, and disposal.

A copy of the final packages shall go to CLIENT Project Quality Assurance Representatives and an electronic or hard copy will be sent to the EXCEL Corporate Quality office for archiving.

22 QC DOCUMENTATION FLOW AND CONTROL

22.1 SCOPE

This section is a guideline for documentation flow from the start of a project to the completion of Inspection Documentation Turnover to the Owner.

22.2 APPLICATION

This section applies to all contractor personnel requisitioning material, receiving material, generating field checklist/punch list and completing inspection deliverables documentation.

22.3 GENERAL

All documentation generated during erection and testing will be forwarded to the Site QC Manager/Coordinator as applicable.

The site QC Manager/Coordinator is responsible for completing the Field Inspection Documentation Turnover as described in Section 3.

The Site QC Manager/Coordinator, as applicable, is responsible for keeping files and test packages up to date and available for the Owner's review.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

23 TURNOVER AND TRANSFER OF CARE, CUSTODY AND CONTROL

EXCEL Site Quality Control Supervisor will receive a copy of each package for execution of the quality work including NDE. Once the work is complete including any inspections by CLIENT Project Quality Assurance Representatives and/or the AI (code work) and the quality records are signed, a pre-start-up punch list may be developed and turned into EXCEL Project Controls for updating the schedule and execution. Once these items are complete and signed off, a post start-up punch list may be developed with the approval of QA for things such as painting, insulation, I&E etc. that can be completed after startup. The post start-up punch list and signed quality forms will be turned over to CLIENT Project Quality Assurance Representatives at this time for final approvals.

- *All scope changes must be managed in the same way as 18.1 above.*
- *All quality records identified in the project specifications shall be included in the turnover package. Other documents required by the Engineering Standards or contract shall also be included. (e.g., as-built drawings, deviation requests etc.)*

24 PROJECT RESOURCES AND TRAINING

EXCEL shall ensure that all employees assigned to work on the project are oriented / trained in the project specific requirements related to quality. Functional management is responsible for ensuring that employees receive the required training. Records of project specific, informal, and/or less significant training may be maintained in department or project files.

The EXCEL Quality Director shall train the EXCEL Site Quality Manager on this PQP. If required, the EXCEL Site Quality Manager will train the other EXCEL Site Quality Control Inspectors as they report to the jobsite.

Files will be maintained offsite by EXCEL HR department on QC personnel, recording details of education, certifications, major skill-based training, and experience. Copies of these records can be reviewed upon request.

Prior to starting work, the Quality Control personnel will be trained on the following if applicable and any other items that become necessary:

- *EXCEL Quality System Manual/Procedures and this Quality Plan*
- *CLIENT Project Quality Specifications and Engineering Standards, where to access*
- *What their reporting route will be.*
- *Development and handling of non-conformances*
- *Safety*
- *Document Control and Documentation requirements (piping and mechanical)*
- *Mobilization and De-mobilization (If Applicable)*
- *Travel time/expenses (If Applicable)*

25 ACCESS RIGHTS

EXCEL shall grant CLIENT Project Management (or its authorized representatives) access to its own, or applicable vendors/subcontractor's facilities, work processes, equipment, personnel, plans, procedures, and records for the purpose of conducting reviews,

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

inspections, surveillance, and audits to verify conformance to technical requirements in the contract.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To establish a program to ensure that grout installation is accomplished in compliance with project specifications and applicable codes.

1.1.2 To define the process for grouting-related activities. Work operations associated with preplanning activities, material selection, grout preparation, shimming/wedging under plates and equipment, formwork, mixing, placement, curing and testing.

1.2 Scope

1.2.1 This procedure applies to work performed by EXCEL's force account (direct hire) construction. This procedure may also be applied to subcontractors when invoked by contract documents.

1.2.2 The grouting of temporary components or construction aids as part of the construction process are not part of this procedure.

1.2.3 When performing grouting operations on equipment base plates, also refer "Installation of Mechanical Equipment" (Reference 2.4).

1.2.4 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents shall apply.

1.2.5 Deficiencies identified during the in-process monitoring and final inspections shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)
2.2 QC.02.1002 Basis of Operations
2.3 QC.02.2001 QMS Civil Execution Plans
2.4 QC.02.2004.1 Installation of Mechanical Equipment
2.5 QC.02.3001 Nonconformance and Stop Work Reporting.
2.6 Grout Manufacturers Installation Procedures.

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 Cementitious Grout - a mixture of cementitious materials and aggregates to which water has been added to produce pouring consistency without segregation of constituents.

4.1.2 Epoxy Grout - typically a two-part bonding system with high strength and high adhesion properties.

4.1.3 Dry Packing - placing of zero or near zero slump concrete, mortar, or grout by ramming into a confined space, to form a consistent level mating surface. Dry packed grout has the required consistency to allow for proper placement and packing, in accordance with the manufacturer's recommendations.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.1.4 Flowable Grout - consistency at which grout will form a level surface when lightly rodded. The consistency of a grout with a flow of at least 135 percent at five drops on the ASTM C 230 flow table and an efflux time through the ASTM C 939 flow cone of more than 30 seconds.

4.1.5 Laitance - surface layer of weak and non-durable material containing cement and fines caused by excess water in the concrete.

4.1.6 Design Documents - drawings, specifications and instructions approved by the Project Engineer or the Project Field Engineer (for field commodity responsibility) for use during construction of the project. This also includes contractor documents approved for use during the construction phase of the project, as well as any codes and standards referenced by the designer or contract requirements.

4.1.7 Inspection and Test Plan (ITP) - documents that delineate inspection and/or test activities to be performed to verify acceptability of various construction and/or installation activities.

4.1.8 In Process Monitoring - Routine oversight performed to validate that the work activities and processes are being implemented in accordance with the approved quality program, applicable specifications and project documents.

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this procedure are properly implemented.

4.2.2 Area Site Manager (ASM)

The ASM is responsible for the overall quality of work performed by construction personnel for his assigned area. The ASM is responsible for providing input to the grouting plan and providing training for field personnel on the requirements of this procedure. The ASM shall delegate assignments and monitor the performance of Superintendents to ensure the requirements of the procedures are properly implemented.

4.2.3 Quality Control Manager (QCM) and Quality Control Inspector (QCI)

The QCM is responsible for monitoring, supervising, and assigning the QCIs. The QCIs are responsible for inspecting grouting to ensure compliance with the requirements of the project, Project Quality Plan, and project specifications and codes. The QCI will monitor and perform in-process and final QC inspections for all grouting work to ensure that installation is to the latest revision of the drawings, installed in the correct location, and are installed in accordance with the design requirements.

4.2.4 Planner/Scheduler (PS)

The PS is responsible for assisting the Superintendents in planning and scheduling grout installation activities.

4.2.5 Responsible Superintendent (RS)

The RS is responsible for supervision and coordination of manpower, tools, and equipment required to accomplish grouting, including fulfilling all of the safety and quality requirements pertaining to the work. The RS is to ensure that construction workers are qualified to perform the work and develop the weekly work plan for grouting activities. The RS is responsible for monitoring the quantity reporting from the RP for accuracy and timeliness.

4.2.6 Field Engineer (FE)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The FE is responsible for assisting field supervision when corrective action is required to resolve a quality issue and assist in resolving field problems related to grouting activities.

4.2.7 Responsible Person (RP)

The RP is the individual on the construction team responsible for directing grout preparation and installation work (e.g., Craft Supervisor, General Foreman). The RP is also the front-line supervisor for craft workmanship and maintaining a safe working environment.

4.2.8 System Turnover Manager (STM)

The STM is responsible for supervision and assignment of System Turnover Supervisors (STO), System foremen (SF), and Field Engineers (FE) necessary to provide technical support, and to assist the RS, RP, and QCI with the project requirements along with demands of the grouting schedule. The STM is responsible for providing input as needed on quality control documentation requirements.

5 PROCEDURE

5.1 Work Process

5.1.1 All materials, work and services shall fully comply with design documents, manufacturer's requirements, governing codes, regulations, standards and project specifications.

5.1.2 The installer shall have readily available a copy of the applicable project specific requirements and acceptance criteria when performing the work.

5.1.3 All required inspection documentation for completed work shall be submitted with all the final required sign-offs to the QCI by the end of the week the activity is completed.

5.1.4 The work process for grouting operations shall follow this outline:

- Start
- Review project grouting requirements
- Perform grouting take-off
- Select grout material
- Initiate release for grouting inspection report
- Record request on grout request log
- Prepare surfaces
- Record Surface condition on inspection report
- Determine placement method and record on grouting inspection report
- Verify items to be grouted is properly positioned and supported and record on grouting inspection report
- Check shims and record on grouting inspection report
- Install forms
- Check grout forms for adequacy and record on grouting inspection report
- Verify 24-hour pre-soak for cementitious grout is complete and record on grouting inspection report
- Ensure the grout is properly mixed and record on grouting inspection report
- Release item(s) for grouting
- Install grout
- Ensure proper testing and inspecting of grout

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Ensure that the grout is properly placed and record on grouting inspection report
- Ensure that curing method is selected and record on grouting inspection report
- Verify curing complete, forms removed, finish and/or patching complete and record or grouting inspection report
- Check for proper cleanup and record on grouting inspection report
- Check that grout placement is complete and acceptable and record on grouting inspection report

5.2 Pre-Planning Activities

5.2.1 A pre-construction meeting may be held depending on the size and complexity to verify the construction and safety requirements prior to performing the first grouting activities in an area and for “critical” equipment grouting. This meeting shall include as appropriate, but not be limited to the ASM, RS, RP, QCI/QCM, and Safety. The client should also be notified when these meetings are scheduled. Additional informal meetings of interested parties may be held during the work process as needed.

5.2.2 Prior to performing the first placement of cementitious and/or epoxy grout, the grout manufacturer may be asked to provide technical support or a representative who will be able to review the grouting set-up procedures and manufacturer’s instructions with the construction personnel who will be performing the grouting. The RS and ASM will determine the need for a technical representative to attend.

5.2.3 A thorough review of the ITP (Reference 6.3) and referenced documents shall be performed.

5.2.4 Grouting requirements shall be reviewed with references to standard details (pipe supports, conduit supports, etc.) and vendor documents (equipment and pump bases).

5.2.5 When required by project specs a third-party testing laboratory will be selected and their quality control program and procedures approved in writing prior to beginning grout activities. (Note: The Testing Lab used is normally the same testing agency approved for concrete activities). Testing services may include but are not limited to field sampling and testing of fresh grout, initial field curing, transporting, final laboratory curing, and compressive strength and other necessary laboratory testing, including preparation and submittal of required test reports.

5.2.6 The grout placement and acceptance inspection will be documented using the “Pre/Post Punchlist” and “Grout Card” (References 6.1 & 6.2) as applicable. This form includes approvals for grout material selection, shims formwork, pre-soak, proper mixing, placement, curing, clean up and final acceptance. Each applicable RP/RS will initial and date their completed sections in the grout release block to verify the work meet the project requirements. The grouting operation should be for a well-defined scope of work that can be completed in one day. Each grout request should contain all necessary supplemental information required for civil craft to perform the work. A pre-pour checklist is not required for grouting minor items such as piping, instrument and electrical supports, or for patching cosmetic defects, abandoned holes, or pilot holes.

5.2.7 The QCI or RS shall initiate the pre-pour checklist by filling out the upper portion of the checklist. The assigned area RS will begin obtaining the signature(s). The RS shall perform random specified pre-placement inspections, initial and sign where applicable to release the pour. This activity shall be completed prior to beginning the grouting work.

5.2.8 The RS shall review grouting requirements for their area of responsibility and determine grout material quantities are available to support grouting operation. The QCM shall ensure the required

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

inspection of the item to be grouted has been done and accepted including understanding of required notes on vendor equipment drawings & manuals such as bolt torque, grout sleeve details, anchor bolts setting requirements, grout elevation, expansion joints and any other special requirements as deemed necessary. RS shall coordinate the actual grout operation with RP and all appropriate disciplines. Every effort should be made to perform as much grouting work as possible in a single operation. As part of this plan, the RS is to ensure that back up equipment is available if feasible.

5.2.9 Items grouted shall be identified on the pre-pour checklist.

5.2.10 When grouting many base plates, such as within a given area of a structure, substantial material and labor savings can be realized by scheduling all grouting for a single operation rather than in segments.

5.3 Material

5.3.1 Grout material requirements are identified in the engineering specifications, equipment manufacturer documents, or on the design drawing. The RS is responsible for coordinating selection of grout products conforming to specified requirements based on total installed cost and availability of materials.

5.3.2 Grout materials should be purchased in bulk whenever possible to reduce material costs.

5.3.3 For large grouting operations, non-shrink grout is available in large packages (e.g. 1 cubic yard).

5.3.4 For smaller placements, purchasing smaller packages (e.g. I cubic foot bags) may result in lower material costs through lower material handling costs and reduced waste.

5.3.5 Storage of grouting materials shall be per manufacturer's recommendation.

5.3.6 Manufactured grout material is normally supplied in individual moisture-resistant bags. The RP shall verify that the grout shelf life has not been exceeded.

5.3.7 Sand used for grout mixing shall be kept clean and shall be verified to have the required gradation prior to use.

5.3.8 Epoxy grout for equipment or machine base plates shall meet the physical properties of the Engineering Guides and General Specifications

5.3.9 Requirements for design and installation of grout on foundation for rotating machinery, stationary equipment and structures are covered in the project specifications and design documents.

5.4 Preparation for Grouting Operations

5.4.1 Grouting operations often require preparation activities such as concrete surface roughening, presoaking of areas to receive grout and application of bonding agents. The surface preparation process shall include sections 5.4.2 through 5.4.11 of this procedure.

5.4.2 Bushing of concrete surfaces to receive grout by chipping to remove any laitance, oil soaked, or damaged concrete as required by the design specification or manufacturers written instructions. Unless noted otherwise by design drawing, the stationary equipment, structural steel and misc., pipe and electrical support for cementitious grout material will be prepare such that the surface mortar is removed by mechanical or other means to create a sound, uniform profile and exposed fractured aggregates. Remove all oil, grease, curing compounds, laitance, unsound material and

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

other deleterious substances. The rotary equipment, stationary equipment and vessels for epoxy grout material require extensive preparation. Refer to equipment vendor manual, IFC drawing, project specifications, and epoxy grout manufacturer's catalog for recommendations. As a minimum preparation, remove laitance, loose mortar, curing compound, and oil-soaked or damaged concrete with chipping hammer to the level of sound, fractured aggregate.

5.4.3 Clean all surfaces including anchor holes and penetrations of oil, grease, paint, dirt and loose particles and clean out of bolt or dowel holes. Dust and loose particles shall be cleaned away using dry, oil-free air. Do not use chemicals or detergents. Cover cleaned areas with suitable material, (clean Polyethylene, as an example) if not immediately beginning grouting activities to protect the prepared concrete bushed surface area.

5.4.4 For special conditions, another option to preserve the prepared/clean foundation surface is to apply a concrete epoxy seal coating that epoxy grout manufacturer recommended. This is allowed only with written approval from the client. If the shims are to be grouted in place (completely encapsulated) carbon steel shims can be used. If the shims are exposed, 300 series stainless steel shall be used. Jacking pads shall be 300 series stainless steel (dimple pocket not required).

5.4.5 If bushing operation exposes concrete reinforcing wire or rebar, cut off/remove any loose reinforcing wire mesh (not rebar). Clean exposed wire/rebar and apply Ceilcote 680.

5.4.6 Clean items to be grouted, such as bolts and underside of base plates, of oil, grease, mill scale, rust, dirt, and other coatings that may interfere with desired bond, complete bearing or that may react with grout. Do not remove Epoxy primer/coating on the underneath side of base plates or pump bases.

Note: Most rotating equipment baseplates have been coated at the factory with an epoxy (Ceilcote 680 or equivalent) primer, this primer SHALL NOT be removed before grouting. Verify cleaning method with the Manufacturing Company (MC) before cleaning underside of rotating equipment baseplates.

5.4.7 Application of compatible form release agent to metal surfaces where bond between metal surface and grout is not desired. Do not use grease or oil for this purpose.

5.4.8 Cementitious grout requires the saturation of the concrete surfaces with clean water as specified by the grout supplier after the surface has been prepared to receive grout. The saturation period may be achieved by periodically sprinkling the concrete with water or by covering with clean wet rags, or wet burlap, in such a way that the concrete surface is maintained in a damp condition from 24 hours prior to grouting until grouting and free from standing water at time of grouting.

5.4.9 Epoxy Grout requires the surface to be clean and dry. Epoxy grouting shall not be performed during inclement (or pending inclement) weather, or in heavy fog conditions.

5.4.10 Bonding agents may be applied as recommended by the grout manufacturer.

5.4.11 An approved Third-Party Testing Agency shall be present to perform the required tests to the extent required in the contract.

5.5 Shims, Wedges, Leveling Nuts, Base & Sole Plates and Jacking Bolts & Jacking Bolt Pads

5.5.1 Prior to being released for grouting, the discipline RS responsible for the installation shall ensure that required shims, wedges or leveling nuts are installed under column base plates and other structural elements or equipment to maintain required elevation and alignment.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.5.2 Preset bearing pads, shim packs and wedges shall be properly placed for complete encasement in grout when required or are easily removed when they are not to remain in- place.

5.5.3 Equipment shims that will be grouted in place shall be per Client specifications. Grouted in shims shall be smooth, flat and free of dirt or foreign materials. A shim stack should not consist of more than 5 shims and the shim edges should be positioned more than 1" inside of equipment inside and outside edge. Exposed equipment shims that will be left in place should be stainless steel. Equipment shims should not be galvanized, laminated, or painted.

5.5.4 Stationary equipment shims for towers & columns shall be positioned directly under all skirt and anchor bolt chair supports. These shims shall be positioned under the skirt, not closer than 1" from inside or outside edge. Shims for horizontal vessels & equipment shall be positioned on each side of the anchor bolts with no more than a 2" spacing between the shim pack & anchor bolt, no more than 3" from the end and along the centerline of the vessel support or slide plate with no more than 18" spacing between shim packs. Shim dimensions can vary from 2" x 2" for small vessels or supports, to 3" x 8" for large and super heavy equipment.

5.5.5 Rotating equipment shims/jacking pads can be square or round. If square stock is used, it shall be a minimum of ¼" thick (3/8" — 1/2" preferred), 2"x2" minimum dimension and the corners shall be radiused at approximately W. If round stock is used, it shall be 2" minimum diameter and ¼" to ½" thick (1/2" preferred). Dimple pocked is not required.

5.5.6 Special or Package Equipment requiring grouting shall utilize shims/jacking pads with the same dimensional requirements as paragraph 5.5.5 above.

5.5.7 Wedges used to level structural elements or equipment are normally removed and voids patched. Temporary leveling devices shall be removed when specifically required by the design documents or manufacturer's instructions.

5.5.8 Prior to grouting equipment, the RP shall verify the existence and adequacy of grout pour and vent holes. Where additional holes are required, the FE shall initiate an RFI/FCN for resolution. The equipment vendor shall be contacted to obtain recommendations and/or agreement with proposed hole locations and sizes. The RP should be aware many rotating equipment bases do not have grout pour holes or air vent holes. These bases are to receive a single grout pour only — grout level is to be formed to the top edge of the bottom base plate lip or to the center of flat base plates.

5.5.9 When grouting equipment, at the completion of leveling, rough alignment, verification of adequate grout pour and vent holes, the pre-pour checklist (Reference 6.1), shall be initiated by the RS describing the equipment that is ready to be grouted. Grout type shall be listed as specified in the design documents. The FE shall prepare and coordinate the signing off of the pre-pour checklist

5.5.10 SPECIAL NOTES: Some pump baseplates manufactured by Flowserve or Sulzer Pump companies are Extra Heavy Duty and without grout fill or vent holes. These baseplates are to be grouted (epoxy) up to the bottom of the baseplate frame only; they will not be grout filled baseplates. For pumps, grout shall be filled beyond the bottom of baseplates per project specifications.

5.5.11 For rotating equipment foundations, all anchor bolt sleeves will be sealed at the top of the foundation once it (the foundation) has been properly prepared for grout. These anchor bolts will be wrapped with duct tape from the top of the foundation up through where the bolts protrude through the baseplate to prevent grout sticking to it once poured. All jack bolts (leveling screws) will be wrapped with duct seal, wrapped with duct tape or greased to prevent grout sticking so that once

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

the grout has been poured and cured all jack bolts (leveling screws) can be removed and their holes filled with silicone to prevent standing water issues.

5.5.12 Equipment base plates and sole plates have received the appropriate surface preparation and coating applicable to assure adequate bonding with the grout.

5.5.13 Temperature for foundations, base or sole plates and grout materials are within the grout manufacturer's recommendations both prior to and following grout placement.

5.6 Formwork for Epoxy Grout

5.6.1 The method of forming should be compatible with the method of placing the grout and should facilitate rapid, continuous and complete filling of the space to be grouted.

5.6.2 Epoxy grout forms shall be liquid tight. A sealant recommended by the manufacturer should be used at form joints and interface between forms and concrete foundations. Although the form is sealed, it shall permit grout placement throughout the area while allowing air to escape from confined spaces.

5.6.3 Epoxy grout formwork shall be constructed of adequate strength, rigidity and adequate dimensions for the application. Chamfer edging, ¾" or 1", shall be used at the vertical and horizontal outside corners inside the formwork.

5.6.4 Epoxy grout forms are to be attached to concrete with drilled anchors, or by other approved method.

5.6.5 Epoxy grout headbox shall be easily removable to facilitate dressing/rubbing of grout surface to provide desired surface finish.

5.6.6 Apply multiple coats of paste wax to the inside surface of epoxy grout forms or use other methods as recommended by the epoxy grout manufacturer to prevent grout adhesion.

5.6.7 Expansion joints in epoxy grout shall be placed at approximately 4' to 6' intervals and perpendicular to the centerline of the baseplate, unless otherwise specified in the contract documents. The expansion joint material shall extend from the outer form edge to a minimum of 6" inside of pump base frame.

Note: It is not necessary to extend the expansion joint the full length or width of the foundation.

5.6.8 Expansion joints shall be made from closed-cell Neoprene, polyethylene foam board, or polystyrene, having a minimum thickness of 1 inch unless otherwise specified by the contract documents.

5.6.9 Expansion joints shall be fixed into positions to prevent movement and shall be sealed at formwork and at the concrete base to prevent epoxy grout from passing around or underneath the joint during placement.

5.7 Mixing Epoxy Grout

5.7.1 The RS shall identify any special batching requirements based on anticipated site climatic conditions for cold and hot weather batching, for example shading or windscreen requirements in warm or windy conditions.

5.7.2 Preconditioned dry grout stored at temperatures outside the specified temperature range to be within the required range prior to use. Follow grout manufacturer recommendations for

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

preconditioning of the materials. Grout material must be used as-is from the manufacturer packaging. Only complete packages of grout shall be used.

5.7.3 Grout mix proportions and methods shall conform to the manufacturer's written instructions. As a minimum, grout shall be mixed using paddle-type mortar mixers, drill mixers and other mechanical methods as specified by the grout manufacturer of size, quantity and capacity that allow mixing and placing operations to proceed simultaneously and without interruption.

Note: Mixing time for combining resin & hardener shall be in accordance with manufacturer's recommendations and air shall not be introduced or entrained during mixing of the resin & hardener. Mixing speed of the mixer paddles for combining the liquid and aggregates shall be approximately 25-30 RPM. During mixing and pouring of epoxy grouts the manufacturer's Rep may be onsite for observation and or instruction needs.

5.7.4 The RS as applicable should monitor grout mix proportions, mixing times and methods conform to the manufacturer's requirements. Grout mixture and surface temperatures shall be within the limits defined by manufacturer.

5.7.5 An adequate quantity of grout shall be on hand before starting to mix and place grout. No partial units of epoxy, resins, hardener, or aggregate shall be used. The ratio of components shall not be varied, and solvents shall not be added to change the grout consistency.

5.8 Placing of Epoxy Grout

5.8.1 Epoxy grout placements shall be started at one side of the forms on the shortest dimension for grout to flow across the foundation, and the cavity shall be filled completely while advancing toward the other end to prevent air entrapment. During mixing and pouring of epoxy grouts the Manufacturers Rep may be onsite for observation and or instruction needs. The RS shall make this determination with the MC.

5.8.2 To avoid separation of aggregate from resin binder, vibration or other forms of dynamic distribution are not permitted.

5.8.3 The forms shall be checked for grout leaks frequently. Leaks will not self-seal and may cause voids in the grout if not stopped. All leaks shall be sealed to prevent voids from forming in the grout.

5.8.4 The grout shall be checked for voids (where applicable) after the grout has cured. Any voids shall be filled according to the epoxy grout manufacturer's instructions.

5.8.5 Exposed expansion joints shall be cut, trimmed and sealed with the epoxy grout manufacturer's recommended sealant after Epoxy grout forms are removed and the Epoxy Grout has properly cured.

5.8.6 Epoxy grout cannot be cut back after cure. The final level of the epoxy grout shall be flush with the top of horizontal chamfer edges built into the formwork.

5.8.7 Anchor bolts/jack bolts shall be protected by sleeves and exposed threads shall be wrapped with duct tape or duct seal compound to prevent adherence of epoxy grout. Anchor bolt sleeves shall be extended to the underside of the mounting plate, or the area from the top of the anchor bolt sleeves and the bottom of the mounting plate shall be sealed to exclude epoxy grout. Anchor bolt sleeves shall be clean, dry and filled with non-binding moldable material. Expanding foam insulation is an example of a material suitable for this application, provided the foam is applied to the grout sleeves 24 hours prior to pouring epoxy grout and excess expansion above the concrete foundation is

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

removed after hardening. There will be occasions where pliable filler like silicon or duct seal is required to prevent grout incursion outside of the anchor bolt sleeve to prevent collapse.

5.9 Formwork for Non-shrink Cementitious Grout

5.9.1 The method of forming should be compatible with the method of placing the grout and should facilitate rapid, continuous and complete filling of the space to be grouted.

5.9.2 Forms for grouting operations shall be sealed to prevent leaks and shall permit grout placement throughout the area while allowing air to escape from confined spaces.

5.9.3 Forms shall be constructed of adequate strength, rigidity and adequate dimensions for the application.

5.9.4 Surface of the forms of non-shrink cementitious grout shall be applied with a bond-breaker consistent with the manufacturer's recommendations.

5.10 Mixing of Non-Shrink Cementitious Grout

5.10.1 The RS shall identify any special batching requirements based on anticipated site climatic conditions. For example, a heated water supply for batching during cold conditions, or chilled water or ice facilities for batching during hot weather conditions. In the absence of specific recommendations from the manufacturer, refer to project specifications.

5.10.2 The RS shall coordinate with grout crews in advance of placement to ensure good communication and efficient execution of the work.

5.10.3 Grout mix proportions and methods shall conform to written manufacturer instructions. Potable water shall be used. Hand mixing is permitted for dry pack and smaller quantity placements in accordance with the manufacturer's requirements but shall maintain the correct proportionality of components.

5.10.4 For flowable mixtures, do not exceed allowable water recommended by the manufacturer.

5.11 Placing of Non-Shrink Cementitious Grout

5.11.1 Non-shrink grout shall not be subjected to vibration from any source until the final set has been achieved.

5.11.2 Grout equipment bases and base plates in a continuous operation until the entire item is completely grouted in the following fashion:

- Place grout in bolt or dowel holes first to prevent air and water from being trapped in them and rising after grouting is completed, which may cause voids to form under the item being supported. If grout must be placed through grout holes, it shall be placed from one hole continuously until the grout has passed a second hole. A liquid head pressure shall be maintained at the first access hole until a head pressure has been established at the next hole. Grout placement shall continue from the next hole in a similar fashion.
- Grout shall be properly rodded and vented.

5.11.3 Grout may be dry packed, pumped, or flowed into place as permitted by manufacturer instructions for the specific grout being installed.

5.11.4 Grout shall be placed in only one direction to prevent trapping air. Grouting shall be quick and continuous to avoid segregation, bleeding, or premature initial set.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.11.5 Re-tempering of cementitious grout by adding water after stiffening is not permitted.

5.11.6 Grout shall be cut back to the lower edge of the base plate after it has reached its initial set.

5.12 Curing Non-Shrink Cementitious Grout

5.12.1 Upon completion of the grouting operation, all exposed cementitious grout surfaces shall be cured by the grout manufacturer's specifications.

5.13 Testing and Inspection of Non-Shrink Cementitious and Epoxy Grout

5.13.1 Grout tests shall be performed per project specifications

5.13.2 The RS and QCI as applicable shall perform monitoring of quality for the grouting operations from pre-placement to post placement in accordance with the criteria established on the design and vendor drawings, design specification, equipment manuals and compliance with applicable codes and standards and ensure that deficiencies are corrected prior to final acceptance.

5.13.3 During grout placements, the RS and QCI (as applicable) shall monitor the placement to ensure proper grout mixing, placements and parameters have been met. The monitoring shall include but not be limited to; grout material pre-condition, ambient temperature, grout, water and substrate temp, grout material lot numbers and expiration dates, formwork, grout location preparation and cleanliness, mixing and placing technique, grout sampling and testing by third party test lab (where applicable).

5.13.4 The Material Testing Agency will perform sampling and testing of fresh grout, curing, compressive strength and other required tests including preparation and submittal of all grout testing reports in accordance with subcontract requirements and applicable project procedures.

5.13.5 Void areas in grout under rotating equipment bases and top deck of mounting plates are detected and investigated by suitable test methods such as "hammer testing." Check for voids by tapping with a hammer, or similar device along the top deck of the mounting plate, listening for a "hollow" sound. Void areas should be filled with grout using a grout gun, or other suitable means. Note: The 'hollow" sound produced by tapping on the mounting plate, is not necessarily indicative that voids exist. When grout cures (even non-shrink grout), it separates from the underside of the mounting plates, creating a very fine gap between the bottom of the plate and the cured surface of the grout. When a void is suspected, additional investigation is required. Careful attention is required at deck support beam location(s), as these areas will resonate with the typical "hollow" sound.

5.13.6 Cementitious grout shall be sampled and tested in accordance with project specifications.

5.13.7 Epoxy grout shall be sampled and tested in accordance with the project specifications.

6 FORMS (SEE SECTION IV)

6.1	QC.04.2001.4A	Grout Pre/Post Pour Checklist
6.2	QC.04.2001.4B	Grout Card
6.3	QC.04.2001.4C	Grout Inspection and Test Report (ITP)
6.4	QC.04.2001.3D	Concrete Compressive Strength Test Report

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To define and establish the requirements for planning, controlling, and documenting the field erection of structural steel and to ensure compliance with applicable specifications, codes, and standards.

1.2 Scope

1.2.1 This procedure applies to work performed by EXCEL's force account (direct hire) construction. This procedure may also be applied to subcontractors when invoked by contract documents.

1.2.2 This procedure applies to all work being performed in connection with erection of structural and miscellaneous steel, and it should include inspection of assembly, erection, connecting (fastening), and welding operations. It shall also include inspection of related items, such as anchor bolts and base plates that may be a part of the supporting structure and installed as part of the concrete work. The requirements of OSHA 1926, Subpart R, Steel Erection, shall be followed.

1.2.3 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project specifications shall apply.

1.2.4 Deficiencies identified during in-process monitoring and final inspections, shall be documented and tracked in accordance with EXCEL's QUALITY MANAGEMENT SYSTEM (QMS) and Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)
2.2 QC.02.1002 Basis of Operations
2.3 QC.02.2002 QMS Structural Steel
2.4 OSHA 1926, Subpart R— Steel Erection
2.5 American Institute of Steel Construction (AISC)
2.6 Research Council on Structural Connections (RCSC)
2.7 American Institute of Steel Construction Manual (AWS) D1.1 – Latest Edition
2.8 Skidmore Wilhelm Instruction Handbook

3 ATTACHMENTS

3.1 QC.03.2002.1A Structural Steel Work Processes (Const., Pre/Post-Erection, and Quantities).

4 GENERAL

4.1 Definitions

4.1.1 Applicable Drawings- The fabricator shall supply a complete set of erection drawings, showing erection marks and field welding details if field welding is noted on the erection drawings.

4.1.2 Structural Steel - The definition of structural steel is included in the steel fabrication purchase order and typically includes all main building framing, stair towers, bridge crane supports and pipe racks.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.1.3 Flux Cored Arc Welding (FCAW)- a semi-automatic welding process that uses a consumable electrode with flux in its core to create an arc between the electrode and the weld pool.

4.1.4 Shielded Metal Arc Welding (SMAW). a manual arc welding process that uses a consumable electrode covered with a flux to create an arc between the electrode and weld pool.

4.1.5 Miscellaneous Steel - Miscellaneous steel includes all minor steel not included in the scope of structural steel or embedded items and typically includes independent platforms not associated with the primary structure, handrail, stair rails, ladders, grating and metal decking.

4.1.6 Embedded Items - Embedded items are all items to be installed during pre-concrete placement to provide for future attachment or penetration of system commodities or structural members, or simply to provide for durability of exposed edges and surfaces. Embedded metals and other cast in place items to be installed prior to concrete placement include but are not limited to:

4.1.7 Cast-in-place anchor bolts

4.1.8 Steel plates, frames and curb angles

4.1.9 Steel sleeves for piping, conduit or anchor bolt penetrations

4.1.10 Embedded piping

4.1.11 Electrical raceway commodities

4.1.12 Miscellaneous embedded items

4.1.13 Hold-out Steel - Hold-out steel is structural steel members that are left out of the original erection process to permit the installation of components or equipment.

4.1.14 Modularization - The assembly of a portion of the structural steel structure in an off-site assembly yard that integrates components and commodities from other disciplines (e.g., piping, electrical raceway, equipment, etc.).

4.1.15 Pre-assembly - The assembly of a portion of the structural steel structure either off-site or on- site prior to erection. Pre-assembled structural steel frames do not normally integrate components from other disciplines.

4.1.16 Design Documents - Design documents include all drawings, specifications and instructions approved by the Project Engineer, or the Project Field Engineer (for field commodity responsibility), for use during construction of the project. This also includes contractor documents approved for use during the construction phase of the project, as well as any codes and standards referenced by the designer or contract requirements.

4.1.17 Inspection and Test Plan (ITP) - ITP's are documents that delineate inspection and/or test activities to be performed to verify acceptability of various construction and/or installation activities.

4.1.18 In-Process Monitoring - Routine oversight performed to validate that the work activities and processes are being implemented in accordance with the approved quality program, applicable specifications and project documents.

4.1.19 Work Plan- The work plan is a detailed field instruction, written to the Foreman level, listing the sequential operations to be followed for erection of specific increments of the work covered by this procedure. Such work plans shall be prepared by Field Engineering and Construction personnel on as needed basis.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Note: References made to specific documents or publications shall be considered inclusive of all other referenced documents, as they are applicable to the work within the scope of this procedure. In the event of discrepancies between these documents, or between these documents and the requirements of this procedure, the order or precedence shall be the requirements of this procedure unless otherwise determined. If the project specifications are less stringent than the applicable codes, the applicable codes shall take precedence. All plans and specifications shall be reviewed for compliance with the Occupational Safety and Health Administration (OSHA) requirements. All field changes shall conform to OSHA standards.

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this procedure are properly implemented.

4.2.2 Area Site Manger (ASM)

The ASM is responsible for the overall quality of work performed by construction personnel for his assigned area. The ASM is responsible for providing input for all structural steel work and provides training for field personnel on the requirements of this procedure. The ASM shall delegate assignments and monitor the performance of Superintendents to ensure the requirements of the procedures are properly implemented.

4.2.3 Quality Control Manager (QCM) and Quality Control Inspector (QCI)

The QCM is responsible for monitoring, supervising and assignments of the QCI. The QCI are responsible for inspecting structural steel work to ensure compliance with the requirements of the project, Site Specific Quality Control Plan and Project Specifications and Codes. The QCI will monitor, perform in-process and final QC inspections for all structural steel work to ensure that installation is to the latest revision of the drawings, installed in the correct location, and are installed in accordance with the design documents.

4.2.4 Planner/Scheduler (PS)

The PS is responsible for assisting the Superintendents in planning and scheduling the installation activities.

4.2.5 Responsible Superintendent (RS)

The RS is responsible for supervision and coordination of manpower, tools and equipment required to accomplish structural steel work, including fulfilling all the safety and quality requirements pertaining to the work. The RS is to ensure that construction workers are qualified to perform the work and develop the weekly work plan for structural steel activities. The RS is responsible for monitoring the quantity reporting process from the RP for accuracy and timeliness.

4.2.6 Field Engineer (FE)

The FE is responsible for assisting field supervision when corrective action is required to correct a quality issue and assist in resolving field problems related to structural steel activities.

4.2.7 Responsible Person (RP)

The RP is the individual on the construction team responsible for directing the structural steel work activities (e.g., Craft Supervisor, General Foreman). The RP is the front-line supervisor for craft workmanship and maintaining a safe working environment.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.2.8 System Turnover Manager (STM)

The STM is responsible for supervision and assignment of the System Turnover Supervisors (STO), System Foremen (SF) and Field Engineers (FE) necessary to provide technical support, and assist the RS, RP, and QCI with the project requirements along with demands of the structural steel schedule. The STM is responsible for providing input as needed on quality control documentation requirements. The SF is responsible for reporting structural steel installed quantities to the PS.

5 PROCEDURE

5.1 Preplanning Work Activities

5.1.1 Depending on the size and complexity of a job, a pre-construction meeting should be held to verify the construction and safety requirements prior to performing the first structural steel erection activities in an area. This meeting shall include as appropriate, but not be limited to the ASM, RS, RP, QCI/QCM, and Safety. The Informal meetings of interested parties may be held during the work process as needed.

5.1.2 A thorough review of the ITP (Reference 6.1) and referenced documents shall be performed. During the construction process, some additional inspections and/or tests may be required as requested by the CSM.

5.1.3 Refer to the ITP (Reference 6.1) for inspections and tests required to provide documentation for meeting the project requirements. The ITPs refer to industry standards, codes, and other applicable requirements.

5.2 Prerequisite Requirements

5.2.1 Line and Grade Control: The PE or designated assignee shall verify that all necessary horizontal and vertical controls have been established and are clearly understood by those responsible for performance of the work.

5.2.2 Base Plates, Embeds, etc.: Prior to commencing erection, the elevation and location of embedded plates, seat angles, and other items of construction to which work shall be attached, shall be carefully checked for correct orientation, spacing, and elevation. Base plate surfaces and supporting concrete surfaces shall be checked to verify satisfactory conditions for grouting.

5.2.3 Construction Tools and Equipment: All tools and equipment used in connecting operations shall be inspected to verify conformance with specification requirements. For example, air compressors must be of sufficient capacity to maintain the required operating pressure for impact tools.

5.3 Receiving, Identification, Storage and Materials Management

5.3.1 The structural steel fabricator shall provide the project team with an electronic list of fabricated structural steel member piece mark numbers, weights, sizes, fabrication status and other associated data.

5.3.2 On a periodic basis, the ASM/RS shall review structural steel fabricator forecast delivery dates and compare them to the need dates established in the schedule. Discrepancies shall be reviewed with the fabricator.

5.3.3 The ASM/RS shall ensure that materials not furnished by the structural steel fabricator are ordered in the field and that delivery is scheduled to support construction requirements. Examples of items

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

not typically furnished by the steel fabricator are Steel Shims, leveling nuts, temporary erection bolts and specialty bolts for anchoring equipment and miscellaneous steel.

5.3.4 Material receiving activities shall comply with the Site Material Management Requirements.

5.3.5 The structural steel fabricator may be required to use bar code labels on the packing list, as well as on each fabricated member.

5.3.6 To release materials for installation:

- When fabricated structural steel members are off-loaded and stored under the field procurement control, the ASM or RS shall initiate a Material Withdrawal Request (MWR) when the material is ready for installation.
- When fabricated structural steel members are off-loaded and temporarily stored under construction control, a Material Withdrawal Request (MWR) is not required to authorize the material for installation.
- When fabricated structural steel members can be directly off-loaded in a pre-assembly yard, or for installation, a Material Withdrawal Request (MWR) is not required to authorize the material for installation.

5.3.7 Fabricated pieces shall be marked with a permanent identifying erection mark number.

5.3.8 Bolts, nuts, washers, etc., shall be packed and delivered in marked, rigid (not cardboard), weatherproof containers. Loose clips and other small parts shall be wired together and tagged. Material required for erection shall be shipped with its corresponding steel.

5.3.9 Delivery of steel shall be scheduled in the order needed for erection. Railcars and trucks shall be loaded and cribbed in such a way as to facilitate easy offloading at the site. All steel shall be protected from physical damage, damage to coatings by careless handling, improper storage and poor shipping techniques.

5.3.10 Steel materials shall be inspected immediately upon receipt by RS/RP, to determine that all items included in the Bill of Materials have been supplied, all documentation is received and accurate and to check for any coating or physical damage.

5.3.11 Steel materials and pre-assembled modules delivered by barges from various module yards shall be unloaded, handled and stored in a manner that prevents distortion, deterioration, physical damage, damage to coatings, or staining. Steel materials shall be kept clean of dirt, grease and other foreign matter then stored.

5.4 General Requirements

5.4.1 The installer shall have access to a copy of the applicable project specific requirements and acceptance criteria when performing the work.

5.4.2 All required inspection documentation for completed work shall be submitted to QCI by the end of the week the activity is completed.

5.4.3 Prior to the erection of steel, the following construction work processes are also required:

- Documented notification that the concrete in the footings, piers and walls and the mortar in the masonry piers and walls have attained a minimum of 75 percent of the intended minimum compressive design strength, or sufficient strength to support the loads imposed during steel

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

erection. The strength determination will be based on the appropriate ASTM standard test method of field-cured samples.

- Repairs, replacements, or modifications to anchor bolts shall be documented on a Field Change Notice (FCN), Deviation Notice and/or Design Change Notice (DCN), etc. documenting the approved change and submitted to the RS.

5.4.4 Alignment: All structural steel shall be accurately set to the lines, locations, and elevations indicated on the drawings and within the tolerances specified in the AISC Code of Standard Practices, except that the maximum plumbness deviation shall not exceed 1 in. regardless of height. Alignment operations shall be carried out early enough, and as often as necessary, during erection to ensure that specified requirements are met.

5.4.5 Alignment of bolted members shall be accomplished using size-on-size barrel pins or tapered pins. Caution shall be taken so as not to distort the metal or enlarge the holes when using tapered pins for alignment.

5.4.6 Erection bolts shall be used for alignment of members requiring a welded connection and may be used for bolted connections prior to final alignment and bolt up of the structure.

5.4.7 Column base plates or other supporting members shall not be grouted until alignment has been checked, recorded, and accepted by the QCM/QCI and Client's Representative.

5.4.8 Check all grating, floor plates, handrails, and toe plates to ensure that they are properly installed according to the project drawings and specifications.

Note: When misfits and fabrication errors are encountered during erection, they shall be reported to the RS/FE for execution of back charge documentation.

5.4.9 Unless specifically provided for in the erection drawings, no field fitting which physically alters the as-fabricated condition of any item shall be permitted without the Design Engineer's and Client's approval.

5.4.10 Where any doubts exist, the RS/FE shall consult with the Design Engineer and Client's Representative before any corrective action is taken.

5.4.11 Minor corrections of misfits using drift pins and/or reaming, grinding, chipping, or cold cutting, are a part of normal erection.

5.4.12 Bolt holes shall not be reamed to a diameter larger than 1/8 in. more than the nominal diameter of the bolt. Slotting of holes is prohibited unless approved in writing by the Design Engineer and Client's representative.

5.4.13 Major Corrections: Any errors that prevent the proper assembly of parts by the above measures or may require correction or adjustment involving a change in structural design, shall be addressed by the Design Engineer. The RS/FE shall assist the Design Engineer in determining the cause of the problem and in finding a practical and satisfactory solution. Work shall not proceed until such approval has been obtained in writing from the Design Engineer and Client's Representative.

Note: Correction of fabrication errors, which may cause for back charge to suppliers. When back charges are warranted, forward details and documents to the CSM or PE.

5.4.14 Damage Due to Shipping and Handling: The conditions set forth above shall apply to correction of any damage noted at time of receipt or damage that subsequently occurs. All supervisory personnel

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

have responsibility for being on constant alert for visible signs of damage and for immediate reporting of such damage.

5.5 Erection Activities and Methods

5.5.1 Activity steps in the erection process:

- The RS and RP shall perform in-process inspections to verify that erection of assemblies and individual members meet project requirements.
- Alignment, plumb, level checks and bolting shall be verified on the ITP Report (Reference 6.1) by the RS and signed by the QCM/QCI
- Bolt-up and/or welding of connections.

5.5.2 Bolt-up and/or welding of connection requirements:

- Structure shall be plumb, leveled and braced before any final bolted or welded connections are made.
- The QCI shall verify that all welding is performed in accordance with project requirements.
- Bolts tightened by the “turn-of-nut” method shall be notch marked **across the bolt, nut, washer, and steel with crayon or paint in the snug-tight position** to allow observations of proper tensioning after the snug tight position is reached.

5.5.3 Two bolts in each connection are the minimum to connect solid web members and one bolt is the minimum for solid web bracing members or the equivalent as specified by the PE. The initial minimum bolts are to be the same size and strength as shown in the erectiondrawings.

5.5.4 If applicable, a representative sample of not fewer than three complete fastener (bolt) assemblies of each combination of diameter, length, grade and lot to be used in the work, shall be checked at the jobsite in a tension calibrator, to verify that the pre-tensioning method develops a pre-tension that is equal to or greater than 1.05 times that specified for installation and inspection per Table 8.1 of RCSC Specification for Structural Joints Using ASTM A325 orA49O Bolts. The use of a Skidmore-Wilhelm Machine is common for this verification.

- Follow the Skidmore-Wilhelm Instruction Handbook: Clamp the Skidmore-Wilhelm to a building column, or other suitable stationary object and install the proper adapters for the size bolt being tested. The bolting crew shall then select the samples per 6.4.4 above to be used for erection that day. Using either a hand or pneumatic wrench, bring the nut to snug tight in the same manner to be used on the actual connection during erection. Then use the marking system to mark nut in snug-tight position. Turn the nut to see that the minimum tension value has been exceeded by at least 1.05 times that specified for installation and inspection (5%). If not, adjust the procedure until the bolting crew consistently reach this minimum. This could mean changing the snugging procedure or the amount of turning.
- Document this verification. This documentation can also serve as verification of training for the bolting crew.
- Documentation shall be submitted to the QCI/QCM for final review. Completed records will be submitted to document control for record retention to meet project records management requirements.

5.6 Direct Tension Indicators Method – Installation (If Applicable)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.6.1 After completion of the snug-tightening method, check that the number of spaces in which a 0.005" Gauge is refused, does not exceed the allowable value. If the assembly fails this gauge test, the completely new assembly shall be rejected and replaced with a new installed assembly.

5.6.2 Check that all gaps are completely closed. However, it is typical in any joint that some ofthe DTI's may have all their gaps closed during the tensioning process. An effective check procedure is to inspect the bolt stick-out through the nut. This stick-out should be consistent for all bolts in the connection whether or not the DTI's gaps are completely closed.

5.6.3 Check that the number of spaces in which a 0.005" gauge is refused is equal to or greater than the allowable value.

5.6.4 Monitor the tightening operation to ensure that the turning of the nut during the final tightening does crush the DTI.

5.7 Twist-off Bolt Method – Installation (If Applicable)

5.7.1 Following the snug-tightening operation, monitor and check the connectors to assure that the spline is not twisted off during the initial snugging operation.

5.7.2 During the snugging and tightening installation, ensure that the tightening processes from the most rigid part (near the center) to the free edges.

5.7.3 Following the snug tightening operation, monitor and verify all fasteners being tightened until the control or indicator element is twisted off or has been sheared.

5.7.4 Perform a light tap of each fastener with a hammer to ensure that there are no loose fasteners.

5.8 High Strength Bolted Connections

5.8.1 High-strength friction-type connections shall be installed at the locations shown on the erection drawings, using bolting materials furnished by the fabricator as scheduled in the fabricator's Bolt Placement Lists and Summary Sheets. Installation shall be in accordance with AISC, Specification for Structural Joints using ASTM A325 or A490.

5.8.2 During assembly, special attention shall be given to solid seating of the contact surfaces, including those under bolt heads, washers, and nuts. Chipping or grinding shall remove burrs, fins, or ridges.

5.8.3 Loose scale, rust, dirt, oil, grease, paint, masking material, and other foreign matter shall be removed by scraping, wire brushing, or other suitable means.

5.8.4 Note: A light coating of rust and/or tight mill scale is not objectionable in friction-type joints.

5.8.5 Erection bolting and pinning shall be sufficient to ensure solid seating of the contactsurfaces and to maintain alignment throughout final bolting.

5.8.6 The RS/FE shall determine when work has progressed to the point that grade and alignment will not be affected by subsequent placement of members. He shall arrange for a formal check of grade, plumbness, and alignment.

5.8.7 A record on such checks shall be maintained in bound field books, on marked-up reproducible drawings or other suitable permanent documents controlled by the RS and/or QCI.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.8.8 Bolting: Permanent high-strength bolts shall be installed and tightened, as a minimum, by the turn-of-nut method or with a torque wrench as described in Section 5, of the AISC Specifications and the requirements shown in 5.5.8 through 5.5.11.

5.8.9 Flat circular washers as furnished by the fabricator shall be installed under the nut, as called for in the Bolt Placement Lists.

5.8.10 Where an outer face of the bolted parts slopes 1:20 or more with respect to a plane perpendicular to the bolt axis, square or rectangular beveled washers shall be installed to provide contact with the bolt head and/or nut.

5.8.11 If required for Excel to procure washers of the above types, they shall be hardened-steel washers of standard commercial grade that conform to the dimensional requirements of the cited AISC Specifications.

5.8.12 Turn-of-Nut Tightening: Enough bolts to bring the parts of the connection into good contact and to maintain alignment shall be brought to a snug tight condition; after which erection bolts and/or pinning shall be removed, and bolts shall be placed in the remaining holes and brought to snug tightness.

Note: A "snug tight" condition is defined as the degree of tightness attained by a few impacts of an impact wrench, or the full effort of a man using an ordinary spud wrench.

5.8.13 When all bolts in a connection have been brought into snug tightness, the point of the bolt and face of the nut shall be match marked in such a way as to provide visual means of verifying actual nut rotation; following which they shall be rotated in the tightening direction as specified in the cited AISC Specification.

Note: If an automatic cut-off impact wrench is used, it shall be calibrated at least once daily. The calibration shall be performed by tightening, in a device capable of indicating actual bolt tension, using not less than three typical bolts of each diameter of the bolts being installed.

5.8.14 Power wrenches shall be adjusted to stall or cutout at the selected tension. When manual torque wrenches are used, the torque indication corresponding to the calibrating tensionshall be noted and used in the installation of all bolts of the tested lot. Nuts shall be in tightening motion when torque is measured.

Note: Inspection and Acceptance: All high-strength bolted connections shall be inspected in accordance with the AISC Specification.

5.8.15 Inspection of bolting shall include visual inspection of bolting operations and torque wrench inspection of completed connections. All connection points shall be visually inspected for the following items:

- Bolts are the correct length as indicated by at least two threads extending beyond the nut.
- Correct type bolt is used as indicated by the manufacturer's marking on the head.
- Hi-strength bolt heads are marked by the manufacturer with either three radial lines 120 degrees apart, or with the designation A325. Heavy semi-finished hexagon nuts are similarly marked with three markings 120 degrees apart on one face.
- Torque has been applied as indicated by the burnishing or penning of the corners of the nut.
- Turning elements are on the correct face and washers are used when required.
- Hand torque wrenches used for inspection must be calibrated at least weekly and more often if deemed necessary. Impact torque wrenches used for inspection must be calibrated at least twice

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

daily. The schedule of bolt tension inspection shall be as specified in the latest edition of Specification for Structural Joints Using ASTM A325 or A490 Bolts.

5.8.16 Bolting shall be performed under the surveillance of the RS/FE or designee. Verification of satisfactory adherence to the above specified installation and bolt-tightening procedures shall be entry of the Design Engineer's initials on appropriate lines of sepia copies of the Bolt Placement Lists supplied by the Fabricator and/or identification of each tightened bolt by painting bolt heads or any method acceptable to client. These shall be made available to the Client's Representative and maintained by the FE until all bolting is complete. Any additional inspections shall be performed with calibrated inspection wrenches. The record of such inspections may be entered on the Bolt Placement Lists or on a separate Inspection Form.

5.9 Soft Bolting

5.9.1 Installation of ASTM A307 bolts shall be in accordance with the foregoing requirements for high-strength bolts, except that these bolts shall be brought only to the snug-tight condition unless otherwise specified in the design or erection drawings.

5.10 Welding

5.10.1 All structural Steel welding shall be performed in accordance with the requirements of the American Welding Society, Structural Welding Code D1.1 latest edition.

5.10.2 Complete penetration welds shall be used for all groove welds unless otherwise specifically indicated on the drawings.

5.10.3 Weld joint preparation shall be in accordance with AWS D1.1 After brushing and/or grinding to remove scale, slag, rust, etc., the surface may be lightly coated with an aluminum flux paint, such as Deoxaluminite manufactured by: Special Chemicals Corporation, Ossining, New York, for protection from contamination prior to actual welding. The protective coating specified above need not be removed prior to welding.

5.11 Welding Material Control

5.11.1 After opening hermetically sealed rod containers, the remaining electrodes shall be stored in rod room or designated rod storage area.

5.11.2 Weld materials shall be stored in a clean, dry area free from contamination and dust.

5.11.3 Low hydrogen electrodes should be kept in rod storage oven set at 250°F. If there is conflict between this temperature and client requirements, the client requirements shall supersede. At no time shall low hydrogen electrodes be stored outside the ranges specified in ASME Section II (50°F to 250°F above ambient temperature).

5.11.4 Low hydrogen electrodes shall be kept in heated rod caddies when removed from the storage ovens.

5.12 Weld Joint Identification

5.12.1 A field Weld Data Sheet that reflects the status of all welds shall be maintained by the PE or assignee and made available to Client's Representative. The weld number on the form shall correspond with the number assigned to that specific weld connection on each weld map.

5.13 Welding Procedure Qualification

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.13.1 All welding shall be in accordance with the latest edition of AWS D1.1 Structural Welding Code, employing SMAW or the FCAW processes. Joint details shall conform to the requirements of AWS D1.1-72, Design of Welded Connections, and therefore are designated as "pre-qualified", and shall not require procedure qualification tests.

5.13.2 In accordance with AWS D1.1, the welding procedures shall be prepared as written procedure specifications by the QCM and shall be approved by the Client's Representative.

5.14 Welder Qualifications

5.14.1 All welders shall be qualified in accordance with AWS D1.1.

5.14.2 Qualified welders shall be assigned a welder stamp for traceability of their work.

5.14.3 Documentation concerning the results and status of welder qualifications shall be completed and processed by the Quality Control Manager. The welder qualification test laboratory report(s) and radiograph(s) shall be kept on file.

5.15 Inspections, Testing, and Acceptance

5.15.1 The RS and RP shall perform in-process monitoring and inspections of the quality of the structural erection process and shall ensure that any deficiencies are corrected prior to the final inspection.

5.15.2 The QCM/QCI shall perform a final inspection of the structural steel erection in accordance with the criteria established on the design drawings, in the design specification and in the project applicable codes, standards and guidelines, i.e. AISC, AWS. Final inspections shall be documented on the Structural Steel ITP shown in (Reference 6.1). The RS shall notify the QCM/QCI when a structural steel section is completed and ready for final inspection.

5.15.3 Structural and Miscellaneous Steel shall be installed and inspected to meet design requirements.

5.15.4 Fixed Ladders and Cages shall be installed and inspected to design requirements.

5.15.5 Angle Railings for Walking and Working Surfaces shall be installed and inspected to design requirements.

5.15.6 Gratings shall be installed and inspected to design requirements.

5.15.7 Vessel Circular Platforms shall be installed and inspected to design requirements.

5.15.8 Welding inspection shall be accomplished in accordance with the design specifications and drawings.

5.15.9 The QCM in accordance with the acceptance standards and requirements of AWS D1.1, Quality of Welds, and Weld Profiles shall visually inspect all welds.

5.15.10 In the event of an unacceptable weld, the QCM shall instruct the Craft Supervisor to perform the required repairs in accordance with the Design Engineer's recommendations of AWS D1.1, subject to the approval of Client's Representative.

5.16 Documentation

5.16.1 The QCM shall be responsible for maintaining files of all documents pertaining to welding, and which shall be available to Client's Representative, including but not limited to:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Field Purchase Requisitions for welding electrodes flux cored wire, etc., providing required certification.
- Field Weld Data Sheets completed and signed off as described above, together with all Nondestructive Examination (NDE) Reports.

5.16.2 A record of inspections and acceptance of work in progress shall be maintained by the QCM and made available to Client's Representative. Upon satisfactory completion of the work and submittal of all required documentation, the QCI/STO shall obtain Client's final acceptance by signature on the appropriate acceptance form. Should inspection be by a building inspector or by an independent inspection agency, the reports prepared by these individuals shall be used to document final acceptance of the work.

5.16.3 All records shall be included in the Structural Steel Turnover Package.

6 FORMS (SEE SECTION IV)

6.1 QC.04.2002.1A Structural Steel Inspection and Test Report (ITP)

6.2 QC.04.4002A Structural Steel Erection Sign-off Sheet

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 This procedure defines the process for the installation of pipe hangers, targeting zero punch list items associated with completed work, and provides direction for the installation, inspection and documentation of the work.

1.2 Scope

1.2.1 This procedure applies to work performed by EXCEL's force account (direct hire) construction. This procedure may also be applied to subcontractors when invoked by contract documents.

1.2.2 This procedure describes the processes for Pipe Support installation.

1.2.3 This procedure also establishes minimum guidelines/objectives for construction personnel performing field installation and inspections on engineered and standard (non-engineered) pipe hangers/supports.

1.2.4 Embedded items are not included on the scope of this procedure.

1.2.5 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents shall apply.

1.2.6 Deficiencies identified during in-process monitoring and final inspections shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)

2.2 QC.02.1002 Basis of Operations

2.3 QC.02.2002.1 QMS Structural Steel Execution Plans

2.4 American Institute of Steel Construction AWS D1.1 Structural Steel

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 Miscellaneous Steel - minor steel not included in the scope of structural steel or embedded items and typically includes independent platforms not associated with the primary structure, handrail, stair rails, ladders, grating and metal decking.

4.1.2 Design Documents - design documents include all drawings, specifications and instructions approved by the Client Representative, Project Engineer, or the Project Field Engineer (for field commodity responsibility), for use during construction of the project. This also includes contractor documents approved for use during the construction phase of the project, as well as any codes and standards referenced by the designer or contract requirements.

4.1.3 Inspection and Test Plan (ITP) - documents that delineate inspection and/or test activities to be performed to verify acceptability of various construction and/or installation activities.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.1.4 In-Process Monitoring – routine oversight performed to validate that the work activities and processes being implemented are in accordance with the approved quality program, applicable specifications and project documents.

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this procedure are properly implemented.

4.2.2 Area Site Manger (ASM)

The ASM is responsible for the overall quality of work performed by construction personnel for his assigned area. The ASM is responsible for providing input for all structural steel work and provides training for field personnel on the requirements of this procedure. The ASM shall delegate assignments and monitor the performance of Superintendents to ensure the requirements of the procedures are properly implemented.

4.2.3 Quality Control Manager (QCM) and Quality Control Inspector (QCI)

The QCM is responsible for monitoring, supervising and assignments of the QCI. The QCI is responsible for inspecting field welds to ensure compliance with the requirements of the PQP and project specifications and codes. The QCI shall coordinate required Non-destructive Examination (NDE), Post-Weld Heat Treatment (PWHT) and Positive Material Identification (PMI) activities, and visual inspection of welding in accordance with the approved Engineering documents. The QCI will monitor, perform in-process and final QC inspections and pipe support installations.

The QCI is responsible for all in process and final inspections necessary to ensure the supports and hangers are installed to the latest revision of the drawings, installed in the correct location, and are installed in accordance with the design documents.

4.2.4 Responsible Superintendent (RS)

The RS is responsible for supervision and coordination of craft labor and equipment required to install hangers and supporting members in accordance with the applicable design drawings, codes, specifications and standards. The RS is also responsible for the quality of work performed.

The RS is responsible for monitoring the installation of the pipe supports to ensure the supports are in accordance with the latest Engineering documents and are installed in the correct engineered locations.

4.2.5 Field Engineer (FE)

The FE is responsible for assisting field supervision when corrective action is required to correct a quality issue and assist in resolving field problems related to planning or carrying out pipe support installation.

4.2.6 Responsible Person (RP)

The RP is the individual on the construction team responsible for directing structural steel erection work (e.g., Craft Supervisor, General Foreman). The RP is also the front-line supervisor for craft workmanship and maintaining a safe working environment.

4.2.7 System Turnover Manager (STM)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The STM is responsible for providing input as needed on quality control documentation requirements and monitoring the quantity reporting process for accuracy and timeliness. The STO is responsible for supervision and assignment of System Foremen (SF) and Field Engineers (FE) necessary to provide technical support, and assist the RS, RP, and QCI with the project requirements along with demands of the pipe supports schedule.

5 PROCEDURE

5.1 General Requirements

5.1.1 The RP shall have readily available a copy of the applicable project specific requirements and acceptance criteria when performing the work. All required inspection documentation for completed work, as listed in the EXCEL QMS or when applicable, shall be completed by the end of the shift where the work activity is completed.

5.1.2 All materials, work and services shall fully comply with the design drawings, specifications, applicable codes and standards.

5.1.3 Deficiencies identified during the hanger installation shall be documented in accordance with the EXCEL QMS.

5.1.4 Pipe support installation progress shall be monitored and reported by the RP.

5.1.5 Line balancing will be performed by others during commissioning.

5.1.6 The practice of using rotating equipment nozzles for pipe support is Strictly Prohibited.

5.2 Pipe Support Planning and Work Preparation

5.2.1 The ASM shall review pipe support delivery forecast dates and compare them to the need dates established in the schedule to ensure that required pipe supports have been received.

5.2.2 The ASM or RS shall initiate procurement when the pipe supports are ready for installation.

5.2.3 Pipe support materials shall be inspected immediately upon receipt by ASM or RS to determine that all items included in the Bill of Materials have been supplied, all documentation is received and accurate, and to check for any physical damage.

5.2.4 Where possible, pipe hangers and supports should be installed prior to piping erection to minimize use of temporary supports, chainfall, etc.

5.2.5 RS or RP is responsible for verifying all material and material management prior to system/unit turnover.

5.3 Inspection and Acceptance

5.3.1 The RS and ASM are responsible for monitoring pipe support installation activities to ensure work is in accordance with all safety, quality and schedule requirements.

5.3.2 The QCI shall verify that all hangers and supports, including vendor components, are installed per design drawings and that relative locations and hanger/support types are in accordancewith the design drawings. Prior to hydrotesting, the RS and the QCI shall ensure all lines are adequately supported for hydrotesting loads. Every effort should be made to ensure pipe supports are complete, correct and verified by the QCI as early as possible to target zero punchlist items and minimize rework hours at job completion.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.3.3 The RS should ensure any required temporary supports are installed prior to hydrostatic testing, when temporary support is required in addition to those supports required by the project requirements.

5.3.4 The RS should ensure all rigging and/or temporary supports are removed after completion of hydrostatic testing.

5.3.5 The RS should review design drawings to verify that the correct pipe supports have been installed and that the supports are plumb, square, and properly aligned.

5.3.6 The RS should inspect pipe supports for evidence of damage i.e. dents or nicks.

5.3.7 The RS should check all clip angles for bent members.

5.3.8 QCI shall verify all welded connections are completed and that other areas, particularly at “free to slide “or other locations are not welded.

5.3.9 The RS and QCI should verify the installation of beam stiffeners, where required, and that no extra stiffeners have been installed that are not designed.

5.3.10 The RS and QCI should verify that all installed offsets for shoe/stanchion pipe attachments, relative to supporting members, are opposite in direction and expected thermal travel in the cold condition or as indicated on the design drawings.

5.3.11 On shoe or stanchion pipe attachments, the RS should ensure sufficient bearing exists between pipe attachments and supporting members throughout the entire thermal travel condition or as indicated on the design drawings.

5.3.12 RS and QCI should verify installed gaps and directions in the cold condition as specified on design drawings.

5.3.13 RS and QCI should verify nut and bolt assemblies are visibly tight and that all cotter pins or other locking devices if required are present and properly secured.

5.3.14 RS and QCM/QCI should verify installed swing angles are installed as indicated on design drawings.

5.3.15 RS and QCI should verify hanger mark numbers as depicted on the spring cans and hanger assemblies are consistent and that travel stops are present and firmly secured.

5.3.16 RS and QCI should verify spring can load/displacement scale is present and visibly orientated.

5.3.17 The RS and QCI should check to ensure the hex nuts are tight against the base plate and visible anchor bolt threads project past the top of the hex nut. The QCI should also check minimum edge distances in accordance with manufacturers’ literature and from the Project specification.

5.3.18 RS and QCI should verify that U-bolts and hex nuts are positioned appropriately for the application.

5.3.19 RS and QCI should verify that slide plates assemblies are present, have installations offset where applicable, and Teflon, or similar project approved, slide material has not been damaged due to over welding.

5.3.20 RS and QCI should verify grease, or lubricants are applied or removed as required as part of the component maintenance.

6 FORMS (SEE SECTION IV)

6.1 QC.04.2002.2 Pipe Support Inspection & Test Report (ITP)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To define and establish the basic requirements for planning, controlling, and documenting satisfactory performance of the work performed in the field fabrication and erection of piping systems.

1.2 Scope

1.2.1 This procedure applies to work performed by EXCEL's force account (direct hire) construction. This procedure may also be applied to subcontractors when invoked by contract documents.

1.2.2 This procedure applies to all work to be performed in connection with field fabrication of sub-assemblies and erection of all sizes of piping systems including offsite shop fabricated piping, hangers and supports.

1.2.3 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents shall apply.

1.2.4 Deficiencies identified during in-process monitoring and final inspections, shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)
2.2 EXCEL Quality Management System (QMS)
2.3 Project Engineer's drawings, specifications and references.
2.4 QC.02.2003.4 Hydrostatic Pressure Testing
2.5 QC.02.2003.5 Pneumatic Pressure Testing
2.6 ASME BPVC Sections I, VIII and IX.
2.7 ANSI B31.1 Power Piping Code.
2.8 ANSI B31.3 Chemical and Refinery Piping Code.
2.9 ANSI B31.4 Liquid Petroleum Transportation Piping Code.
2.10 ANSI B31.5 Refrigeration Piping Code.
2.11 ANSI B31.8 Gas Transmission and Distribution Piping Code.
2.12 ANSI B31.2 Fuel Gas Piping Code.
2.13 Manufacturers' Standardization Society (MSS) SP-58 and SP-69.
2.14 API 1104
2.15 AWS D1.1

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 None

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this procedure are properly implemented.

4.2.2 Project Engineer (PE)

The PE is responsible for coordinating all required surveying and all other engineering services. The PE is responsible for resolution of problems and drawing interpretation.

4.2.3 Area Site Manager(ASM)

The ASM is responsible for the overall quality of work performed by construction personnel for his assigned area and shall have full responsibility for the direction of the work. ASM is responsible for providing input and providing training for field personnel on the requirements of this procedure. The ASM shall delegate assignments and monitor the performance of Superintendents to ensure the requirements of the Procedures are properly implemented.

4.2.4 Quality Control Manager(s) (QCMs) and Quality Control Inspector (QCI)

The QCM is responsible for the establishment and control of the piping program on the project in accordance with the requirements of the approved Piping Procedure(s), and for managing and directing the QCI to enforce compliance. The QCI is responsible for monitoring and inspecting field activities to ensure compliance with the requirements of the project specifications and codes. The QCI shall coordinate all required testing activities (e.g., soil testing, grout testing). The QCI will monitor, perform in-process and final QC inspections and test and secure required signatures from Client for final acceptance of all work. Records will be maintained of all test reports and signoffs. Certifications of testing personnel and certificates for testing equipment must be submitted and approved by the Client.

4.2.5 Responsible Superintendent (RS)

The RS is responsible to supervise and coordinate the manpower, tools and equipment required to accomplish site excavation and backfill operations in a safe and productive manner, to ensure that construction workers are qualified to perform the work, to develop the weekly work plan for all activities and to ensure the quality of workmanship.

4.2.6 Responsible Person (RP)

The RP is the individual on the construction team responsible for directing excavation and backfill work (e.g., Craft Supervisor, General Foreman). The RP is also the front-line supervisor for craft workmanship and maintaining a safe working environment.

5 PROCEDURE

5.1 Material Control

5.1.1 Field procurement of materials such as welding electrodes, bolting materials, small valves, etc. (when required) shall be in accordance with Site Specific Procurement plan and the procedures of EXCEL's QMS.

5.1.2 Upon notice to proceed with the RS the RP shall be responsible for drawing the required material from the warehouse. The RS/RP shall be responsible for requisitioning all materials including fittings, valves, piping specialties, and other components, for fabrication shop orfield use.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.1.3 The RS/RP shall be responsible for ensuring that all items from the Fabrication Isometric Drawing Bill of Material are requisitioned. Only exact quantities of materials shall be ordered for each spool.

5.1.4 The RS/RP shall also be responsible for requisitioning welding materials.

5.2 Pipe Fabrication

5.2.1 For Field fabrication of pipe spools, the subsequent instructions for process control, fabrications, acceptance, and staging, identify the sequence of activities and the documentation required shall follow sections 5.3 through 5.10 of this procedure.

5.3 Detailing

5.3.1 Isometric Drawing shall be used for overall control of field Fabrication activities.

5.3.2 Prior to requisitioning material or the start of work on any field-fabricated item, the Isometric Drawing Sheets shall be prepared, approved, and distributed. Distribution to the fabrication shop shall be through the RS who shall receive:

- A copy of each isometric drawing for maintaining fabrication status.
- A working copy of the isometric drawing for the Fabrication Shop Supervisor.
- A file copy of the isometric drawing for the Piping Supervisor's file.

5.4 Material Issue

5.4.1 The warehouse shall bag or palletize and tag all fittings, flanges, etc., in accordance with the Material Requisition. Each bag or pallet shall have a card identifying spool piece assigned.

5.4.2 The material shall not be issued to the Fabrication Shop until the requisition order is complete.

5.4.3 All piping or components for field fabrication shall be verified as being in a clean condition.

5.5 Fabrication

5.5.1 The Fabrication Shop shall cut pipe to length as per information contained on an isometric Bill of Material. The heat number on the full-length pipe must be transferred to the cut piece.

5.5.2 Each piece of pipe shall be marked with its piece-mark and all pieces for each spool shall be banded together.

5.5.3 The banded pipe and bagged or palletized fittings shall be issued to a fab table by the shop supervisor for fabrication.

5.5.4 Fabrication shall be in accordance with and subject to all requirements of the approved Isometric Drawing

5.5.5 For internal piping cleanliness requirements see Excel & Client Build It Clean procedures.

5.6 Welding

5.6.1 Fabrication welding shall be performed by qualified welders in accordance with approved welding procedures as specified by the Fabrication Isometric Drawing.

5.6.2 Flanges welded to pipe spools shall be oriented with the bolt hole straddling the horizontal and vertical centerlines. Any exception to this will be specifically noted. Take precautions throughout fabrication not to mar the gasket face on flanges. Where threaded couplings or nipples are welded to

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

pipe spools, the threads must be checked after welding for tolerance, roundness, and weld spatter, by using a thread gage. If not acceptable, chase the threads with a tap ordye.

5.6.3 Any valves, which will be heated during fabrication, shall have the valve partially open before preheating, welding, or post heat activities. In addition, combustible or Teflon packing and seats shall be protected by removing, and replacing after fabrication and heat treatment iscompleted.

5.6.4 Fabrication tolerances, unless otherwise specified by Design Engineer's Specifications or drawings, shall be detailed on the spool sheet in accordance with Pipe Fabrication Institute Standard ESS.

5.7 Heat Treatment

5.7.1 Post weld heat treatment of welded joints, when specified, shall be performed in accordance with the specified welding procedure and Section 5.16 of this procedure.

5.7.2 Permanent identification by approved marking and/or stamping shall be made prior to postweld heat-treating.

5.7.3 Cleaning after heat-treating operations shall be by a mechanical method or combination of cleaning operations as required removing loose scale.

5.8 Marking and Identification

5.8.1 Each completed piping sub-assembly shall have the piece mark marked on each end or on a metal tag wired to one end of the spool.

5.9 Inspection

5.9.1 A certified Level II Inspector shall perform NDE inspection requirements specified. All NDE shall be performed by a third-party agency, which has been approved by theQCM.

5.9.2 Performance qualifications of NDE procedure on the NDE work shall be reviewed and approved by the QCM (and Client if required) before work is started.

5.9.3 Radiographs produced on the job shall be reviewed by the QCM and interpreted by a Level II or Level III Technician. Radiographs shall be marked for identification and shall be filed in the QCM(s) job file and made accessible to the Client's Representative.

5.9.4 If required by Client engineering standards the first two production welds of each welder should be examined volumetrically. All welds that do not meet the applicable code quality standards shall be repaired. All repairs shall be made in strict accordance with the governing code. After repair is complete, the work shall be re-examined volumetrically to verify defect removal. The welder shall be counseled on his defective welds and corrective action taken. If a weld is rejected, follow the requirements of ASME B31.3 section 341.3.4 Progressive Sampling for Examination or other applicable code.

5.9.5 All field fabricated piping shall be free of scale, weld spatter, burn through, metal chips, grit, or other visible contamination.

5.9.6 All piping shall be blown with air prior to capping and visually examined to remove foreigndirt or trash.

5.10 Staging

5.10.1 Completed and approved spool assemblies shall be forwarded to the erection staging area.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.11 Pipe Erection

5.11.1 For Pipe Erection, the subsequent instructions for process control, acceptance, and staging, identify the sequence of activities and the documentation required shall follow sections 5.12 through 5.17 of this procedure.

5.12 Material Issue

5.12.1 Upon notice, the RS/RP shall be responsible for drawing the required spool assemblies from the pipe staging area. The RS shall be responsible for requisitioning all erection materials, valves, etc., using the Isometric Material List.

5.13 Pipe Installation

5.13.1 It shall be in accordance with the approved erection drawings. Installation of shoes, guides, anchors, restraints, hangers, instruments, valves, etc., shall proceed in conjunction with pipe erection. The piping fit-up shall be made without binds. The installation of test blinds should be installed during pipe erection in accordance with the hydrostatic test plans.

5.13.2 Pipe spools shall be shipped to the field with all openings capped. The closures shall not be removed until the spool is in place and ready for welding or bolting. The internals of all piping must be kept clean.

5.13.3 Pipe spools shall be stored a minimum of 4” above ground in the staging and field area.

5.13.4 Valves shall be installed so that the stems are not below the horizontal position. They shall be oriented as shown on the drawings.

5.13.5 During the piping erection, temporary strainers shall be installed at all pumps and compressor suctions as indicated on the piping erection drawings.

5.13.6 After fabrication and prior to erection of compressor lube oil and seal oil systems perform any required cleaning required by contract documents.

5.14 Flanged Joints

5.14.1 Flange faces shall be protected from damage until installation is complete. Care must be taken not to mar the face of flanges, particularly those having a smooth finish (125RMS). All flanged joints shall be made up flush so that the flange faces bear uniformly on the gasket and are then tightened with uniform bolt tension.

5.14.2 In bolting joints with spiral wound gaskets, the gasket shall be compressed by an amount equal to about 25 to 35% of the original 3/16-inch thickness and in accordance with the manufacturer's published recommendations.

5.14.3 Steel-to-cast iron flanged joints shall be made up with extreme care. Align and bring flanges up flush with the gasket, then tighten bolts uniformly. This is necessary to avoid damage of cast iron flanges.

5.14.4 If raised face steel flanges are made up to cast-iron, M-307 bolts must be used. If other bolts are used, the raised face of the steel flange must be removed.

5.14.5 Stud bolts shall extend fully through the nuts with two threads showing on each side. Prior to installation, stud bolts shall be checked for proper grade marking. Only bolts of correct specification shall be used. Approved thread compounds shall be used as required.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.14.6 Flange-protectors shall be kept on all pumps, compressors, turbines, and similar equipment, until ready to connect the piping. Flanges connected to mechanical equipment, such as pumps, turbines, or compressors, shall be fitted-up in close parallel and lateral alignment. The RS prior to bolting and final makeup shall approve piping Installation.

5.14.7 Carbon steel pipe may be heated at these points with a rosebud for minor corrections in fit-up on approval of the QCM/QCI and the Client's Representative. Gaskets shall be protected from damage until the final installation is complete.

5.15 Welding

5.15.1 Welding performed during the erection of piping shall be performed by qualified welders with approved welding procedures.

5.16 Heat Treatment

5.16.1 Post weld heat treatment of welded joints shall be performed in accordance with ASME Paragraph 331 of B31.3, Table: 331.1.1.

5.16.2 Radiographic examination of welds shall be performed before post weld heat treatment operations, except as otherwise required by ASME Paragraph 344.5 of B31.3.

5.17 Cold Spring

5.17.1 All cold springs shall be performed in accordance with the Design Engineer's drawings.

5.17.2 The cold spring shall be established in expansion loops before adjacent closure welds are made. The RS shall check and verify centerline measurements of parallel legs before and after thepipe is cold sprung. The cold spring shall be maintained by welding a spacer or strut between the parallel legs.

5.17.3 All anchors should be installed and welded before the cold spring is set. The RS shall check and verify cold-spring measurement before the pipe is pulled and the closure weld is made.

5.17.4 Spacer bars of struts shall be removed only after closure welds are completed.

5.18 Erection of Engineered Hangers and Restraints

5.18.1 For Erection of Engineered Hangers and Restraints the subsequent instructions for process control, acceptance, and staging, identify the sequence of activities and the required documentation shall follow sections 5.19 through 5.24 of this procedure.

5.19 Detailing

5.19.1 The Design Engineer will indicate hanger locations and identify the material to be used for each support. The piping layout for the isometric sketch will show the dimensions and locations for each hanger. The sketch shall include the load, location, and materials required. In addition, spring hanger specifications shall show the hot and cold loads and movement.

5.19.2 Hanger drawings shall also include a complete bill of material for component parts making up each assembly. Material for both engineered and standard hanger types shall be purchased shop assembled to the maximum extent to minimize assembly work by the field.

5.20 Assembly

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.20.1 Shop assembled hangers shall be requisitioned from the warehouse. All components shall be checked against the bills of material and the drawing/specification for correctness.

5.20.2 Field assembled hangers or brackets shall be welded in accordance with the weld symbols shown on the isometric drawing and/or hanger specification.

5.21 Locations

5.21.1 Piping 2-1/2 inches and larger shall have hangers designed and located by the Design Engineer. Piping shall be supported whenever possible from structural steel, steel plate embedment, or embedded inserts.

5.21.2 Where hangers or supports are attached to removable equipment or removable piping, such supports shall also be removable.

5.22 Field Welds

5.22.1 Field welds shall be used where erection of the hanger is not possible without them, or where specified.

5.22.2 Welding clamps, lugs, or other erection aids to any piping requires client approval. Items to be attached shall be composed of the same material as the base metal joined to.

5.23 Temporary Pipe Supports

5.23.1 Temporary hangers and supports are required during installation of piping. The following are some commonsense suggestions:

5.23.2 Pipe spools shall be permanently attached to mechanical equipment only after the equipment has been grouted and permanent pipe hangers and supports have been installed to accept the entire load.

5.23.3 When mechanical equipment has not been grouted and/or permanent hangers have not been installed, the entire pipe load shall be supported by one of the following methods:

- Any combination of permanent or temporary support and/or hangers that will support the entire pipe load.
- Temporary hangers and/or support that can support the entire pipe load shall be used without bolting the piping to the equipment.

5.24 Inspection

5.24.1 The QCM shall inspect hanger assemblies for correct location and support orientation.

5.24.2 The inspection shall be performed before conducting the hydrostatic test of the piping system.

5.25 Welding

5.25.1 For Welding the subsequent instructions for process control, acceptance, and staging, identify the sequence of activities and the documentation required shall follow sections 5.26 through 5.29 of this procedure.

5.25.2 EXCEL shall conduct the required qualification tests to qualify its welding procedure specifications and welders. The WPS shall always be readily available for the welder's review.

5.25.3 All welding shall be performed in accordance with the requirements of the applicable code and shall employ welding procedures qualified by EXCEL and approved by the Client.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.26 Welding Material Control

5.26.1 All welding electrodes shall be purchased in hermetically sealed containers.

5.26.2 After opening containers, low hydrogen type electrodes shall be placed in storage ovens set to 250°F. If there is conflict between this temperature and client requirements, the client requirements shall supersede. At no time shall low hydrogen electrodes be stored outside the ranges specified in ASME Section II (50°F to 250°F above ambient temperature).

5.26.3 Other types of electrodes shall be stored at 100°F. Electrodes shall be held in portable ovens until used. At the end of a shift, unused electrodes shall be returned to the storage ovens. All electrodes exposed to moisture or to atmosphere conditions for more than four hours shall be discarded.

5.26.4 The portable holding ovens shall remain connected at workstations throughout the working period. The electric storage ovens shall remain connected around the clock as long as electrodes are stored in them.

5.27 Weld Joint Identification

5.27.1 A weld map shall be maintained. The status of each weld including welder's ID shall be recorded on a marked-up set of isometric drawings or weld tracking software. The weld identification number shall correspond with the number assigned to the pipe spools adjacent to the erection weld.

5.28 Inspections and Acceptance

5.28.1 Welding inspections shall be accomplished in accordance with the design specifications and drawings. The RS/RP shall provide random in-process examination of welds that shall consist of the following:

- Joint preparation and cleanliness.
- Preheating, all temp sticks shall be controlled under direction of the QCM/QCI.
- Fit up and alignment prior to welding.
- Weld position, electrode, or other variables specified by the welding procedure specification.
- Dimensional accuracy and general configuration.
- Condition of the root pass after cleaning internally and externally with liquid penetrant or magnetic particle examination where specified.
- Slag removal and weld condition between passes.
- Weld identification by welder's symbol.

5.28.2 All finished welds shall pass a visual inspection by the QCI. Welds shall be visually inspected in accordance with the acceptance standards and requirements of ASME B 31.3, Section 341.2, and Table 341.3.2A or applicable code.

5.28.3 If the QCI or the Client's Representative rejects an inspected weld, the RP shall be instructed to perform the required repairs by the RS. The NDE Technician shall perform NDE, other than visual inspection. All NDE other than visual examinations shall be recorded on the weld map.

5.29 Final Acceptance, Documentation, and Records

5.29.1 A record of inspection and acceptance of work in progress shall be maintained by the QCM. All pressure testing shall be in accordance with the requirements of the *"Pneumatic Pressure Testing" or "Hydrostatic Pressure Testing"* procedure (Reference 2.4). Upon satisfactory completion of the work

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

and testing and submittal of all required documentation, the RS shall obtain Client final acceptance by signature on the Test Data Sheet.

6 FORMS (SEE SECTION IV)

6.1 None

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 This procedure defines the process for all underground piping installation, inspection of underground piping systems and documentation requirements of underground piping installation activities.

1.2 Scope

1.2.1 This procedure applies to work performed by EXCEL's force account (direct hire) construction. This procedure may also be applied to subcontractors when invoked by contract documents.

1.2.2 Temporary construction of underground piping systems that are not going to be a part of the permanent plant piping system(s) is not included in the scope of this procedure.

1.2.3 The contents of this procedure shall be implemented in conjunction with the EXCEL Quality Management System (QMS).

1.2.4 Pressure Testing, which is not included in this procedure, is covered in the *"Hydrostatic Pressure Testing" and "Pneumatic Pressure Testing"* procedures (Reference 2.7 & 2.8).

1.2.5 Any underground piping that is found to be within the boundaries of ASME Section 1 Power Boilers, and ASME Section B31.1 Power Piping, and any work that is related to ASME Section VIII Vessels, shall be brought to the immediate attention of the Site Quality Control Manager, prior to the start of work. It must be determined if the proposed scope of work is within a code boundary.

1.2.6 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents shall apply.

1.2.7 Deficiencies identified during in-process monitoring and final inspections, shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1	QC.02.1007	Project Quality Plan (PQP)
2.2	QC.02.1002	Basis of Operations
2.3	QC.02.1004	Technical Document Control System
2.4	QC.02.2001.1	Site Excavation and Backfill
2.5	QC.02.2001.3	Concrete Operations
2.6	QC.02.2003.3	Aboveground Piping Installation
2.7	QC.02.2003.4	Hydrostatic Pressure Testing
2.8	QC.02.2003.5	Pneumatic Pressure Testing
2.9	QC.02.3004	Measuring and Test Equipment
2.10	QC.02.3005	Welding and NDE
2.11	QC.02.3006	Job Quality Assessment
2.12	ASME B31.3	Process Piping
2.13	ASME B31.1	Power Piping

3 ATTACHMENTS

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 Piping - per this procedure includes all sizes and material types of piping used for underground piping systems, including vendor piping.

4.1.2 Stub-up - the piping extension above grade.

4.1.3 Bulk Pipe Installation - the work process of installing large amounts of piping prior to the availability of complete piping systems with focus on installing large amounts of piping commodities without regard to system completion.

4.1.4 Holiday - a discontinuity of coating that exposes the metal surface to the environment.

4.1.5 Electric Holiday Detector – a test device to measure continuity of pipe coating.

4.1.6 Project Scheduling - based on the project schedule for erection, connection and trim of piping and piping components, material will be requisitioned by RS for item(s) needed for any amount of practical time. Delivery to the actual construction site will be coordinated by the RS.

4.1.7 Design Documents - design documents include all drawings, specifications and instructions approved by the Client Representative, Project Engineer, or the Project Field Engineer (for field commodity responsibility), for use during construction of the project. This also includes contractor documents approved for use during the construction phase of the project, as well as any codes and standards referenced by the designer or contract requirements.

4.1.8 Inspection Test Plan (ITP) - ITP are documents that delineate inspection and test activities to be performed to verify acceptability of various construction and/or installation activities.

4.1.9 Inspection Checklist - Inspection Checklist containing critical attributes used by the quality control inspector to perform in process inspections of construction quality and work activities. These checklists will become permanent documentation.

4.1.10 In-Process Monitoring - Routine oversight performed to validate that the work activities and processes are being implemented in accordance with the approved quality program, applicable specifications, codes and project documents.

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this procedure are properly implemented.

4.2.2 Area Site Manager (ASM)

The ASM is responsible for the overall quality of work performed by construction personnel for his assigned area. The ASM is responsible for providing input for the installation of underground piping and providing training for field personnel on the requirements of this procedure. The ASM shall delegate assignments and monitor the performance of Superintendents to ensure the requirements of the procedures are properly implemented.

4.2.3 Quality Control Manager (QCM) and Quality Control Inspector (QCI)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The QCM is responsible for monitoring, supervising and assignments of the QCI. The QCI is responsible for inspecting field welds to ensure compliance with the requirements of the project. The QCI shall coordinate required Non-destructive Examination (NDE), Post-Weld Heat Treatment (PWHT) and Positive Material Identification (PMI) activities, and visual inspection of welding in accordance with the approved Engineering documents. The QCM is also responsible for monitoring and reviewing the quality reporting for accuracy on the installation of underground piping.

The QCI will monitor, perform in-process and final QC inspections for the underground piping installations. The QCI is responsible for all in process and final inspections necessary to ensure the underground piping is installed to the latest revision of the drawings, installed in the correct location, and are installed in accordance with the design documents.

4.2.4 Responsible Superintendent (RS)

The RS is responsible for supervising and coordinating tools, craft labor, and equipment required to install underground piping in a safe and efficient manner, and in accordance with the applicable design drawings, codes, specifications and standards. The RS is also responsible for the quality of work performed and to ensure that construction workers are qualified to perform the work. The RS shall also define special lift plans and rigging methods and identify each piece of piping in sequence so that the activities do not affect the installation of other commodities. The RS is responsible for monitoring the quantity reporting process from the (RP) for accuracy and timeliness.

4.2.5 Field Engineer (FE)

The FE is responsible for the following assisting field supervision when corrective action is required to correct a quality issue and assist in resolving field problems related to planning or carrying out the underground piping installation.

4.2.6 Responsible Person (RP)

The RP is the individual on the construction team responsible for directing underground pipe installation work (e.g., Craft Supervisor, General Foreman). The RP is also the front-line supervisor for craft workmanship and maintaining a safe working environment.

4.2.7 System Turnover Manager (STM)

The STM is responsible for supervision and assignment of the System Turnover Supervisors (STO), System Foremen (SF) and FE necessary to provide technical support, and assist the RS, RP, and the QCI with the project requirements along with demands of the underground piping schedule. The STM is responsible for providing input as needed on quality control documentation requirements and monitoring the quantity reporting process for accuracy and timeliness. The SF is responsible for underground piping progress reporting.

5 PROCEDURE

5.1 Standard Work Process

5.1.1 All materials, work and services shall fully comply with the design drawings, specifications, applicable codes and standards. Field changes to design documents shall follow the requirements of Reference 2.3, *"Technical Document Control"* system. A copy of all applicable project specific requirements and acceptance criteria shall be readily available when performing work. All required inspection documentation for completed work shall be completed by the end of the shift when the activity is completed.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.1.2 All measuring and test equipment used during the installation, testing and verification of underground piping systems shall meet the requirements of Reference 2.8, *"Measuring and Test Equipment"*.

5.2 Design Information

5.2.1 All material shall meet the requirements of the design drawings and project specifications.

5.2.2 All design drawings and specification shall be received and distributed in accordance with Reference 2.3, *"Technical Document Control"* system.

5.2.3 The documents listed below will normally be used for purchase of material and underground piping installation activities. This list may be supplemented by project specific documents, vendor or Client requirements.

- Piping and Instrumentation Diagrams (P&IDs) and Test System P&IDs.
- Piping Specifications and Supplementary Tables.
- Schedule or sequence of materials by system.
- Line Designation Tables.
- Underground Piping Layout Drawings.
- Isometric Drawings.
- Vendor Spool Sheets.
- Piping Specialty Lists (unique piping components).
- Orthographic drawings or Model.
- Vent and drain details.
- Branch connection and/or tie-in details.
- Coating & Wrapping Specification.
- Painting Specifications and Schedules.
- Welding and Quality Control Procedure.
- Applicable Local or County Codes.
- ASME B31.3 and B31.1 as applicable.

5.2.4 During work, these listed documents should be checked and compared to one another by the FE. Discrepancies between drawings, P&ID's, Line List, and Piping Specs shall be resolved with the Client prior to piping installation.

5.3 Pre-Planning Activity

5.3.1 Depending on the size and complexity of the project, a pre-construction meeting for all parties involved in the installation of underground piping may be held. Items to be reviewed shall include safety requirements, ITP, reference documents, and the scope of work. Also, Client selected witness/hold points shall be verified.

5.3.2 A review of the ITP Report (Reference 6.2) and referenced documents shall be performed. During the construction process, some additional inspections and/or tests may be required. The Client shall be notified for any needed deviation from the ITP.

5.3.3 The RS and RP should familiarize themselves with the scope of work to be performed and proposed work sequence. This review should include the design drawings and specifications. The RS should stay abreast of all updates and changes to the design drawings and specifications to maintain a full understanding of the scope of work.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.3.4 The RS should review the project schedule to confirm work sequences, installation progress requirements and completion milestone plans. Where appropriate, the RS shall identify other discipline commodities that must be installed to support the underground piping installation program.

5.3.5 The RS shall develop a leak test program prior to the start of pipe installation to ensure the leak test limits and required materials are included on the design drawings when issued IFC (Issued for Construction), if required. Refer to the requirements of *"Hydrostatic Pressure Testing" or "Pneumatic Pressure Testing" procedures* Reference 2.7 & 2.8.

5.3.6 The RS should review all other disciplines drawings to optimize (minimize) excavations and trenches. The RS shall identify areas where common excavations and trenches are feasible. When the Client furnishes isometric drawings without orthographies, utilize the 3DM model for trench optimization planning.

5.4 Work Preparation Planning

5.4.1 The Planner shall prepare a detailed schedule based on material delivery dates, manpower availability, equipment availability and project schedule requirements. As a minimum, the following should be discussed with the execution team:

- A proposed work sequence by construction work area that supports the overall project schedule.
- Any on site piping fabrication.
- Priority piping components and systems that may need early or special attention, particularly those related to access to foundation work areas.
- Rates of weekly progress that match the overall project schedule requirements.
- Any special training required for either the craft personnel or non-manual supervisors such as understanding work packages, three-week schedules, work sequencing, material bagging/tagging, etc.
- Consideration of lay down areas, tool rooms, material handling, bolt bins, gasket boards, etc. to permit efficient workflows.
- Control of documents/work packages for the craft personnel.
- Work to be performed by an EXCEL sub-contractor.

5.4.2 Piping material and spool delivery requirements should be reviewed and confirmed that they meet the requirements of the underground piping installation plan.

5.4.3 Verify that all required trim piping by the equipment vendor has been designed by engineering. Equipment drains should be a point of focus, ensuring the underground connections are provided adjacent to and in all foundations as necessary.

5.4.4 The RS shall arrange for any special worker or staff training required to complete the work.

5.4.5 The RS shall arrange for any required tools, equipment or consumable materials required to accomplish the planned work, such as chain falls, mobile cranes, jack stands, welding machines, pipe joint alignment tools, etc.

5.4.6 The QCI should also confirm that welder needs are clearly identified in sufficient time to allow welding qualification and testing.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.4.7 The RS shall arrange for all required safety and work permits. The RS and RP should conduct regular safety walkdown reviews of the work activities, identifying areas of concern where safety hazards require special planning and attention.

5.4.8 QCI shall verify torque requirements using project specifications, vendor data, and IFC drawings.

5.4.9 Drawings and Documents used for piping installation shall be distributed and controlled in accordance with Reference 2.3, *"Technical Document Control"*.

5.5 Piping Materials Management and Planning

5.5.1 If fabrication is done by others, the Client should provide the EXCEL project team with an electronic list of fabricated piping spool piece mark numbers, weights, sizes, fabrication status and other associated data.

5.5.2 The ASM shall ensure that materials not furnished by the Client are ordered in the field and that delivery is scheduled to support construction requirements.

5.5.3 When fabricated piping spools are off-loaded and stored under the field material management control, the ASM or RS shall initiate a Material Requisition when the material is ready for installation.

5.5.4 Fabricated pieces shall be marked with a permanent identifying erection mark number using an approved marker.

5.5.5 Bolts, nuts, washers, etc., shall be packed and delivered in marked, rigid (not cardboard), weatherproof containers. Loose parts and other small parts shall be wired together and tagged. Material required for erection shall be shipped with its corresponding piping.

5.5.6 Delivery of piping shall be scheduled in the order needed for erection. Railcars and trucks shall be loaded and cribbed in such a way as to facilitate easy offloading at the site. All piping shall be protected from physical damage, damage to coatings by careless handling, improper storage, and poor shipping techniques.

5.5.7 Piping materials shall be inspected immediately upon receipt by RS to determine that all items included in the Bill of Materials have been supplied, note any special fabrication requirements, and to check for any coating or physical damage.

5.5.8 Piping materials and pre-assembled modules delivered from various sources shall be unloaded, handled and stored in a manner that prevents distortion, deterioration, physical damage, damage to coatings, or staining. Piping materials shall be kept clean of dirt, grease and other foreign matters.

5.6 Material Handling and Storage

5.6.1 Material receiving and storage activities shall comply with the Site-Specific Material Management Plan and the applicable QMS procedures.

5.6.2 Avoid damage to pipe ends and coating during all loading, unloading, hauling and stringing operations.

5.6.3 Handle spools individually when unloading from truck or rail car bed. Never sling the entire load and drop to the ground to expedite unloading.

5.6.4 Store spools and pipes per project requirements.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.6.5 Care shall be taken to keep stainless steel materials from contact or contamination with unlike materials, i.e. carbon steel, etc.

5.6.6 All piping shall have covered ends and flange protectors to keep any foreign material from entering piping. Ends shall remain covered until fitting, bolting, or welding is ready tobegin.

5.6.7 Use padded protection on the lift blades of a forklift when handling spools.

5.6.8 Use nylon straps when jockeying spools intoposition.

5.6.9 Ensure transport carriers are properly buffeted to prevent damage.

5.6.10 Priming, coating and wrapping materials shall be stored per the manufacturer's requirements.

5.6.11 Avoid damage to cement lined piping during handling, shipping and storage.

5.6.12 Handling hooks, when used, shall be protected or of a soft metal type so as not to cause out of round or deformed bevels.

5.6.13 Ensure large diameter pipe is not stored too high (with suitable soft packing if pre-wrapped), to avoid deformation and to reduce accident risk.

5.6.14 Open ends of lines shall be securely closed at the end of each day's work to prevent the entrance of small animals or the introduction of foreign matters.

5.7 Trenching

5.7.1 The ASM shall verify that trenching activities for underground piping are complying to the project requirements and the requirements of Reference 4.4, "Site Excavation and Backfill".

5.7.2 The RS is responsible to assure the pipe trench meets the project's requirements.

5.7.3 The RS shall verify clearance between the piping and any other underground pipes or structures.

5.7.4 If drainage tiles are used, the RS shall check for proper clearance, per the design documents, between the pipe and the tiles.

5.7.5 If piping, valves, casing, or other materials are strung end to end along the trench, the RS shall monitor this activity to ensure the correct procedures are followed to prevent damage and maintain a safe working environment.

5.8 Priming, Coating and Wrapping

5.8.1 Prior to performing any Priming, Coating, or Wrapping activities, the RS shall verify compliance with the applicable Client specifications.

5.8.2 Prior to the application of priming, coating and wrapping activities, ensure the following when applicable:

- All visual inspections, non-destructive testing and leak testing have been performed, accepted and documented.
- Final checking and punch listing are complete and/or exceptions have been approved or agreed upon by the client.

5.8.3 Verify the following before beginning coating and wrapping activities:

- Check that the primed surface is free of any foreign matter prior to application of the coating and there is no moisture.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Ensure that weather and temperature conditions are suitable for applying the coating and wrapping materials, according to the manufacturer's requirements and design documents.
- Ensure the application of the coating and wrapping materials follows the manufacturer's directions, or compatible with the existing coating and requirements of the design documents.
- Verify correct number of wrapping laps or plies.
- Correct uniformity of application of fluid coatings.
- When spiral weld pipe is used, extra care must be used to see that the raised weld seams are properly coated to prevent voids under the tape coating.
- Ensure all valves or fittings are coated as required by design documents.
- Ensure that electric holiday testing (jeeping) is carried out as required and measurements are recorded on the "Pipe Coating/Wrapping Inspection Report" (Reference 6.1).
- Any repairs are made in accordance with the manufacturer's requirements and design documents, and any required inspections and re-tests are performed and recorded.

5.8.4 The RP shall conduct testing of the coating and wrapping using an electrical holiday detector by the application of spark testing (commonly called "jeeping"). Minimum testing voltage shall be within 20% of the value determined by 1250 X thickness in mils, or as recommended by the manufacturer. The RS shall be notified and shall witness the holiday testing process and document the results on the Coated and Wrapped Piping Inspection Report (Form QC.04.2003.5A).

5.8.5 In cases where shop applied coatings have been holiday tested and documentation has been provided and accepted, the field may limit the final testing to:

- Testing of suspected areas.
- Testing of areas that have not been properly documented.
- Areas which the shop applied coating have been repaired in the field.

5.9 Installation of Piping in the Trench

5.9.1 When placing piping in the trench, the RS and shall utilize a well-planned lowering sequence and process.

5.9.2 Side bends and sag bends should be lowered first and weighed to serve as anchorage.

5.9.3 Side bends should be made to bear on the outside wall of the trench.

5.9.4 Sag bends should bear firmly on the bottom of the trench.

5.9.5 Check that over bends have at least the minimum specified space between the bottom of the pipe and the bottom of the trench.

5.9.6 Once installed, the piping shall have no sags, bows, or misalignment and installation shall be straight, plumb and level. (Check for slopes if required)

5.9.7 Avoid dropping or bending of cement lined piping that may cause internal damage to the cement liner.

5.9.8 Ensure that if the pipe is cradled-in, it is done in such a manner as to secure proper slack and does not damage the pipe coating and the minimum radius of the pipe is observed.

5.9.9 When required, cool the piping with a wetting agent during hot weather cradling-in operations.

5.9.10 Check for damage to coating caused by bumping or scuffing during the lowering process. Initiate any repairs, re-tests, and complete the required documentation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.10 Mechanical Jointed Pipe

5.10.1 Before bolting, piping and equipment shall be internally inspected for debris. Flanges shall be inspected for any material that would prevent proper sealing of the flanged joint.

5.10.2 Mechanical joints shall be installed per the manufacturer's requirements.

5.10.3 Mechanical Jointed Pipe shall be free from cracks (including lining if applicable).

5.10.4 Ensure offsets at joints do not exceed the angle stipulated by the manufacturer.

5.10.5 Normally jointed pipes are installed with the bell end facing up the slope when used on gravity drainage systems utilizing slopes.

5.10.6 At flanged connections, especially on cast and ductile systems, ensure that mating flanges of valves and/or equipment are compatible, (normally flat faced) to avoid risk of fracture during bolt up.

5.10.7 Ductile iron piping with a weld ring/wedge joint system may have unique requirements affecting the installation. Follow manufacturer's requirements. Obtain vendor training when required.

5.10.8 Where epoxy cements are used in bell and spigot pipes to afford zero leakage, the joint manufacturer's requirements regarding cleanliness, mixing and placement must have rigid compliance.

5.10.9 The RS, working with the RP, shall ensure bolting is adequately and properly torqued or tensioned, if required by the drawings or specifications and documented. Tensioned bolting requirements should be identified on the design drawings or bolting schedule with the proper stud length.

5.10.10 When gaskets are required, they shall meet the project specifications.

5.10.11 Ensure gasket materials and thread lubricants are stored in a dirt-free environment in accordance with project requirements and maintained dirt free during installation activities.

5.10.12 Ensure during pressure tests, that anchors, stops, or sufficient backfill has been placed per Reference 2.4, "Site Excavation and Backfill". Chare should be exercised on partial tests to ensure temporary plugs and caps are installed and/or flanged connections are adequately shored and braced.

5.10.13 Any sand bags used for installation expediency, should be burst prior to compaction and testing activities. Use of temporary wood cribbing in trenching should be avoided since there is a tendency for these to be buried and not removed. The RP shall ensure, and the RS shall monitor the removal of all wood cribbing.

5.11 Fabrication and Welding Metallic Piping

5.11.1 All piping materials and components, fabrication, inspection and testing shall be in accordance with ASME B31.1 and/or B31.3 as applicable, project specifications and IFC Drawings.

5.11.2 Welding Procedures, Welders and Welding Operators shall be qualified to the applicable code for the system being fabricated and welded.

5.11.3 All welders performing welding activities on underground metallic piping shall be qualified to ASME Section IX.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.11.4 Before beginning any welding activities, the RP or RS shall inspect the internals of the piping and equipment for debris.

5.11.5 Welded metallic underground piping systems shall be installed to allow for adequate welding access.

5.11.6 Weld joint fit-up shall maintain proper alignment for out-of-roundness and internal/external alignment and miss-match in accordance with ASME B31.1 or B31.3 as applicable, or other applicable code as stated in the contract documents or project specifications. The use of tacks and/or clamp positions to meet fit-up tolerances shall meet good welding practices. Tacks shall meet acceptable weld requirements, i.e. no unacceptable defects, or unacceptable undercut and “feathered” to be incorporated into the final weld. All tacks and attachment welds on piping shall be performed by qualified welders.

5.11.7 Gaps on socket welded fittings and piping systems shall meet applicable codes and specifications, or fit-up tolerances prior to welding, to assure adequate compensation for expansion during welding. Gaps in socket welded fittings shall be checked as work progresses prior to welding, not after welding.

5.11.8 When seal welding is required, no exposed threads are permitted to remain. Pipe thread sealant, or tape, shall be thoroughly removed from screwed joints prior to seal welding.

5.11.9 The QCI shall verify that all field welded piping joints are properly identified and marked on the pipe with the weld number and the welder’s stamp and recorded on weld maps.

5.11.10 The QCI shall perform all welding inspections as required per the project specifications and applicable code.

5.12 Non-Metallic Piping (HDPE, PVC, CPVC AND FIBERGLASS)

5.12.1 The installation of HDPE, PVC, CPVC and Fiberglass piping and fittings, shall adhere strictly to the manufacturer’s requirements, applicable codes and project specifications.

5.12.2 HDPE pipe and fittings are joined using heat fusion, flange and mechanical connections that are designed for HDPE pipe and electro-fusion. Heat fusion is a visual procedure that utilizes controlled temperature and pressure to melt and fusion-join HDPE pipe material. Butt fusion is used to join components end to end. Saddle fusion is used to attach a branch outlet to a main pipe. Socket fusion is used to join smaller pipes to socket fittings. Specific fusion-joining procedures shall be obtained from the manufacturer or joining company.

5.12.3 The RS/QCI shall monitor the heat fusion, bonding and joining operations for adherence to the project specifications and manufacturer’s requirements. Bonders must be qualified in accordance with the applicable code.

5.12.4 Any shavings and debris shall be removed prior to performing joint fusion or bonding.

5.12.5 Typically, color coding from the manufacturer is utilized to differentiate the various types of polyethylene (PE) piping.

5.12.6 Thrust anchoring may be required to control “Poisson” effect forces when (PE) pipes are connected to bell and spigot piping.

5.12.7 PE piping may be joined together, or transitioned to other materials with flanges, or mechanical connections that are designed for (PE) pipe or electro-fusion. These connections are made in

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

accordance with the connection manufacturer's instructions. Some connections, such as mechanical OD compression couplings may require a stiffener in the pipe bore, (check project specifications for the system being installed).

5.12.8 Verify that any damaged areas (gouges or cuts) do not violate minimum wall thickness requirements. Identify the rejected areas with paint or other obvious marking for repairs.

5.12.9 When using High Density Polyethylene (HDPE) or Polyethylene (PE) piping in underground fire main systems and due to the surge potential of firewater systems, the following precautions are good construction practices. Always refer to the design documents for installation requirements.

- The transition connection must be fully restrained utilizing manufacturer recommended flange adapters.
- When long straight pipe lengths are pressurized, the "Poisson" effect will cause the length to shorten slightly. Although the overall length reduction is slight, the cumulative effect for a long length may be enough to cause pull-out of an unrestrained joint that is in-line with the long length. Anchoring the pipe in the ground can effectively control Poisson effect shortening. Conventional thrust blocks are not effective because they are designed to restrain fitting movement, not pipe movement. When the flow direction changes, a thrust force develops in the fitting and tries to move it away from the pipe, but the Poisson effect moves the pipe away from the fitting. In cases where the HDPE pipe transitions to existing firewater piping, unrestrained joints in the existing firewater piping may be affected if the unrestrained joints are in-line with the PE Pipe. In cases such as this, external restraints should be added to a number of the bell and spigot joints that are in-line with the pipe run, or the PE pipe at the transition connection should be anchored.
- If thrust blocks are utilized, the blocks must fully encapsulate the fitting. Conventional thrust blocks that bear against only part of the fitting surface may result in impingement loads that may cause future failures. Thrust blocks shall be installed per the piping drawings. Concrete thrust blocks shall not be poured over any mechanical joints of any underground piping systems.

5.13 Installation Verification (Piping General)

5.13.1 The RS shall verify the following during underground piping installation:

- Verify the tools or equipment requiring calibration and used in the fabrication and installation of underground piping, comply with Reference 2.8, "Measuring, and Test Equipment".
- Ensure anchor weights and thrust blocks are installed where specified. Thrust blocks and piping restraints shall be properly located and constructed to restrain or re-direct piping loads as required by the drawings and project specifications. Concrete thrust blocks shall not be poured over mechanical joints of any underground piping systems.
- Pipe size, schedule of pipe and type of material are correct. (Watch for substitutions of various alloys, especially stainless steels, i.e. 304, 304L, 310, 316, 316L, 317 and 317L).
- Verify fit-up, other than welding related, is acceptable, vertical lines are plumb and horizontal lines are level, except where slope is indicated on the design drawings.
- Slopes, when required, are as indicated on the P&ID's and isometric drawings.
- Flanges, mechanical joints and bolting meet the project requirements.
- Correct types of reducers are being used (concentric or eccentric and correct schedule) and are located and orientated per the specifications, standards and design installation drawings.
- Branch lines are located correctly on headers and reinforcing pads with weep holes, tees, sock-o-lets, or weld-o-lets are used as specified for branch connections.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Temporary supports are provided, if required, to avoid pipe damage and later removed.
- Vents are installed at high points and drains at low points and installed / welded after hydro as required by specifications, including valve removal if specified.
- Check all concrete mix and placement procedures for any blocks, weights, foundations, valve boxes, supports and anchors, are in accordance with the design documents.
- Ensure that any damaged or removed drain tile is replaced with the correct material.
- Check that troughs or conduits are placed to adequately support the drainage tile, e.g. they should penetrate sufficient solid ground to ensure that alignment and correct grade are maintained when backfill settles.
- Verify that cleaning and blowing activities are carried out in accordance with design document requirements.
- Verify pipe penetrations in manholes, valve boxes, etc., are installed with proper clearances and link seals or other specified materials between the pipe and sleeve.
- No carbon steel shall come in contact with stainless components.

  Note: Check specifications and vendor information as carbon steel bolting materials may be specified in stainless steel underground piping systems.

- Verify internal pipe cleanliness using the ITP Report Form (Reference 6.2).
- Special precautions shall be taken when installing or pulling blinds, to keep debris from entering piping or equipment.
- RS, working with RP, shall ensure any required cathodic protection is installed by Client subcontractor, prior to backfilling.
- The RS/FE shall document changes as the installation proceeds. This data will be transmitted to the Client for inclusion into the final as-built drawings.
- Ensure insulation kits are installed at flange connections between underground and above ground piping.

5.14 Work Completion, Testing and Documentation

5.14.1 The RS and QCI, per their assigned duties, shall monitor construction activities and perform Quality Control (QC) inspections of the quality of the installation process to ensure that the installation is in accordance with the latest drawings and specifications. Work/Punch lists should be developed for items determined to be incomplete or installed incorrectly. The RS and QCI should assess the results of the QC Inspections and should target zero punch-list items associated with completed work activities.

5.14.2 Refer to the “ITP Report” form (Reference 6.2) for the inspections and tests required to provide documentation of meeting the project requirements. The ITP refers to industry standards, codes, specifications and other applicable requirements to the project. The ITP may not be inclusive; therefore, it is the responsibility of the RS and RP to ensure compliance with all applicable requirements.

5.14.3 Piping should be completed and released for pressure testing as early as feasible to support downstream activities such as holiday testing, backfilling, and foundation work and system turnover. Pressure testing and documentation of piping shall follow the requirements of Reference 2.7, “Hydrostatic Pressure Testing”.

5.14.4 Backfilling over pipe joints/welds shall not be performed prior to completion of inspections and tests. Once inspections have been completed, i.e. electrical holiday detector, visuals and NDE,

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

piping may however have a backfill installed prior to leak testing to allow stability from the interaction of the pipe and soil and all joints shall remain open for inspection during leak testing. Pressure testing of piping shall follow the requirements of applicable codes, project specifications and Reference 2.7, “Hydrostatic Pressure Testing”.

5.14.5 The RS shall ensure any calibrated tools or equipment used for inspections and testing is properly calibrated and is in good working order prior use. Calibration and control of these devices shall comply with Reference 2.8, “Measuring, and Test Equipment”.

5.14.6 The RS/FE shall document changes for inclusion into the final as-built drawings.

5.14.7 Piping inspection records or documentation shall be retained in accordance with the EXCEL Quality Control Program Manual and Reference 2.3, “Technical Document Control” system.

5.15 Work Packages

5.15.1 Work Packages shall be developed by the STM for piping installations. Packages shall include but not be limited to:

- Identification number.
- Schedule- Start and Finish date.
- Current design documents and revision review.
- Bill of Materials, Material Withdrawal Request and Material Location.
- Field Material Requisition for short or missing material.
- Safety Considerations, Safety Task Analysis Risk Reduction Talk Card (STARRT) Job Hazard Analysis, Tail Gate.
- Meeting, Lockout/Tagout (LOTO).
- Work Clearance Documents.
- Special Instructions (e.g., Maintenance, Protection, Rigging).
- Permits (e.g., Fire, Confined Space, Excavations, etc.).
- Design Document List- Isometrics, Spool Sheets, P&IDs, Field RUN, Design/Field Sketches.
- Inspection Requirements, NDE & Records.
- Welding Inspection and Hold Points.
- Quality and other Reporting Documents.
- Coating and Wrapping Requirements.
- Work List / Punch List.
- Completion Signoff.

5.15.2 Bulk installation of pipe by area, building, level and facility may be considered to initiate piping installation before all materials for an entire system are available. The piping may consist of spooled or bulk pipe. Bulk installation is particularly effective for underground piping using double and triple random lengths to minimize position welding at point of installation.

5.15.3 Care shall be exercised to ensure the coating on pre-painted/coated/wrapped piping material and spools is protected from damage during offloading and handling. The following minimum requirements shall be implemented for paint protection on pipe spools and painted random length piping:

- Use of softeners between painted/coated/wrapped spools and cribbing.
- Use of fabric slings.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Prevention of sliding of painted/coated/wrapped pipe over sharp or metallic surfaces.

5.15.4 Wherever possible inside valve boxes & manholes, pipe supports should be installed prior to the piping and other temporary supports.

5.15.5 Piping should be completed (including all required NDE) and released for pressure testing as early as feasible to support downstream activities such as holiday testing, backfilling, foundation work, and system turnover. Backfilling over pipe joints/welds shall not be performed prior to testing. Piping may, however, have backfill installed before testing to ensure stable interaction of the pipe and soil, yet joints should remain open for inspection during testing. Pressure testing of piping shall follow the requirements of Reference 2.7, "Hydrostatic Pressure Testing".

5.15.6 The RS shall provide As-Built Drawings for all underground piping installations.

5.15.7 Piping inspection records or documentation shall be retained in accordance with Reference 2.3, "Technical Document Control".

6 FORMS (SEE SECTION IV)

6.1 QC.04.2003.2A Pipe Coating/Wrapping Inspection Report
6.2 QC.04.2003.2B Underground Piping Inspection and Test Report (ITP)
6.3 QC.04.4003A Piping Installation Report

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 This procedure defines the process for all aboveground piping installation, inspection of aboveground piping systems and documentation requirements of aboveground piping installation activities.

1.2 Scope

1.2.1 This procedure applies to work performed by EXCEL's force account (direct hire) construction. This procedure may also be applied to subcontractors when invoked by contract documents.

1.2.2 The contents of this procedure shall be implemented in conjunction with the EXCEL QUALITY MANAGEMENT SYSTEM (QMS), Reference 2.2 of this procedure.

1.2.3 Pressure Testing, which is not included in this procedure, is covered in the "Hydrostatic Pressure Testing" and "Pneumatic Pressure Testing" procedures, Reference 2.5 & 2.6 of this procedure.

1.2.4 Temporary construction of piping systems that are not going to be a part of the permanent plant system is not included in the scope of this procedure.

1.2.5 Any aboveground piping that is found to be within the boundaries of ASME Section 1 Power Boilers, and ASME B31.1 Power Piping, and any work that is related to ASME Section VIII Vessels, shall be brought to the immediate attention of the Site Quality Control Manager for compliance with ASME Code Manual latest Edition, prior to the start of this work.

1.2.6 Should any discrepancies exist between the requirements of this procedure and the project documents and specifications, the project specifications shall supersede.

1.2.7 Deficiencies identified during in-process monitoring and final inspections shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)
2.2 QMS Quality Management System
2.3 QC.02.1002 Basis ofOperations
2.4 QC.02.1004 Technical Document Control System
2.5 QC.02.2003.4 Hydrostatic Pressure Testing
2.6 QC.02.2003.5 Pneumatic Pressure Testing
2.7 QC.02.3005 Welding and NDE
2.8 ASME B31.1 Power Piping
2.9 ASME B31.3 Process Piping
2.10 ASME Code Manual Latest Edition

3 ATTACHMENTS

3.1 None

4 GENERAL

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.1 Definitions

4.1.1 Piping - per this procedure includes all sizes and material types of pipe used forunderground piping systems, including vendor piping.

4.1.2 Bulk Pipe Installation - the work process of installing large amounts of piping prior to the availability of complete piping systems with focus on installing large amounts of piping commodities without regard to system completion. This work process is particularly effective for rack piping installation using double or triple random lengths of piping during early project piping installation.

4.1.3 Project Scheduling – based on the project schedule for erection, connection and trim of piping and piping components, material will be requisitioned by the Responsible Superintendent (RS) for item(s) needed for any particular amount of practical time. The RS will coordinate delivery to the actual construction site.

4.1.4 Design Documents - design documents include all drawings, specifications and instructions approved by the Client Representative, Project Engineer, or the Project Field Engineer (for field commodity responsibility), for use during construction of the project. This also includes contractor documents approved for use during the construction phase of the project, as well as any codes and standards referenced by the designer or contract requirements.

4.1.5 Inspection Test Plan (ITP) – the documents that delineate inspection and/or test activities to be performed to verify acceptability of various construction and/or installation activities.

4.1.6 In-Process Monitoring – the routine oversight performed to validate that the work activities and processes are being implemented in accordance with the approved quality program, applicable specifications, codes and project documents.

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this procedure are properly implemented.

Note: The size of projects varies significantly. Therefore, the level of management and supervision shall be determined on a project-by-project basis.

4.2.2 Area Site Manager (ASM)

The ASM is responsible for the overall quality of work performed by construction personnel for his assigned area. The ASM is responsible for providing input to the aboveground piping installation/erection plan and providing training for field personnel on the requirements of this procedure. The ASM shall delegate assignments and monitor the performance of Superintendents to ensure the requirements of the procedures are properly implemented.

4.2.3 Quality Control Manager (QCM) and Quality Control Inspector (QCI)

The QCM is responsible for monitoring, supervising and assignment of the QCI. The QCI is responsible for inspecting field welds to ensure compliance with the requirements of the project. The QCI shall coordinate required Non-destructive Examination (NDE), Post-Weld Heat Treatment (PWHT) and Positive Material Identification (PMI) activities, and visual inspection of welding in accordance with the approved Engineering documents.

The QCI will monitor, perform in-process and final QC inspections for the aboveground piping installations. The QCI is responsible for all in process and final inspections necessary to ensure the aboveground piping is installed to the

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

latest revision of the drawings, installed in the correct location, and are installed in accordance with the design documents.

4.2.4 Responsible Superintendent (RS)

The RS is responsible for supervision and coordination of craft labor and equipment required to install aboveground piping in accordance with the applicable design drawings, codes, specifications and standards. The RS is also responsible for the quality of work performed.

The RS is responsible for monitoring the above ground piping installation to ensure the piping installation is in accordance with the latest Engineering documents and are installed in the correct engineered locations. The RS is responsible for monitoring the quantity reporting process from the (RP) for accuracy and timeliness.

4.2.5 Field Engineer (FE)

The FE is responsible for assisting field supervision when corrective action is required to correct a quality issue and assist in resolving field problems related to planning or carrying out the aboveground piping installation.

4.2.6 Responsible Person (RP)

The RP is the individual on the construction team responsible for directing above ground pipe erection work (e.g., Craft Supervisor, Foreman). The RP is also the front-line supervisor for craft workmanship and maintaining a safe working environment.

4.2.7 System Turnover Manager (STM)

The STM is responsible for supervision and assignment of the System Turnover Supervisors (STOs), System Foremen (SF) and FE necessary to provide technical support, and assist the RS/RP, and QCI with the project requirements along with demands of the piping erection/installation schedule. The STM is responsible for providing input as needed on quality control documentation requirements and monitoring the quantity reporting process for accuracy and timeliness.

5 PROCEDURE

5.1 Piping Materials Management and Planning

5.1.1 EXCEL shall manage all construction materials and laydown yards in an organized fashion, with housekeeping being a key element.

5.1.2 The ASM shall ensure that materials furnished by EXCEL are ordered in the field and that delivery is scheduled to meet construction requirements.

5.1.3 Material receiving activities shall comply with the Site-Specific Material Procedures and the guidelines of the QMS.

5.1.4 When fabricated piping spools are off-loaded and stored under the field material management control, the ASM/RS shall initiate a Material Requisition when the material is ready for installation.

5.1.5 Fabricated pieces shall be marked with a permanent identifying erection mark number using an approved marker.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.1.6 Bolts, nuts, washers, etc., shall be packed and delivered in marked, rigid (not cardboard), weatherproof containers. Loose parts and other small parts shall be wired together and tagged. Material required for erection shall be shipped with its corresponding piping.

5.1.7 Delivery of piping shall be scheduled in the order needed for erection. Railcars and trucks shall be loaded and cribbed in such a way as to facilitate easy offloading at the site. All piping shall be protected from physical damage, damage to coatings by careless handling, improper storage, and poor shipping techniques.

5.1.8 Piping materials shall be inspected immediately upon receipt by RS to determine that all items included in the Bill of Materials have been supplied, note any special fabrication requirements, and to check for any coating or physical damage.

5.1.9 Piping materials and pre-assembled modules delivered from various sources shall be unloaded, handled and stored in a manner that prevents distortion, deterioration, physical damage, damage to coatings, or staining. Piping materials shall be kept clean of dirt, grease and other foreign matters.

5.2 Work Process Overview

5.2.1 The construction work process for piping erection, including miscellaneous piping, is shown in the following work process flowoutline:

- Start.
- Prepare a piping erection plan.
- Requisition field purchased materials.
- Monitor receiving activities for handling and storage.
- Become familiar with project estimate.
- Coordinate with project controls to develop schedule.
- Prepare weekly work plan for erection.
- Review erection plan with workers.
- Ensure tools and equipment are available.
- Shake out and prepare spools, flange faces, gasket sealing surfaces and open ends to be welded.
  - ❖ Report installed quantities.
  - ❖ Ensure proper calibration of Measuring and Test Equipment (MTE).
  - ❖ Perform in-process and final inspections.
- Pre-assemble per plan.
- Erect assemblies and individual spools.
- Align and plumb.
- Complete flange make-ups and verify bolt torque.
- Install supports and guides.
- Install temporary safety measures.
- Install miscellaneous trim items.
- Coordinate back-charges for vendor errors.
- Field rework back-charge items as required.
- Grout supports, touch-up coatings.

5.2.2 The installer shall have access to a copy of the applicable project specific requirements and acceptance criteria when performing the work.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.2.3 All required inspection documentation for completed work shall be stored and archived by the QMS.

5.3 Pre-Planning Activity

5.3.1 A pre-construction meeting shall be held to verify the construction and safety requirements prior to performing the first piping erection activities in an area. This meeting shall include as appropriate, but not be limited to the ASM, RS and Safety Representative. The Client Representatives and the Area Field Engineer (AFE) shall be notified and may attend this meeting, as they deem necessary. Informal meetings of interested parties may be held during the work process as needed.

5.3.2 A thorough review of the applicable ITP and referenced documents shall be performed during the construction process, some additional inspections and/or tests may be required. The QCM/QCI shall be notified of any needed deviation from the ITP.

5.3.3 Refer to the applicable ITP for inspections and tests required to provide documentation for meeting the project requirements. The ITPs refer to industry standards, codes, and project specifications.

5.4 Piping Erection Work Process

5.4.1 Pre-erection steps in the erection process:

- Prepare a Weekly Work Plan.
- Review the following with the construction workers:
  - ❖ Safety.
  - ❖ Work scope.
  - ❖ Quality requirements.
  - ❖ Temporary support requirements.
  - ❖ Rigging requirements.
  - ❖ Process to properly install any special in-line instruments.
  - ❖ Fall Protection Plan.
- Ensure that tools and equipment are available and calibrated if required.
- Shake-out and stage the spools.
- Preparation of flange faces, gasket sealing surfaces and open ends to be welded.
- Verify proper coordinates to place piping.
- Pre-assembly of piping spools (making welds connecting spools prior to erecting).
- If necessary, install the required scaffolding and safety paraphernalia on the ground prior to piping erection.
- Consideration for laydown areas, tool rooms, material handling, bolt-bins, gasket, boards, etc. to permit efficient workflows.
- Control of documents and work packages for the craft personnel.
- Piping material and spool delivery requirements should be reviewed for conformance to the requirements of the piping installation plan.
- The RS should verify that trim piping meets requirements per design engineering.
- The RS should verify all “field run” piping has design/field sketches specifying detailed routing and support requirements.
- The RS should verify any client’s specified valve-tagging requirements.
- The RS should verify bolt-torquing requirements when applicable.
- The RS should provide constructability input to the design engineer to allow supports to be fabricated.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- The RS shall schedule any special training required to accomplish the work.
- The RS and RP shall arrange for the required tools, equipment or consumable materials required to accomplish the planned work.
- The RS shall confirm welder needs are clearly identified to the QCM in sufficient time to allow welding qualification and testing.
- The RS shall arrange for all required safety and work permits.
- Drawings and documents used for piping installation shall be distributed and controlled in accordance with the Technical Document Control System.

5.4.2 Activity steps in the erection process:

- The RS shall perform in-process and final QC inspections to verify that the erection of piping and trim items meets project requirements.
- Alignment, plumb, level checks and bolting performed and verified on the applicable ITP and Inspection reports.
- Bolt-up and/or welding of connections:
  - ❖ Structure shall be plumb, leveled and braced before any piping spools are placed or erected into it.
  - ❖ Welded attachments permanently welded to the pipe shall be in accordance with the project specifications, employing only welders qualified in accordance with the relevant code.
  - ❖ The QCI shall verify that all welding is performed in accordance with project requirements and that the welder(s) are certified in accordance with ASME Section IX and that certification papers have been reviewed, approved, filed and copied to the client.

5.4.3 Flanged connections to rotating equipment require special attention. The RS shall notify the onsite Millwright for in-process monitoring. This method shall only be used when we need to make some adjustments to piping spools at such equipment as pumps.

5.4.4 Verify fit-up, other than welding related, is acceptable vertical lines are plumb, and horizontal lines are level, except when “slope” is indicated on the design drawings. When “slope” is indicated on the design drawings, the actual measurement or angle of slope indicated on the design drawings shall be check for accuracy.

5.4.5 The complete piping system as depicted by the boundaries of the work package shall be walked down by the STM, QCI and RS to verify all materials, components and trim items are complying to the design drawings.

5.4.6 Post-Erection activities in the erection process include the following:

- Quantity reporting
- Final alignment and installation of all required bolts and nuts at flanges that were hot- bolted for adjustments at equipment
- Welding of the base support to the adjustable dummy legs
- Installation of any trim items and piping components, which were not available at the initial time of erection
- Repair damaged coatings
- Repair any welds that are found to be unacceptable.

5.5 Quantity Reporting

5.5.1 The RS will be responsible for quantity reporting and for completing the piping erection tracking charts provided by the Project Scheduler as required.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.6 Inspection and Testing

5.6.1 The RS and QCI shall perform in-process monitoring and QC inspections of the quality of the piping erection process and any deficiencies shall be documented. In process monitoring activities shall include:

- Material damage.
- Material distortions.
- Improper fit and alignment.
- Unauthorized alternations.
- Improper installation methods.
- Inadequate walking clearances.
- Incorrect bolting material.
- Improper torquing methodology.
- Inadequate thread protection.
- Undersized or defective welds (inspected by QCI).
- Unqualified welders (welders verified by QCI).

5.6.2 The RS shall perform a pre-inspection of the piping erection to ensure accordance with the criteria established on the design drawings, in the design specification and in the project applicable codes, standards and guidelines have been met. The RS shall notify the STM and QCI when the piping system is completed and ready for final walk down and inspection.

5.6.3 The QCI will perform in-process and final inspections of all welding activities. Any welding related problems shall be immediately reported to the QCM and RS. The QCI shall notify the QCM when welds are ready for any required nondestructive examination. The QCI will also visually inspect all completed welds for compliance with project specifications, codes, and applicable welding procedures.

5.6.4 The STM and QCI shall perform a final inspection and walk down of the piping erection in accordance with the criteria established on the design drawings, in the design specifications, and in the project applicable codes, standards and guidelines. Final inspections shall be documented in the attached Installation & Inspection Report.

6 FORMS (SEE SECTION IV)

6.1 QC.04.2003.3A Aboveground Piping Inspection and Test Report (ITP)

6.2 QC.04.4003A Piping Installation and Inspection Report

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To define and establish the routines and responsibilities for the planning, performance, and documentation of tests to demonstrate the integrity of piping systems.

1.2 Scope

1.2.1 This procedure applies to work performed by EXCEL's force account (direct hire) construction. This procedure may also be applied to subcontractors when invoked by contract documents.

1.2.2 This procedure applies to all hydrostatic pressure tests performed by Excel or direct subcontractors. For Pneumatic Pressure Testing see QC.02.2003.5 Reference 2.8.

1.2.3 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications or Excel safety policies, the project documents or Excel safety policies shall supersede.

1.2.4 Deficiencies identified during in-process monitoring and final inspections, shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)
2.2 QC.02.1002 Basis of Operations
2.3 QC.02.2003 QMS Piping Execution Plans
2.4 QC.02.2002.2 Pipe Support
2.5 QC.02.3001 Non-Conformance Stop Work Reporting
2.6 QC.02.3004 Measuring and Test Equipment
2.7 QC.02.3005 Welding & NDE
2.8 QC.02.2003.5 Pneumatic Pressure Testing
2.9 ASME BPVC Section VIII D1
2.10 ASME BPVC Section I
2.11 ASME B16.5
2.12 ASME B31.3
2.13 ASME B31.1

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 Piping System - a system used for conveying fluid or transmitting pressure through cylindrical assemblies of pipe, tube, fittings, and other piping components. A pipingsystem test may contain pressure vessels or other equipment within the jurisdiction and/or scope of other codes.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.1.2 Hydrostatic Test – a testing method in which pressure vessels such as pipelines, plumbing, gas cylinders, boilers and fuel tanks can be tested for strength and leaks. The test involves filling the vessel or pipe system with a liquid, usually water, which may be dyed to aid in visual leak detection, and pressurization of the vessel to the specified test pressure.

4.1.3 Design Documents - include all drawings, specifications and instructions approved by the Project Engineer, or the Project Field Engineer (for field commodity responsibility), for use during construction of the project. This also includes contractor documents approved foruse during the construction phase of the project, as well as any codes and standards referenced by the designer or contract requirements.

4.1.4 Inspection and Test Plan (ITP) - ITP are documents that delineate inspection and/or test activities to be performed to verify acceptability of various construction and/or installation activities.

4.1.5 In-Process Monitoring - Routine oversight performed to validate that the work activitiesand processes are being implemented in accordance with the approved quality program, applicable specifications and project documents. As applicable to hydrostatic testing, observation during the entire course of the pressurization and test hold time to verify attainment of proper pressure and absence of leaks.

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this procedure are properly implemented.

4.2.2 Area Site Manager (ASM)

The ASM is responsible for the overall quality of work performed by construction personnel for his assigned area. The ASM is responsible for providing input into the pressure testing plan and providing training for field personnel on the requirements of this procedure. The ASM shall delegate assignments and monitor the performance of Superintendents to ensure the requirements of the Procedures are properly implemented.

4.2.3 Quality Control Manager (QCM)

The QCM is responsible for directing and supervising field QC activities and ensuring proper QC Inspection coverage, reviewing and approving QC inspection plans and ITP, and for the final QC review and approval of all QC inspection forms. The QCM ensures the documentation and resolution of any nonconformities observed while pressure testing in accordance with EXCEL's PQP. The QCM is responsible for issuing specifications which describe the system and component test requirements.

4.2.4 Quality Control Inspector (QCI)

The QCI is responsible for monitoring and inspecting preparations and conducting pressure tests to ensure compliance with the requirements of this procedure, the ITP, approved PQP, and applicable project specifications and codes. The QCI will monitor, perform in-process and final QC inspections on items, components, and systems subjected to pressure testing. The QCI is responsible for witnessing and documenting the results of the test and assures that it is performed safely and in accordance with this procedure. When required the QCI will coordinate with the required witnesses for sign-off of the pressure test.

4.2.5 Planner/Scheduler (PS)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The PS is responsible for assisting the Superintendents in planning and scheduling the installation activities.

4.2.6 Responsible Superintendent (RS)

The RS is responsible for the safe performance of the pressure testing. The RS is responsible to supervise and coordinate the manpower, tools and equipment required to accomplish testing operations in a safe and productive manner, to ensure that construction workers are qualified to perform the work, to develop the weekly work plan for pressure testing, and to ensure the quality of workmanship.

The RS is responsible for monitoring the quantity reporting process from the RP for accuracy and timeliness and establishing an overall program to ensure that all piping is pressure tested in accordance with applicable codes and specifications and shall coordinate and manage all activities of this pipe-testing program.

4.2.7 Field Engineer (FE)

The FE is responsible for assisting field supervision when corrective action is required to correct engineering, fabrication, or quality issues, and assists in resolving field problems related to pressure testing.

4.2.8 Responsible Person (RP)

The RP is the individual on the construction team (e.g., Craft Supervisor, General Foreman) responsible for directing the conducting of pressure testing. The RP is responsible for reporting testing quantities to the PS. The RP is also the front-line supervisor for craft workmanship and maintaining a safe working environment. The RP shall have readily available a copy of the applicable project specific requirements and acceptance criteria when performing the pressure test. All required inspection documentation for completed work shall be completed by the end of the shift when the test activity is completed.

4.2.9 System Turnover Manager (STM)

The STM is responsible for supervision and assignment of the System Turnover Supervisors (STO), System Foremen (SF) and FE necessary to provide technical support, and assist the RS, RP, and QCI with the project requirements along with demands of the pressure testing schedule. The STM is responsible for providing input as needed on quality control documentation requirements. The SF is responsible for reporting testing quantities to the PS.

4.2.10 System Foreman (SF)

The System Foreman is responsible for scheduling and performing pre/post pressure test punch list walk-downs (References 6.3 & 6.4). The System Foreman is also responsible to assist the QCI to monitor pressure testing preparation, conduct, and follow-up, and to perform in-process and final quality inspections on items, components, and systems subjected to pneumatic pressure testing.

5 PROCEDURE

5.1 Pressure Testing Program

5.1.1 The Field Pressure Test Program must be carefully planned by the Project Manager, Design Engineer, Construction Manager, Field Engineer, Quality Control Manager, and Client Representative early in the job to provide a positive approach and to ensure a smooth and well-organized pipe testing program. This shall be accomplished by preparation of individual hydrostatic test packages, which clearly outline exactly how each pipe system shall be prepared for the test, and how the test will be carried out.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.1.2 The RS shall be responsible for the preparation of individual test packages. This shall be accomplished by preparing a complete set of marked up P&ID's, color coded by specified test pressures, of all piping systems.

5.2 Test System

5.2.1 The individual test system shall encompass as much piping as it is practical based on test pressure of the piping and equipment involved.

5.2.2 Normally, the minimum test pressure of each line is calculated by the Design Engineer and listed on the Line List. Similarly, the test pressures for columns, vessels, heater tubes, and exchangers are listed on their individual drawing or data sheet.

5.2.3 Unless otherwise specified in the project specifications the actual test pressure shall be 1.5 times the design pressure corrected for temperature. Care shall be taken to prevent overpressure.

5.2.4 If the maximum operating pressure and temperature of piping attached to a vessel are the same as those of the vessel, the piping and vessel may be tested together.

5.2.5 If the test pressure of the equipment is less than the piping test pressure, the piping shall be either disconnected from the equipment or isolated by blinds or valves, as approved by the QCM/QCI and Client's Representative. If any component (vessel, instrument, expansion joint, or machine) is not designed for full hydrostatic test it shall be isolated from the test.

5.2.6 Some utility systems may be service tested. Typically cooling water, plant air, and low-pressure steam lines are service tested. Some lines can be service tested with a media other than water. This information is normally provided by the Design Engineer and shown on the Line List. The FE and Client's representative shall approve of any changes in test medium.

5.3 Test Packages

5.3.1 The STM/STO shall assemble a test package for each test system. The package shall include:

- Test Boundary Sheet – An annotated P&ID displaying the physical extent of the test.
- Drawings annotated showing all piping and equipment included in the test system.
- Pretest checklist Form QC.04.4003B
- Test checklist Form QC.04.4003A
- Test Package Data Sheet. See SSL and Client line list in test package

5.3.2 The piping drawings in the test package shall include the following information and clarify the following:

- Location of test blinds at pumps, compressors, control valves, and safety valves.
- Size and thickness of blinds, and type of gaskets and bolting necessary to withstand test pressure.
- Requirement for removal of flappers of check valves.
- Exact method for protecting control valves and instruments.
- Requirements of testing lines which vent or drain to the atmosphere.
- Block valve alignment - open or close.
- Location of high point vents and low point drains.
- Location of temporary supports required on vapor lines during hydrostatic testing.
- Flanged valves and connections have the correct gaskets installed.
- Check bolt size, material, and length in all flanged connections. Are bolts tight.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Check valves and control valves installed in the correct flow position.
- Drain requirements for valves or bypass piping.
- Do specifications call for valves to be packed or lubricated? If so, has it been done?
- Do valve stems have paint on them? Have paint removed as necessary
- Are handles on plug cocks installed? (It is best to account for these and turn over to client for later installation.)

5.3.3 Miscellaneous

- Are process instrument connections installed at least to the first blockvalve?
- Are correct thermo-wells installed?
- Attention should be given to seal welding specifications of instrument piping, as well as to tape or pipe dope requirement.
- Is miscellaneous pump piping such as cooling water, seal oil, flushing oil, drains, etc., installed as per specifications, drawings, or manufacturer's recommendations? Call discrepancies to attention of the Design Engineer.
- Check to see if pipe plugs supplied with pumps, exchangers, vessels, orifice flanges, and instruments meet the piping specification.
- Has the required steam tracing beeninstalled?
- Are traps correct type, size, and in rightlocation?
- Do specifications call for traceridentification?
- Is sentinel drilling calledfor?
- Are holes in the correct location?
- Has the depth of all holes beengauged?
- Are expansion joints installed as perdrawings?
- Are shipping spacers still installed? (Leave in for hydro test but note on punch list for removal before startup.)
- Do spring hangers have chocks or stops installed? Remove post-hydrotesting and verify springs are correctly set before startup.
- Have relief valve settings been checked by the client?
- Do relief valve discharge lines open to atmosphere? Have 1/4-inch holes been drilled in tail pipes to drain accumulated rainwater?
- Are relief valve discharge lines positioned so that sudden release of pressure cannot endanger personnel or adjacent equipment?

5.4 Pre-Test Punch List

5.4.1 After the RS has completed pre-test inspection, the QCM shall review and note any item or condition not in conformance with any drawing, specification, or code. This shall be done by filling out the “Pre-Pressure Test Punch List” (Reference 6.3) and circling the item on the test package piping drawing and note the punch list line-item number on the rejected area of the drawing.

5.4.2 A full description of the nonconformance item shall be listed on a “Nonconformance Report” (Reference 2.5), and attached to the drawing and filed by the QC dept. An additional copy shall be given to the RP for the correction of the nonconformity. The description shall be of sufficient detail so that copies of the list can be used by craft supervision to correct the work. At a minimum this list should include the isometric number, sheet number and any applicable identification numbers, i.e. valves, guides, supports, equipment etc.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.5 Piping System Pressure Test

5.5.1 All piping shall be tested to the minimum test pressure calculated and listed on the project Line Summary Sheets. In no case shall the test pressure exceed the adjusted pressure/temperature rating as listed in ANSI Standard B16.5. Stress limits established in ASME Boiler and Pressure Vessel Code, Section I, and ANSI B31.3 shall not be exceeded.

5.5.2 The hydrostatic test pressure for each system shall be corrected for the static head pressure between the lowest points in the piping system and the elevation of the test gage. The static head is equal to 4.33 psi. For every 10 feet of liquid head.

5.5.3 The maximum hydrostatic test pressure on any piece of equipment included in a system test of piping shall not exceed the manufacturer's shop test pressure or recommended test pressure.

5.5.4 The maximum hydrostatic test pressure at the bottom of vertical or horizontal vessels in an erected position shall not exceed the shop test pressure.

5.5.5 The maximum hydrostatic test pressure shall not exceed the shop test pressure on either side of shell and tube or air-cooled exchangers. Caution should be taken when testing through exchanger shell or tubes with differential test pressures.

5.6 Extent of Testing

5.6.1 Atmospheric lines such as safety relief valve tailpipes and overflow drain lines may not require pressure testing. These lines shall be inspected to ensure completeness of fabrication and installation.

5.6.2 Pumps, turbines, compressors, safety valves, rupture discs, and ejectors, shall not be subjected to the piping test pressure. Expansion joints shall be provided with suitable temporary restraints for the additional loads imposed under test or shall be isolated.

5.6.3 Vessels and heat exchangers may be tested with the piping. However, if the test pressure of vessels is less than the piping test pressure, then the vessels shall be blinded off. If any large vessel is not designed for full hydrostatic test, or if the presence of water in the vessel or exchanger is objectionable, it shall be isolated from the test.

5.6.4 Instrument piping at orifice flanges and equipment up to and including the first block valve shall be tested with its respective piping system. The balance of the instrument piping, beyond the first block valve, will be air tested prior to placing into service, and visually inspected. During the pressure test of the main process piping and/or equipment, the instrument process piping shall be vented to ensure that the instrument is not subjected to the test pressure because of a potential leaking block valve.

5.6.5 Before testing through a control valve, the FE shall check the manufacturer's specifications to determine if the control valve will withstand the test pressure. It is recommended that control valves be removed.

5.6.6 The actual test pressure shall be modified, if required, to conform to any requirements of the ASME BPVC, or with state or local regulations. Requirements of the ASME BPVC shall apply only to the piping or equipment within its scope.

5.6.7 Piping subassemblies may be tested either separately or assembled.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.6.8 Expansion joints shall be tested without temporary restraints at the lesser of the required test pressure or 150% of design pressure. Self-restrained expansion joints may be tested in place or remotely.

5.7 Testing Medium

5.7.1 Hydrostatic testing shall be accomplished with clean, fresh water.

5.7.2 Specific instructions shall be issued by the Design Engineer outlining, test procedures, for units or sections of units. Where special tests are necessary because of process considerations. When de-mineralized water is specified, the pH range shall be between 5.0 and 8.0, and chlorides shall not exceed 1.0 ppm.

5.7.3 Water-testing normally should not be performed if the ambient temperature is likely to drop below 32°F. However, should it be necessary to test under low-ambient temperatures, a suitable antifreeze solution shall be mixed with water to provide a liquid with a freezing point below the expected temperature. A solution of glycol is recommended. After a test, all equipment, lines, and valves must be thoroughly drained.

5.7.4 If inhibitors of any kind are added to the test media. The PM/CSM and Client Representative must issue an approved disposal plan for the test media upon completion of the test.

5.7.5 Piping (unless austenitic stainless steel or carbon steel which has been impact tested) shall not be tested pneumatically or hydrostatically at metal temperature below 20°F without prior approval from the Design Engineer.

5.8 Test Prerequisites

5.8.1 Unless otherwise specified, all joints and welds except those previously tested shall be left unpainted and un-insulated and otherwise completely exposed for examination during the test. Equipment which is not to be included in the test shall be isolated or disconnected from the pipe by valves or blinds.

5.8.2 All restrictions, which interfere with filling, venting, or draining, such as orifice plates and flow nozzles, shall not be installed until after testing is complete.

5.8.3 For hydrostatic testing, all piping in gas or vapor service shall be provided with adequate temporary support, with particular attention being given to lines using spring or counterweight supports. Do not test adjacent large lines simultaneously where the weight of the combined test-water load may overload the structure or supports.

5.8.4 Lines containing check valves should have the pressure source located on the upstream side. If this is not possible, remove the flapper from the valve, or if it is flanged, reverse the valve for the test. The removal and reinstallation of the flapper must be witnessed and documented by the QCM/QCI.

5.8.5 All welded attachments, such as pipe supports and hangers, shall be installed before pressure testing.

5.8.6 Where test pressure exceeds ball valve maximum seat test pressure, ball valves used for vents, drains, instrument blocks, etc., shall be in an open position or blinded during test.

5.8.7 If use of water low in chloride content is a testing requirement, plans shall be formulated for acquisition of sufficient quantities, storage, method of circulation, and reuse.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.8.8 Piping to be pickled in the field shall be field tested prior to pickling.

5.9 Hydrostatic Testing

5.9.1 The following pretest documentation shall be reviewed and verified as complete by the QCM and Client's Representative prior to initiation of the test:

- Test Procedure Review Checklist.
- Pretest Checklist.
- Test Instrumentation List.
- Punch list - Pretest Requirements.
- Valve Lineup.
- Test Boundary Sheets (including marked-up ISO and P&ID, valve positions, test equipment, blind locations, isolated equipment, etc.)
- Weld Maps showing weld number and stencil.

5.9.2 The system or sub-system shall be filled and vented. When filled, shut all vents and drains. The system or sub- system shall be pressurized with the test pump and shall not exceed the pressure values shown on the Line list. The system should be brought up to test pressure in increments to facilitate early identification and correction of leaks. When test pressure is attained, it shall be maintained for 10 minutes prior to commencing inspection of the system and shall be maintained throughout the inspection of the entire system.

5.9.3 The following precautions should be taken during the test:

- Precautions shall be taken to prevent build-up of excessive pressure.
- Installed test pressure gages should be checked to see that test pressures are well within their ranges. Permanent gages should be installed after hydro testing.
- Minimum of one test gage shall be used for testing. The method of two test pressure gages is recommended if entirety of test is not visible from the test tree. Test gages shall be calibrated against a standard dead weight tester or a calibrated master gage. If using more than one gage, one pressure gage shall be located at the test tree (lowest point) and the second one at the furthest allowable point of the piping system.
- Test pumps of sufficient size and capacity shall be used for hydrostatic tests. If the piping system is extremely large and the source of water is an existing plant fire system, it may be possible to have the customer turn on the booster pump for increased fire-main pressure. Requests of this nature should be kept to a minimum.
- If a pressure test is to be maintained for an extended period and the test liquid in the system is subject to thermal expansion, precautions shall be taken to avoid excessive pressure buildup.
- After hydrostatic testing of the system has been completed and approved by the client's representative, all lines and equipment shall be completely drained of the test fluid. Particular attention should be given to venting vessels, equipment, and piping to avoid damage from a vacuum.
- Provisions should be made for the draining of test water to existing sewers or areas away from the worksite to minimize interference with normal construction operations.
- During cold weather, it is important that all piping, valves, valve bonnets, etc., be drained completely to avoid damage by freezing.
- Blow out or dry out systems to eliminate as much moisture as possible.

5.10 Test Instruments

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.10.1 The preferred gage for each job is a Digital Gage that has a 0-10,000 PSI range. Please ensure that it has the capabilities to record each test so that the report can be included in each test package.

5.10.2 If using an Analog gage: Test pressure gages shall have at least a 4-inch diameter dial and be direct indicating. They shall be the industrial type with an accuracy of not less than 0.5% and have a range of about double the intended maximum test pressure but in no case shall the range be less than 1-1/2 nor more than 4 times that pressure.

5.10.3 All test pressure gages shall receive a pretest calibration and a posttest calibration. Each test pressure gage shall have its own calibration record number.

5.10.4 If post-test calibration of any pressure gage indicates a gage to be defective, the QCM/QCI shall note it as a punch list item and the system is to be retested.

5.10.5 Pressure gages shall be located as shown on the Test Boundary Sheets or on the Test Equipment Drawing.

5.11 Temperature Measurement

5.11.1 Temperature measuring equipment shall be located as shown on the Test Boundary Sheets or on the Test Equipment Drawings.

5.11.2 If post-test calibration on any temperature instrument indicates it to be defective, it shall be so noted as a punch list item by the QCM/QCI.

5.12 Test Duration

5.12.1 The leak test pressure shall be maintained at least 10 minutes and then all joints and connections shall be examined for leaks. The test pressure may be reduced to not less than the design pressure while performing this examination.

5.13 Acceptance Criteria

5.13.1 There shall be no visible leak at any weld, mechanical joint or other permanent connection. Deficiencies found during hydrostatic test inspection shall be noted as exceptions on the “Post-Pressure Test Punch List”, Reference 6.4. Weld leaks shall be repaired and retested.

5.14 Leak Repairs

5.14.1 No fittings will be tightened during the application of pressure or while the system is under pressure except as clarified in 5.14.2 (below).

5.14.2 If a leak is detected between the Test Pump and the test tree connection to the test circuit; the test circuit shall be blocked in and the pressure on the test pump shall be bled down to 0 PSI prior to making any repairs.

5.15 Post Test Work

5.15.1 Upon successful completion of the hydrostatic test, the following posttest work shall be accomplished:

- Correct exceptions taken during the hydrostatic test inspection.
- Remove all test blinds and gaskets prior to installing permanent gaskets.
- Remove stops from spring hangers and adjust to proper cold position setting.
- Install pump suction screens and orifice plates (if not to be installed by client).

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Plug all vent and drain points. Connect all permanent instrumentation. Make sure that there is no water trapped in the pipe to freeze in cold weather.
- Remove all temporary supports.

5.15.2 Welds which have not been subjected to hydrostatic or pneumatic leak testing in accordance with the code shall be examined as follows:

- Performing 100% radiographic examinations shall test circumferential girth and miter welds and longitudinal and spiral groove welds.
- All other welds, including structural attachment welds, shall be examined visually and by using the liquid penetrant method, (PT) or magnetic particle method, (MT); method shall be determined based on surface conditions.
- The QCI and Client's Representative shall re-inspect the system to determine that the above work has been accomplished.

5.16 Cast Iron Piping Pressure Tests

5.16.1 Generally, these systems will be firewater and water mains. Tests shall be performed with all caulked or flanged joints exposed.

5.16.2 A conservative practice in determining test pressure is to pressure test 1.5 times the operating pressure.

5.16.3 For each system the hydrostatic pressure shall be corrected for the static head pressure between the elevation of the lowest point in the line and the elevation of the highest point.

5.16.4 Before the hydrostatic testing of underground bell and spigot pipe, suitable backfill shall be thoroughly compacted in thin layers around the pipe to the full width of the trench and to a height of 6 inches above the pipe with all joints left uncovered for inspection during the test.

5.16.5 All fittings not anchored for the test pressure shall be shored against the trench walls during the test.

5.16.6 At least 10 days should elapse between the pouring of the concrete anchors and the hydrostatic test.

5.16.7 The duration of each test shall be at least 60 minutes.

5.16.8 The procedure for pressure testing shall be too slowly apply the test pressure after the system has been filled with water and all air vented from the pipe.

5.16.9 All exposed pipes, fittings, valves, hydrants, and joints shall be carefully examined during the pressure test.

5.16.10 When the joints are made with lead, all such joints showing visible leaks shall be recalked until tight. When the joints are made with cement grout and show seepage or slight leakage, such joints shall be replaced.

5.16.11 After hydrostatic testing of the system is completed and approved by the QCI all lines shall be completely drained if there is danger of freezing or placed in service with the plant loop system for circulation.

5.17 Sewer and Drain Tests

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.17.1 Sewer and non-pressure drains shall be filled with water to grade with no pressure other than static head applied.

5.18 Final Acceptance, Documentation, and Test Records (References 6.1 & 6.2)

5.18.1 Records of each piping test shall be maintained and made available to Client's Representative. Documentation shall include, but not be limited to the following:

- Date of test.
- Identification of piping system tested.
- Test fluid.
- Test pressure.
- Test temperatures.
- Certification of results by the examiner.
- The record of inspection and the QCM/QCI acceptance of the work shall be the Test Data Sheet. Upon satisfactory completion of all test work, the RS shall obtain the Client final acceptance by signature on the Test Data Sheet(s).

6 FORMS (SEE SECTION IV)

6.1 QC.04.4003A Piping Installation Report
6.2 QC.04.4003B Pre-Pressure Test Punch List
6.3 QC.04.4003C Post-Pressure Punch List
6.4 QC.04.4003D Temporary Blind List

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To establish the specific requirements for the performance of Pneumatic Leak Testing of piping systems within the scope of ASME B31.3.

1.1.2 This procedure describes the specific requirements for the performance of Pneumatic Leak Testing of piping systems, tubing, and piping system components within the scope of ASME B31.3. For Hydrostatic Pressure Testing see QC.02.2003.4 Reference 2.10

1.1.3 To define the procedures of pneumatic testing for a piping system; a system used for conveying a fluid or transmitting pressure through cylindrical assemblies of pipe, tube, fittings, and other piping components.

Note: A piping system test shall not contain pressure vessels or other equipment within the jurisdiction and/or scope of other code unless written approval is given by the Managing Contractor.

1.1.4 A Pneumatic Leak Test as relates to this procedure is defined as a pressure test in which the component(s) being tested is filled completely with a test medium of inert gas or dry air. Pressure is then applied to the test medium for the required time and the outside of the component(s) is examined visually for leaks.

1.2 Scope

1.2.1 To define a pressure test in which the component(s) being tested are filled completely with a test fluid of inert gas or dry air, then apply pressure to the test fluid for the required time, while examining outside of the component(s) for visual leaks.

Note: The acceptance of piping systems under this procedure is for pressure tightness only.

1.2.2 This procedure is to be implemented in conjunction with EXCEL's PQP.

1.2.3 This procedure only addresses pneumatic testing. Pneumatic testing (performing any pressure testing using such gaseous test mediums as air, carbon dioxide, and nitrogen) is within the scope of this procedure.

Note: Conduct of any pneumatic testing requires prompt written approval of EXCEL's Director of Quality Control and the Managing Contractor's approval utilizing the "Pneumatic Test Data" Form. (Reference 6.1)

1.2.4 In-service testing is outside of the scope of this procedure.

1.2.5 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents and specifications' requirements shall apply.

1.2.6 Deficiencies identified during in-process monitoring and final inspections shall be documented and tracked in accordance with the Quality Control Plan.

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)

2.2 Site Specific Safety Plan

2.3 QC.02.1002 Basis of Operations

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

2.4 QC.02.2002.2 Pipe Supports
2.5 QC.02.2003.2 Underground Piping Installation
2.6 QC.02.2003.3 Aboveground Piping Installation
2.7 QC.02.2003.6 Build it Clean/Keep it Clean
2.8 QC.02.3004 Measuring and Test Equipment
2.9 QC.02.3005 Welding & NDE
2.10 QC.02.2003.4 Hydrostatic Pressure Testing
2.11 ASME-B31.3
2.12 ASME-PCC-2
2.13 ASME-Code Manual (current)

3 ATTACHMENTS

3.1 QC.03.2003.5A- Temporary Pancake Blind Rating Chart
3.2 QC.03.2003.5B- General Arrangement - Pneumatic Leak Tests
3.3 QC.03.2003.5C- Limited Access Area and Pressure Control Point

4 GENERAL

4.1 Definitions

4.1.1 Piping System - a system used for conveying fluid or transmitting pressure through cylindrical assemblies of pipe, tube, fittings, and other piping components. A piping system test may contain pressure vessels or other equipment within the jurisdiction and/or scope of other codes.

4.1.2 Pneumatic Pressure Test - is a pressure test to determine the structural integrity of a complete or partial piping system or component using a test medium of a nonflammable gas compatible with the intended service of the system or component.

4.1.3 Inspection Checklist – refers to the *"Pneumatic Test Data"* (Reference 6.1), which contains the critical attributes used by the Quality Control Inspector to perform pre verification and hold point inspections of the pneumatic test procedure.

4.1.4 Test Blank - Either a blind flange, slip or pancake blind shall be temporarily installed in the line to isolate pipe or equipment that is not to be included in the pneumatic test.

4.1.5 M&TE - Measuring and Testing Equipment.

4.1.6 PRV - Pressure relief valve/safety pressure relief valve. A relief valve calibrated and controlled, used during pneumatic testing to protect personnel and piping against inadvertent over-pressure.

4.1.7 Design Documents - include all drawings, specifications and instructions approved by the Project Engineer, or the Project Field Engineer (for field commodity responsibility), for use during construction of the project. This also includes contractor documents approved for use during the construction phase of the project, as well as any codes and standards referenced by the designer or contract requirements.

4.1.8 Inspection and Test Plan (ITP) - ITP are documents that delineate inspection and/or test activities to be performed to verify acceptability of various construction and/or installation activities.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.1.9 In-Process Monitoring - Routine oversight performed to validate that the work activities and processes are being implemented in accordance with the approved quality program, applicable specifications and project documents. As applicable to pneumatic testing, observation during the entire course of the pressurization and test hold time to verify attainment of proper pressure and absence of leaks.

4.1.10 System Status Log (SSL) – the log which encompasses each step of the System Turnover Process for the purpose of tracking (Reference 6.4 Form QC.04.4000 Master System Status Log | Piping).

4.2 Responsibilities

4.2.1 Director of Quality Control (DQC)

Oversees all Quality Control for EXCEL. The DQC may reduce the pressure control boundary, limited access boundary, and other procedural requirements considering low pressure / small diameter pipe, deemed low risk test (i.e.: plant air service test, etc.).

4.2.2 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this Procedure are properly implemented.

4.2.3 Area Site Manager (ASM)

The ASM is responsible for the overall quality of work performed by construction personnel for his assigned area. The ASM is responsible for providing input into the pneumatic testing plan and provides training for field personnel on the requirements of this procedure. The ASM shall delegate assignments and monitor the performance of Superintendents to ensure the requirements of the Procedures are properly implemented.

4.2.4 Planner/Scheduler (PS)

The PS is responsible for assisting the Superintendents in planning and scheduling the installation activities.

4.2.5 Quality Control Manager (QCM)

The QCM is responsible for directing and supervising field QC activities and ensuring proper QC Inspection coverage, reviewing and approving QC inspection plans and ITP, and for the final QC review and approval of all QC inspection forms.

The QCM ensures the documentation and resolution of any nonconformities observed while pneumatic testing in accordance with EXCEL's PQP.

4.2.6 Quality Control Inspector (QCI)

The QCI is responsible for monitoring and inspecting preparations and conducting pneumatic pressure tests to ensure compliance with the requirements of this procedure, the ITP, approved PQP, the Inspection Checklist (Reference 6.1 "Pneumatic Test Data" Form), and applicable project specifications and codes. The QCI will monitor, perform in- process and final QC inspections on items, components, and systems subjected to pneumatic pressure testing. The QCI is responsible for witnessing and documenting the results of the pneumatic test on the "Pneumatic Test Data" form and assuring that it is performed safely and in accordance with this procedure. When required the QCI will coordinate with the required witnesses for sign-off of the pneumatic test.

4.2.7 Responsible Superintendent (RS)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The RS is responsible for the safe performance of pneumatic pressure testing. The RS is responsible to supervise and coordinate the manpower, tools and equipment required to accomplish pneumatic testing operations in a safe and productive manner, to ensure that construction workers are qualified to perform the work, to develop the weekly work plan for pneumatic testing, and to ensure the quality of workmanship. Only personnel aware of the necessary procedural steps shall be assigned to conduct or participate in pneumatic testing. The RS is responsible for monitoring the quantity reporting process from the (RP) for accuracy and timeliness.

4.2.8 Field Engineer (FE)

The FE is responsible for assisting field supervision when corrective action is required to correct engineering, fabrication, or quality issue, and assists in resolving field problems related to pneumatic pressure testing.

4.2.9 Responsible Person (RP)

The RP is the individual on the construction team (e.g., Craft Supervisor, General Foreman) responsible for directing the conducting of pneumatic pressure testing. The RP is responsible for reporting pneumatic testing quantities to the PS. The RP is also the front-line supervisor for craft workmanship and maintaining a safe working environment. The RP shall have readily available a copy of the applicable project specific requirements and acceptance criteria when performing the pressure test. All required inspection documentation for completed work shall be completed by the end of the shift when the test activity is completed.

4.2.10 System Turnover Manager (STM)

The STM is responsible for supervision and assignment of the System Turnover Supervisors (STO), System Foremen (SF) and Field Engineers (FE) necessary to provide technical support, and assist the RS, RP, and QCI with the project requirements along with demands of the pneumatic pressure testing schedule. The STM is responsible for providing input as needed on quality control documentation requirements. The SF is responsible for reporting pneumatic testing quantities to the PS.

4.2.11 System Foreman (SF)

The SF is responsible for scheduling and performing pre/post pneumatic test punch list walk- downs. The SF is also responsible to assist the QCI to monitor pneumatic testing preparation, conduct, and follow-up, and to perform in-process and final quality inspections on items, components, and systems subjected to pneumatic pressure testing.

5 PROCEDURE

5.1 Preparation

5.1.1 Review this procedure in its entirety.

5.1.2 Review the client specifications for Pneumatic Pressure Leak Testing for any additional and/or more stringent requirements not included in this procedure.

5.1.3 Review the Test Package or Piping Circuit to be tested for any specific details not included in this procedure.

5.1.4 Review all attachments and forms of this Procedure.

5.2 Prerequisites to Pneumatic Leak Testing

5.2.1 Review the piping system test package for the following:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Location of isolation points.
- Items in the Test Circuit that are “NOT” to be included in the Pneumatic Leak Test.
- Pneumatic test pressure to be applied.
- Has the piping system been visually inspected and the Pneumatic Test Data Sheet completed and signed off? (Reference 6.1)

5.2.2 Prepare a blind list.

5.2.3 Secure proper permits and install isolation blinds.

5.2.4 Check all isolation blinds for proper rating, see Reference 3.1, “Temporary Pancake Blind Rating Chart”.

5.3 Test Medium

5.3.1 The test medium shall be dry nitrogen or dry air.

5.4 Temperature

5.4.1 The minimum metal temperature during a pneumatic test of piping shall not be less than the greater of the following, unless prior approval is obtained from the Director of Quality Control.

- The minimum specified temperature in ASME B31.3, Appendix A; for the most restrictive pressure retaining material within the test circuit.
- The temperature required by engineering design, if specified.

5.4.2 For piping systems that contain equipment that has been in service, the Client’s design engineer shall specify the minimum metal temperature for pneumatic testing.

5.4.3 Pressurizing shall not commence until the required minimum metal temperature is attained.

5.4.4 Consideration shall be given to heat loss during the test to assure that the minimum metal temperature is retained while the piping or piping system is pressurized.

5.4.5 Pneumatic testing involves the hazard of released energy stored in compressed gas. Care must be taken to minimize the chance of brittle fracture during a pneumatic leak test. Test temperature is important in this regard and must be considered for the materials of construction.

5.5 Pneumatic Test Pressure

5.5.1 The pneumatic test pressure at any point in the piping system shall be as follows:

- In accordance with the Project Specification if so provided.
- 1.10 (x) times the design pressure, MAXIMUM.
- As a precautionary measure against over- pressuring, the following formula shall be used to calculate and check the test pressure.

  Pt = 1.10 (P)

  Where Pt = Pneumatic Test Pressure

  P = Design Pressure (internal design gage Pressure, PSIG)

5.5.2 Attention: If the specified test pressure exceeds Pt, the specified test pressure shall be verified by the Client’s Engineer.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.6 Pre-Pneumatic Test Preparation and Safety

5.6.1 Temporary test components, such as blinds, threaded plugs, bolting, block and bleed valves, test hoses, test pump, test tree, etc. shall be visually checked and deemed safe to use for the test pressure of the system by the QCM/QCI, Safety, and/or Supervision.

5.6.2 All temporary test components shall be rated for at least 1 1/2 times the test pressure.

Note: Welded flat closure plates are prohibited.

5.6.3 Threaded connections shall be seal welded where allowed.

5.6.4 Welded connections (Butt weld end caps) made to temporary test closures shall be full penetration for butt welds unless alternative approved by Client engineering. EXCEL Quality Control shall visually inspect the final weld of all buttweld end caps, socket, slip-on type temporary weld closures. PWHT & NDE other than VT of temporary welds are not required unless specified by contract documents.

5.6.5 Establish a limited access area and pressure control point in accordance with Reference 3.3 and 6.2, “Limited Access Area and Pressure Control Point”. Area shall be barricaded with clear signage stating “PNEUMATIC TEST IN PROGRESS – AUTHORIZED PERSONNEL ONLY” at the perimeter of the limited access area. Where barricading or signs are not feasible, Area Attendants shall be designated to control access to the perimeter. Only personnel involved in the pressure testing operation being performed may be within the limited access area. Those testing personnel designated to examine the joints shall be outside the limited access area unless inspection activity is in progress.

5.6.6 Two personnel will be at the Pressure Control Point monitoring the gage and/or recorder whenever the system contains pressure.

5.6.7 For field joints, review NDE and PWHT records to assure that all NDE and PWHT have been performed and is acceptable.

5.7 Test Gages:

5.7.1 An indicating gage shall be connected directly to the piping system. If the indicting gage is not readily visible to the pressure-testing operator controlling the pressure applied, an additional indicating gage shall be provided where it will be visible to the operator throughout the duration of the test.

5.7.2 When practical, two gages shall always be used so that readings can be compared during the test to ensure there is no gage malfunction.

5.7.3 The preferred gage for each job is a Digital Gage that has a 0-10,000 PSI range. Please ensure that it has the capabilities to record each test so that the report can be included in each test package along with the STEP DOWN sheet.

5.7.4 If using an Analog gage: Test pressure gages used in testing shall be graduated over a range of about double the intended maximum test pressure, but in no case shall the range be less than 1 1/2 nor more than 4 times the test pressure.

5.7.5 All gages shall be calibrated against a standard deadweight tester or a calibrated master gage. Gages shall be recalibrated at any time there is reason to suspect they may be in error.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.7.6 The test equipment shall be examined to see that it is tight and that all low-pressure filling lines and other appurtenances that should not be subjected to the test pressure have been either disconnected or safely blocked out of the test.

5.7.7 A pressure relief device shall be provided, having a set pressure not higher than the test pressure plus the lesser of 50 PSI or 10% of the test pressure.

5.8 Application of Pneumatic Test Pressure

5.8.1 Test crew personnel are required to wear Client and/or EXCEL minimum PPE requirements in addition to goggles and face shields. Additional or more stringent PPE requirements may also be identified and requested by Client and/or EXCEL Safety.

5.8.2 The general arrangement for the pneumatic leak test shall be as per Reference 3.3.

5.8.3 Required relief valve setting pressure shall be per Reference 3.3, *"General Arrangement – Pneumatic Leak Tests"*.

5.8.4 The operator of the Test shall have a clear view of the test pressure gage, so they will always be aware of the test pressure.

5.8.5 The test operator will be stationed away from the immediate vicinity of the test system as deemed necessary to provide for his/her safety.

5.8.6 During the application of pressure to the test system until the conclusion of the test, the operator shall not leave his/her station for any purpose unless relieved by an individual competent in the performance of this operation.

5.8.7 Take a temperature reading of the piping metal to assure that it is above the minimum temperature required.

5.8.8 The pressure shall be gradually increased until a gage pressure which is the lesser of 1/2 the test pressure or 25 psi is attained. At this point the pressure should be maintained for 10 minutes for piping strains to equalize at which time a preliminary leak check will be made.

5.8.9 Leak detection fluid shall be applied (using a chemist's wash bottle or other suitable means) to the areas of interest. Ordinary household soaps or detergents are not permitted. If tightening is required to stop leaks, isolate the immediate work area from people who are not necessary for the tightening operation and repair in accordance with section 5.11 Leak Repairs.

5.8.10 The pressure shall gradually increase in stages of 25 PSI or 10% of the test pressure, whichever is greater, until the test pressure is attained. After each pressurizing stage, hold pressure for a minimum of 10 minutes for piping strains to equalize.

5.8.11 When the test pressure has been attained, hold for 15 minutes, reduce the test pressure to the Design Pressure (test pressure divided by 1.10).

5.9 Evaluation

5.9.1 Perform a visual inspection of all joints and connections at the Design Pressure using leak detection fluid. This inspection shall be witnessed as required by the client.

5.9.2 Any bubbles observed shall be considered a leak.

5.10 Repairs

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.10.1 Repairs shall be re-examined by the same procedure. Acceptance of repaired areas shall be in accordance with the same acceptance standards.

5.11 Leak Repairs

5.11.1 No fittings will be tightened during the application of pressure or while the system is under pressure except as clarified in 5.11.2 (below).

5.11.2 If a leak is detected between the Test Pump and the test tree connection to the test circuit; the test circuit shall be blocked in and the pressure on the test pump shall be reduced to 0 PSI prior to making any repairs.

5.12 Test Records

5.12.1 Test results will be recorded on the Leak Test portion of the piping "Installation and Inspection Report" (Reference 6.3), or other documentation as may be specified by the Client.

5.12.2 In addition to the data required by the Pneumatic Test Data Sheet, the Documentation Package" shall include Reference 6.1, "Test Data Form".

- Pressure-indicating gage range.
- Safety Pressure Relief Valve (PRV) set point.
- Gage and PRV manufacturer and M&TE control number.
- Gage and PRV calibration and recall dates.
- Gage and PRV calibration certificates.
- Drawings of system and boundaries. (ISO's and P&ID's)
- NDE, PWHT, and PMI Log.
- DCN, FCN, FCR, and RFI to document as built condition
- Pre and Post Test Punch list
- Package Identification #
- Master Test Package Tracking Log (TPSL) (Reference 6.4)

6 FORMS (SEE SECTION IV)

6.1 QC.04.2003.5A Test Data Form (Reference 2.2, Pneumatic Test Data)

6.2 QC.04.2003.5B ASME-PCC-2 (Reference 2.4, Limited Access Area and Pressure Control Point)

6.3 QC.04.2003.5C Pneumatic Test Inspection & Test Report (ITP)

6.4 QC.04.4000 System Status Log (SSL)

6.5 Pressure Test Report Step Down sheet

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 This procedure shall provide guidelines for internal cleaning, preparation for shipping, field storage and erection practices of all pipe and piping spools to maintain internal cleanliness. It is intended to provide instruction on the specifics at shop fabrication, the paint yard, field storage and field erected spools including “open end” closing requirements.

1.1.2 To provide a procedure for organizing, planning and conducting construction site quality assessment and surveillances.

Note: The techniques used for internal cleaning (shop fabricated) differ from field erected spools. Additionally, requirements for internal cleaning for the paint sub-contractor are detailed.

1.2 Scope

1.2.1 This procedure applies to work performed by EXCEL’s force account (direct hire) construction. This procedure may also be applied to subcontractors when invoked by contract documents.

1.2.2 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents shall apply.

1.2.3 Deficiencies identified during in-process monitoring and final inspections shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QMS-1007 Project Quality Plan (PQP)

2.2 QC.02.1002 Basis of Operations

2.3 QC.02.3006 Job Quality Assessments

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 Clean - having no loose scale, heavy rust, sand, dirt, rocks, welding rods or related debris, loose bolts, nuts, washers, wedges, wood pieces, fabrication materials or consumables, or any other construction related materials inside a pipe or pipe spool. Mill scale, light rust, and surface dust are not considered debris and pose no issues.

4.1.2 Dunnage – loose wood, matting, or similar material used to keep load in position.

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this Procedure are properly implemented.

4.2.2 Quality Control Inspector (QCI)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The QCI will monitor and perform inspections to ensure the procedure is being followed and performed (Reference 2.1 and 2.3).

4.2.3 Responsible Superintendent (RS)

The RS is responsible for supervising and coordinating the "Build it Clean/Keep it Clean" procedure is performed in a safe and efficient manner, and in accordance with specifications and standards. The RS is also responsible for the quality of work performed and to ensure that workers are qualified to perform the work.

4.2.4 Responsible Person (RP)

The RP is the individual responsible for the work (e.g. Pipefitter, Truck Loader, Paint Sub- Contractor). The RP is also the front line for craft workmanship and maintaining a safe working environment.

4.2.5 Piping Forman (PF)

The PF is responsible for visually inspecting pipe interior foam all open ends to ensure cleanliness prior to final fit/erection.

5 PROCEDURE

5.1 Shop Fabricated Spools

5.1.1 All materials shall be handled and stored in a manner to prevent foreign materials such as dirt, gravel, etc., from entering. Pipe shall be stored off the ground on designated racks or on dunnage. Fittings, valves, etc., shall be stored on pallets.

5.1.2 The RP at the first fit station is responsible for visually inspecting for internal cleanliness all materials brought in the shop to his fab table. At no time will any tools, welding rods, gloves, files, etc. be placed inside of a pipe spool.

5.1.3 Upon completion of fabrication, prior to loading the spool, the RP (Truck Loader) is required to visually inspect each spool, blow clean air through each spool, then cap all opened ends with industry standard approved plastic end-covers. The plastic end covers are specifically manufactured to suit a specific type of opening (i.e.: flanges, olets, pipe ends, etc.)

5.2 Paint Sub-Contractor

5.2.1 The paint sub-contractor shall ensure all the spools he receives are properly capped. If any spool he unloads has an open end, he shall immediately cover it with an approved plastic cover or contact the RS if he does not have the appropriate cover.

5.2.2 After each spool is painted and prior to shipping, the RS (painter) shall blow each spool with clean air to ensure all loose sand, dust, etc., has been removed. He shall then ensure all open ends are covered prior to shipping.

5.2.3 The QCI or Corporate Quality Control Assessor shall verify compliance with our paint sub-contractors' facilities.

5.3 Field Erected Spools

5.3.1 All spools shall be stored in the field on dunnage or pallets and not directly on the ground. Periodic inspections of the laydown yard by the RS/QCI shall verify proper storage conditions and all open ends remain covered.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.3.2 All pipe & spool ends shall remain covered until the actual fit up. This includes transporting from the laydown yard to the job site area, while being worked on jack stands (leveling), and not to be removed until the fit-up process occurs.

5.3.3 The RP erecting the spool shall remove the end covers at the time of spool erection. He shall visually inspect the interior to ensure cleanliness. At no time will any tools, welding rods, gloves, files, etc. be placed inside of a pipe spool.

5.3.4 At no time during construction will any tools, welding rods, gloves, files, grinding discs, wrenches, tape measures, etc. be placed inside of a pipe or pipe spool for any reason. The RP working the spool shall remove the end covers at the time of fit up and inspect the interior to ensure cleanliness.

5.3.5 Prior to final fit/erection of any pipe or spool, the PF charge shall visually inspect the interior from all open ends to ensure cleanliness. He shall document his inspection by signing and dating the applicable Iso or drawing next to the spool piece mark identification.

5.3.6 Once the piping system is completed, the line shall be filled with water for hydro testing. After a successful hydro test, the water shall be allowed to drain out at the lowest points flushing out loose scale, sand, dirt, etc. that may have been dislodged during venting, pressuring, then draining.

6 FORMS (SEE SECTION IV)

6.1 None

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To establish the system for initiating, processing, and controlling Nonconformance Reports and Stop Work Notices.

1.1.2 To establish a system for the correction of nonconformities found in engineering data, procedures, materials, systems, components, parts, services or workmanship governed by the applicable code and or standard.

1.2 Scope

1.2.1 Identifying, reporting, documenting, segregating, evaluating and disposition of nonconformities which are found in engineering data, procedures, materials, systems, components, parts, services or workmanship during fabrication, construction, or installation governed by the Project.

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)

2.2 Construction Execution Plan.

2.3 QC.02.1002 Basis of Operations

2.4 QC.03.1004 Technical Document Control

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 Nonconformity/Nonconformance - any condition, which does not comply with the applicable rules of the specified requirements and the QMS. Nonconformities must be corrected before final acceptance and the completed component can be considered to comply with the code and / or standards. Any item, condition, or material which deviates from engineering drawings or specifications, and which cannot be corrected within the scope of such documents, or otherwise requires input from the design engineering organization to resolve.

4.1.2 Unsat - Any item, condition, or material which deviates from engineering drawings or specifications, but which can be corrected within the scope of such documents.

4.1.3 Repair - The necessary action taken to remove any unacceptable indications or non-conformities, to restore the material to meet an acceptable, code or standard requirement. This does not include repairs of weld defects.

4.1.4 Rework - The necessary action taken to complete scope of work per approved Construction drawings, revised drawings or engineering changes. Any work that does not meet the Client specifications, applicable codes or standards.

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

The CSM is responsible for ensuring that the requirements of this Procedure are properly implemented. The CSM is responsible for dispositions for nonconformances and authorization for Stop Work Notices.

4.2.2 Project Engineer (PE)

Is responsible to determine and assign dispositions for nonconformance's (with input from the design engineering organization where applicable) and to maintain site files for required NCR and SWN records.

4.2.3 Quality Control Manager (QCM) and Quality Control Inspector (QCI)

The QCM is responsible for directing and supervising field QC activities and ensuring proper QC Inspection coverage and ensures the documentation and resolution of any nonconformities is in accordance with EXCEL's Project Quality Plan. The QCM shall determine in coordination with the Project Engineer (PE) when a construction problem constitutes an unsat or nonconformance. They are responsible for initiating Nonconformance Reports (NCR) and Stop Work Notices (SWN) as conditions warrant. To identify, in conjunction with inspectors and craft supervision, nonconforming material, parts, components, or installations at the construction site. To initiate closure inspection of nonconformance reports to verify corrective actions have been completed in accordance with approved disposition instructions.

Whenever QC detects nonconformity, they are responsible for documenting as required and to notify Project Management. The QCM/QCI shall be responsible for monitoring the implementation of this section through surveillance and/or periodic assessment.

4.2.4 Responsible Superintendent (RS)

The RS is responsible for notifying the CSM and QCM whenever nonconformities in materials, procedures, systems, components, parts, services, or workmanship governed by the applicable code are found and identified. The RS is responsible for proposing acceptable corrective action, for any nonconformity.

4.2.5 Field Engineer (FE)

The FE is responsible for assisting field supervision when corrective action is required to correct engineering, fabrication, or quality issues, and assists in resolving field problems.

5 PROCEDURE

5.1 Subcontracted Work

5.1.1 The QCM shall assure performance of inspections and verifications to ensure subcontractor work complies with the engineering design and the contract requirements. Upon notice of an unacceptable condition, the QCM shall determine, in conjunction with the PE and the Subcontractor, whether the condition warrants an NCR.

5.1.2 If the condition is determined to be an Unsat (i.e. correctable within the scope of existing requirements), the QCM shall advise the Subcontractor to correct the problem and record the action taken in accordance with the Subcontractors approved procedures.

5.1.3 If the condition is determined to be nonconformance, the item shall be processed for resolution in accordance with Section 5.3 of this procedure.

5.1.4 If construction activities are controlled under a subcontractor's quality control program, a system may be established, prior to the subcontractor starting work, to use the subcontractor's NCR form

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

(or equivalent document) to resolve nonconforming conditions. This system shall be identified in the Construction Execution Plan.

5.2 Direct Work

5.2.1 Quality Control must be notified when nonconformities are found or observed by Project / Field Management.

5.2.2 Upon identification of an unsatisfactory item or condition, or notification from the QCM of an unsatisfactory item or condition, the RS/FE shall take appropriate actions to correct the problem.

5.2.3 The resolution of unsatisfactory items or conditions shall be noted on (or as an attachment to) the associated QCP Report Form (e.g. Concrete Pour Card, Mechanical Equipment Form).

5.2.4 The QCM is responsible for performing reviews whenever nonconformities are identified and documented and reporting the results of the review to Project Management.

5.2.5 Items or conditions which cannot be corrected within existing design requirements shall be processed for resolution in accordance with Section 5.3 of this procedure.

5.3 Nonconformances

5.3.1 When an item is presented for inspection and determined to be a nonconformance, the QCM or qualified designee shall originate a “Nonconformance Report” (NCR) form (Reference 6.1) and apply a Reject Inspection Tag (Reference 6.2) where practical. After completing the required data, the NCR shall be forwarded to the PE.

5.3.2 The PE or designee shall process the NCR for resolution as follows:

- The NCR shall be reviewed with the originator for completeness and applicability, and an NCR number assigned.
- The PE shall maintain an “NCR/SWN Log” (Reference 6.4) indicating the status of NCRs in process and a file of "open" reports.
- The PE shall complete the instructions for disposition of the nonconforming condition and obtain concurrence from the design engineer for NCR dispositions of "accept as is" or "repair."
- Upon review and acceptance, the NCR log shall be updated with the disposition assigned date and identification of the individual to whom the disposition action is assigned. The original NCR shall be retained in the "Open" file and copies provided to the assigned Action Members, RS/FE, the QCM, and others as required.

5.3.3 Upon completion of the disposition instructions (corrective action), the assigned Action Members shall notify the PE, who will sign and date the original in the "open" file, update the NCR log, and forward a copy of the completed NCR to the QCM for verification and close-out.

5.3.4 The QCM shall initiate a re-inspection to verify satisfactory completion of the disposition of the NCR, sign off the original NCR if the remedial work is satisfactory, remove the “Reject Inspection Tag” (if applied), notify the PE for update of the NCR files, and make a copy of the NCR and file with the quality control records.

5.4 Stop Work Notices

5.4.1 In situations where the QCM/QCI, RS/FE, or CSM determines that continued work would cause damage, jeopardize the safety of personnel, preclude subsequent inspection, or make corrective

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

action ineffective, the CSM shall be advised of the condition and an authorization requested to issue a “Stop Work Notice” (SWN) (Reference 2.3).

5.4.2 When a potential stop work condition or situation is observed that, in the judgment of the QCM/QCI, RS/FE warrants direct action and the CSM is unavailable, a verbal stop work order may be issued immediately and be subsequently followed up with the written SWN and concurrence by the CSM.

5.4.3 The RS/FE or QCM shall initiate the SWN, providing details concerning specific work activities which are to cease; the area, location, boundaries, and components to which the stop work action applies; and the reason(s) for the action. After the SWN is approved, copies shall be distributed to affected parties. Once issued, activities noted on the SWN shall cease immediately. These activities shall not be resumed until the SWN is rescinded.

5.4.4 If work must be stopped the Project Manager (PM) or CSM should direct the work to be delayed or stopped as appropriate until an approved corrective action plan is obtained. In such instances, a Stop Work tag (Reject Tag, Reference 6.2) shall be issued and attached to the nonconforming work and/or material.

5.4.5 The QCM shall review the proposed corrective action with the Client to ensure compliance with applicable requirements. Approval of repair or use "as-is" must have the acceptance of the Client. If the proposed corrective actions are acceptable, QC shall monitor implementation through completion of the proposed corrective action. Upon completion, the QCM will then approve disposition of the nonconformity.

5.4.6 When the disposition to the stop work condition has been received, via the NCR, the QCM shall assure that the details of the disposition are understood by the personnel responsible and, with the concurrence of the CSM, rescind the SWN. Upon completion of the disposition action, the QCM shall close out the NCR in accordance with paragraph 5.3.

5.5 Corrective and Preventative Action

5.5.1 EXCEL’s corrective action plan shall include all aspects of in-house and supplier non-conformances, discrepancies and other quality problems such as documentation. In addition, it should address and satisfy customer quality concerns. Unless otherwise specified, corrective actions shall be recorded in a Corrective Action Report (Request Report from the Director of Quality Control).

5.5.2 The QCM is authorized to recommend corrective action within the guidelines of the QMS. Suppliers or subcontractors unwilling to comply with the corrective action may be removed from the Approved Suppliers List (ASL) at the discretion of the QCM. In addition to these requirements, any corrective action recommendations of the customer shall be acted upon as required below.

- All customer complaints concerning product quality shall receive the immediate attention of the QC Manager with an initial response to the customer within 5 working days.
- Corrective action investigations shall include causes, root cause analysis (where applicable), recommendations for corrective & preventive actions and notification of affected organizations.
- The QCM, with any required assistance, shall determine the necessary method for elimination of causes of nonconformance of discrepancies and the follow-up procedure to verify the proper corrective measures have been successfully accomplished.

5.6 Nonconformance and Assessment Reviews

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.6.1 The QCM, or assigned delegate, shall review the results of all assessments and nonconformance reports semiannually to determine trends, repetitive mistakes, problem suppliers and problem components as well as personnel & equipment weaknesses. The results of all assessment deficiencies and nonconformance's will be tracked on a master tracker for trending and continuous improvement.

5.6.2 The results of the assessment reviews shall be documented in a report including recommendations for correction within 30 days after the review. The report will be given to the Director of Quality Control who will review all assessment reports within 15 days of receiving the report. The Director shall authorize and require any corrective action necessary to keep the Quality Control Program effective and current. The corrective steps shall be based on the assessment report and/or suggestions of the QCM. All corrective action should be completed within 60 days of the assessment unless otherwise specified.

5.6.3 The QCM is responsible and authorized to request a special review by the Director of Quality Control any time a special problem might arise that requires immediate authority and expeditious treatment. The Director shall initiate action on special requests within 24 hours of the request.

5.6.4 Within 90 days after recommendations for changes required by assessment review, the QCM shall follow up and verify completion of corrections or report on the progress of long-term changes such as design changes.

6 FORMS (SEE SECTION IV)

6.1 QC.04.3001A Nonconformance Report
6.2 QC.04.3001B Reject Inspection Tag
6.3 QC.04.3001C Stop Work Notice
6.4 QC.04.3001A NCR/SWN Log

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To establish the rights of the Client's Inspector and EXCEL's responsibility in interface with the Client's Inspector.

1.1.2 To establish the quality program procedure for subcontracted construction activities to ensure the subcontracted construction is in accordance with the engineering design.

1.2 Scope

1.2.1 This procedure applies to construction and addresses the quality functions required to interact with the Client and the functions required to support construction management of subcontractor construction activities.

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)
2.2 QC.02.1002 Basis of Operation
2.3 QC.02.3001 Nonconformance and Stop Work Reporting
2.4 QC.02.3009 Job Quality Assessment

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 None

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this Procedure are properly implemented. The CSM is responsible for dispositions for nonconformances and authorization for Stop Work Notices.

4.2.2 Quality Control Manager (QCM)

The QCM is responsible for daily interface with the Client's Inspector and will be the single point contact for Client's Inspector quality issues. Additionally, the QCM is responsible for quality control oversight of subcontractors to assure compliance with this procedure.

5 PROCEDURE

5.1 Client's Interface

5.1.1 The Client's Inspector shall have free access to construction work within the project contract scope. Free access shall include quality control documentation required by the project contract. Free access may not include proprietary technical information related to engineering design and certain confidential financial reports.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.1.2 The QCM shall make every effort to build a positive relationship with the Client's Inspector. This involves building a level of trust as the work progresses and addressing differences of opinion in a professional manner.

5.1.3 The Client's Inspector will be invited to participate in assessments and surveillance conducted by the QCM.

5.1.4 Client Nonconformance Reports shall receive immediate, appropriate attention and shall be monitored by the QCM through satisfactory resolution.

5.2 Client Inspector Witness Points

5.2.1 The QCM shall, at the earliest opportunity, meet with the Client's Inspector to discuss and formally agree witness/hold points associated with the various construction processes.

5.2.2 Witness/hold point agreements shall be documented and hold points shall be identified on the appropriate QMS forms.

5.2.3 The Client's Inspector witness notification process shall be discussed and agreed in the context of contract requirements. The process should define required advance notification, method of notification, and who shall be notified.

5.2.4 Unless otherwise required by contract, all parties shall understand that a hold point denotes Client's Inspector notification. Notification means providing sufficient opportunity to witness or inspect an item or an event. This does not indicate the work will be held up when the Client's Inspector is unavailable for witness or inspection at the appointed time and place described in the notification.

5.2.5 Client's Inspector acceptance signatures are best obtained at the work site where the activity takes place. As a courtesy to the Client's Inspector, the QCM shall assure you that the appropriate sign-off and support documentation is available.

5.3 Sub-contractor Responsibilities

5.3.1 Each construction subcontractor shall implement a planned and organized quality control program that will ensure subcontractor construction is completed in accordance with project specifications, applicable codes and standards, and contract requirements. Appropriate quality requirements shall also be applied for sub-tier suppliers.

5.3.2 Each subcontractor shall maintain and implement a quality control manual for the control of their work. The manual shall describe the subcontractor's program and procedures for assuring compliance with project requirements, contract documents, and QCP requirements described herein.

5.3.3 The subcontractor's quality control manual shall be submitted for review and acceptance at the time of the contract bid.

5.3.4 Note: Acceptance of a subcontractor's quality control program shall not relieve the subcontractor of obligations and responsibilities to perform work in accordance with project requirements and contract documents.

5.3.5 The subcontractor may elect to use the procedures, forms, reports, checklists, etc. as contained in this QMS or submit alternate procedures, forms, reports, checklists, etc., which are functionally equivalent to those in this QMS.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.4 Sub-contractor Interface

5.4.1 Prior to the start of a work element (Civil, Structural, Piping, etc.), subcontractors shallattend a Sub-contractor Pre-work Meeting that shall address the following, as a minimum:

- Quality Control Procedures to be followed.
- Client, Contractor, project standards/specifications and drawings to be followed.
- Applicable Industry codes and standards to be followed.
- Applicable welding procedures (WPS and PQR) to be used.
- Applicable testing procedures including NDE are to be applied.
- Applicable monitor, hold, and witness points.
- Quality records to be generated.

Note: This meeting will be coordinated by the QCM. Minutes of meetings will be made and kept in the site file. Attendees should include appropriate Commissioning/Start-up Representatives and the Client to assure a uniform understanding and agreement on construction requirements, inspections, hold points, inspection/witness authority, and required quality documentation.

5.4.2 Subcontractor organization charts will be submitted for review and acceptance prior to the contract award. The organization charts shall demonstrate that sufficient staff exists to adequately cover the scope of work. A list of personnel job descriptions, including quality-related responsibilities, shall accompany the organization chart. Subcontractor quality control personnel records shall also be provided for review and acceptance. Personnel records shall be sufficient in detail to demonstrate that quality control functions will be performed by qualified personnel.

5.4.3 To prevent conditions which could result in poor workmanship, the QCM and/or construction supervisors shall address the condition by forwarding an “Action Request Form” (Reference 6.1), to the subcontractor. The subcontractor’s Quality Control Manager should respond to the concern within 24 hours. This document shall be used when less formal communications with the subcontractor have failed to be effective.

Note: Construction Action Requests shall not replace Nonconformance Reports. An “Action Requests Log” (Reference 6.2) showing status of subcontractor’s response will be maintained in the EXCEL Quality Control Manager’s office.

5.4.4 The QCM will perform ongoing review and monitoring of subcontractor inspection formsand reports and coordinate resolution of problem areas with the appropriate site organization.

5.4.5 Third party inspection organizations (e.g. soils testing, NDE) will be routinelymonitored, surveyed and assessed by the QCM to ensure that qualified personnel, correct/calibrated equipment, and approved procedures are utilized to perform their work.

5.4.6 Requests for inspection will be coordinated through the QCM. The QCM shall establish hold, witness, and monitor points prior to start of work. (see paragraph 5.4.1 of this procedure).

5.4.7 Inspection and test equipment shall be calibrated to the applicable project requirements.The QCM will verify compliance via routine monitoring, assessment, and surveillance of subcontractor activities.

5.4.8 Quality issues will be a standard topic at scheduled project subcontractor meetings. The QCM will attend these meetings to review and resolve quality concerns. Quality participation in these meetings is not a substitute for subcontractor pre-work meetings.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.4.9 Should the need for additional quality requirements become apparent, they will be relayedto the subcontractor in writing. These additional quality requirements shall be planned and coordinated through the QCM. The cost and schedule impact of additional quality requirements shall be discussed with the CSM. Cost and schedule issues shall be resolved before the requirement is relayed to the subcontractor.

5.4.10 Members of the subcontractor construction site quality control will be trained in accordance with the EXCEL QMS. Additionally, indoctrination will be provided in the requirements of this procedure and the implementation of the subcontractor's quality control program. Personnel subsequently assigned to the subcontractor's quality control have the same instruction.

5.4.11 EXCEL assessments and surveillance of subcontractor activities shall be conducted in accordance with the EXCEL QMS.

5.4.12 Nonconformance and stop work reporting for subcontractor work will be implemented in accordance with Reference 2.3, "*Nonconformance and Stop Work Reporting*".

5.4.13 Inspection by EXCEL, or lack thereof, shall not relieve the subcontractor or its suppliersof their responsibility for compliance with specifications and contract documents, or constitute a waiver of EXCEL's rights to subsequently reject defective work.

6 FORMS (SEE SECTION IV)

6.1 QC.04.3002A Action Request

6.2 QC.04.3002B Action Request Log

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To ensure appropriate precautions are followed when materials and equipment are received at the construction site.

1.1.2 To assure appropriate handling, storage and preservation of materials and equipment to prevent damage and deterioration.

1.2 Scope

1.2.1 This procedure applies to work performed by EXCEL's force account (direct hire) construction. This procedure may also be applied to subcontractors when invoked by contract documents

1.2.2 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents shall apply.

1.2.3 Deficiencies identified during in-process monitoring and final inspections shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)

2.2 QC.02.3009 Job Quality Assessment

3 ATTACHMENTS

3.1 None

4 GENERAL

4.1 Definitions

4.1.1 None

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this Procedure are properly implemented

4.2.2 Field Materials Supervisor (MS) or Responsible Person (RP)

The Field Materials Supervisor, or designee (RP) is responsible for implementation of this procedure.

4.2.3 Quality Control Manager (QCM)

The QCM is responsible to assure compliance with this procedure throughout the project.

5 PROCEDURE

5.1 Material Receipt and Control

5.1.1 The MS/RS is responsible for monitoring for the off-loading of materials and equipment and Receiving Inspection.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.1.2 The MS/RS shall document Short and Damage (OS&D) conditions; and nonconforming received materials and equipment.

5.1.3 The MS/RS shall interface with the client, Project Engineer (PE) or assignee and on-site Equipment Reps. for receipt of special equipment.

5.1.4 The QCM shall perform internal Quality Assessments and Quality Surveillances to ensure that procedures for receiving and control of materials, equipment, and tools are being followed.

5.1.5 The frequency of material receiving assessments and surveillance will be determined by the QCM or CSM based on the status and importance of daily material receiving activities. Assessments and Surveillances shall be conducted in accordance with Reference 2.1 “Job Quality Assessment”.

5.2 Material and Equipment Storage and Maintenance

5.2.1 The MS/RS shall ensure storage areas are properly prepared/constructed and maintained; and prepare a construction site storage layout grid indicating storage area locations.

5.2.2 The MS/RS shall ensure equipment and materials are identified, segregated and readily retrievable from storage.

5.2.3 The MS/RS shall ensure implementation and maintenance of the required color coding.

5.2.4 The MS/RS shall ensure special commodity storage is addressed as directed by project procedures, the Project Engineer or the Procurement Manager.

5.2.5 The MS/RS shall monitor, and document required preventive maintenance as determined and directed by the Project Engineer or Procurement Manager.

5.2.6 The MS/RS is responsible for controlling material and equipment issues.

5.2.7 The MS/RS shall interface with the Client, PE, and on-site Equipment Reps. for storage and maintenance of special equipment.

5.2.8 The QCM Manager shall perform internal Quality Assessments and Quality Surveillances to ensure that procedures for storage and maintenance of materials and equipment, and the project preventive maintenance requirements, are being followed.

5.2.9 Storage and maintenance assessments and surveillance will be performed on a regular basis to be determined by the QCM and CSM. This should be based on the criticality of equipment and materials. Assessments and Surveillances shall be conducted in accordance with Reference 2.3 “Job Quality Assessment”.

6 FORMS (SEE SECTION IV)

6.1 None

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 This procedure describes the quality system associated with calibration and control of Inspection, Measurement and Test Equipment (MTE) used for quality verification of construction work.

1.1.2 To establish a procedure for the identification, calibration, and control of testing and measuring equipment used for final, critical, or acceptance inspections.

1.2 Scope

1.2.1 This procedure applies to force account (direct hire) construction activities. This procedure may also apply to subcontractors when invoked by contract documents.

1.2.2 This procedure is to be implemented in conjunction with the EXCEL Project Quality Plan (PQP) Reference 2.1.

1.2.3 This instruction is not applicable to off-the-shelf measuring equipment such as rulers, tape measures, and levels that are not subject to periodic re-calibration.

1.2.4 This Scope only covers those items used for completion or acceptance verification when specifically required by specification and when the completion or acceptance verification must be documented. Rough and production work may be performed with equipment whose calibration/verification is not controlled by this procedure. Standard rulers, tape measures and similar rough measuring devices do not require calibration.

1.2.5 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents shall apply.

1.2.6 Deficiencies identified during in-process monitoring and final inspections shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)

2.2 QC.02.3001 Nonconformance and Stop Work Reporting

3 ATTACHMENTS

3.1 QC.03.3004A Sample Pressure Gauge Calibration/Verification Instruction.

4 GENERAL

4.1 Definitions

4.1.1 Inspection, Measurement and Test Equipment (MTE) - is any tool, precision device, or equipment that is used for quality verification of work and requires periodic calibration.

4.1.2 Calibration - is a function performed at a facility qualified to place the instrument into a state specified by the factory as being accurate and traceable to a national standard, with work performed by a technician trained by factory training programs to complete work to a national standard. A calibrated instrument may require “zeroing” prior to operation, and said “zeroing” operations have no effect on the calibration of said instrument. (I.e. a Fluke 77 Amp/Volt meter can be calibrated, however; when turning it on to inspect a welding machine, the digital read-out of the

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

Fluke 77 amp/volt meter may require it to be "zero-ed" in order to obtain the correct amp/voltage readings from the welding machine, this is an understood and accepted practice when operating MTE equipment, which requires this example or a similar practice to be performed).

Note: It is acknowledged that the person following this document understands that there is a clearly defined difference between the term "Calibration" and "Zeroing" of an instrument or MTE equipment.

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this Construction Work Process Procedure are properly implemented.

4.2.2 Project Engineer (PE)

The PE is responsible for obtaining the list of MTE required for the project, procurement of the MTE by referencing standards for verification activities and MTE compliance with changing requirements. The PE is responsible for interfacing with off-site Laboratories and Testing Facilities and ensures all MTE has documentation. The PE together with Quality Control and Authorized personnel will ensure that all aspects of this procedure are applied.

4.2.3 Quality Control Manager (QCM) & Quality Control Examiner (QCE)

The QCM or QCE is responsible for the establishment and control of the MTE program on the project in accordance with the requirements of this procedure. The QCM/QCE is required to maintain calibration, assessment, and usage documentation; and to report equipment malfunctions to the Instrument Technician.

4.2.4 Authorized Personnel (AP)

AP may be individuals who can include Responsible Person(s) (RP), Responsible Superintendents (RS), or designees other than direct Quality Control department employees (I.e. such as tool room attendants or equipment attendants); whose duties can include issuing equipment or tools falling under the definition of MTE equipment. QCM/QCE are to be considered authorized to perform any directive within this procedure.

4.2.5 Subcontractor

The Subcontractor utilizing the devices that require calibration will provide to EXCEL proof of current calibration status and when subsequent calibrations are due. This data will be maintained in EXCEL's quality files by the QCM or QCE.

4.2.6 Calibration Technician (CT)

A technician who performs Calibration & testing functions for:

4.2.6.1 Qualified Off-site Test Laboratory that re-calibrates / repairs MTE Equipment to a national or specified set of standards.

4.2.6.2 Qualified Off-site Instrument Test Facility that re-calibrates / repairs MTE Equipment to a national or specified set of standards.

- Qualified technician who works for a subcontract sales or rental facility; who is qualified to perform calibrations to a national or specified set of standards, based on company or factory training, on

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

general or proprietary equipment; who may visit onsite to perform calibrations, or perform them offsite.

- Any Subcontract Repair technician with factory or company training, or equivalent, who is qualified to make repairs and/or calibrations to a national or specified set of standards, with equipment he is qualified to repair.

5 PROCEDURE

5.1 Calibration

5.1.1 Calibrations and tests shall be carried out as stipulated in the manufacturer's instructions, code/standard, or engineering specification. Whether the device is calibrated at the site or at an outside commercial laboratory, the check or adjustment must be performed against and traceable to certified standards.

5.1.2 If calibration is to be performed by an outside commercial laboratory, the purchase order shall require written certificates of calibration to be provided by the testing company. Completed calibration records shall be forwarded to the PE for retention with copy to the Quality Control file.

5.1.3 Subcontractor equipment calibration shall be accomplished in accordance with the subcontractor's accepted calibration program. The QCM shall ensure the Subcontractor's Calibration Program is adequately implemented.

5.2 Equipment Determination

5.2.1 The PE shall obtain a list of measuring and test equipment to be used on the construction site from the Responsible Superintendent (RS)/Engineer. An identification number shall be assigned if the equipment has no identification. The equipment shall then be entered on the *"Equipment Calibration Log",* Reference 6.5. Entries shall include Serial Number or Assigned ID Number, Type Equipment, Date Calibrated and Date Due. If personal tools are to be used for final, critical, or acceptance inspections, they shall be included in the site calibration program. The list of tools, instruments, and equipment requires calibration. This determination is based on a review of the project contract requirements, specifications, and relevant codes and standards. Typical equipment may include, but not be limited to:

- Pressure and vacuum gauges
- Dial indicators
- Thermometers
- Contact Type Temperature Indicators
- Optical or Infrared Type Temperature Indicators
- Humidity measurement devices
- Electromagnetic paint thickness gauges
- Torque indicators & Torque Wrenches (Manual)
- Skid-More Impact Torque devices (Machine/Pneumatic/Hydraulic)
- Tension indicators
- Ultrasonic testing equipment
- Chart Recorders for PWHT (Post Weld Heat Treatment)
- Holiday detectors
- Amp/volt meters

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- High potential testing equipment
- Survey equipment
- Temperature bath
- Dead weight tester
- Electro/pneumatic calibration equipment
- Relief valve test stand test equipment
- Manometers

5.3 Prepare MTE List

5.3.1 The Measuring and Testing Equipment List (MTE List), shown in Reference 6.1, provides a sole source of MTE identification and calibration characteristics and reference standards used for verification activities. The MTE List shall be prepared and maintained by the PE/AP to cover all MTE selected for performing verification activities.

5.3.2 Calibration intervals shall be established by the QCM for each item of measuring and test equipment and each reference standard. The QCM/QCE shall ensure each MTE item shall be calibrated prior to use. The calibration frequency shall be determined and derived from such information as empirical data, accuracy requirements, inherent stability, environmental conditions, operation conditions and manufacturer recommendations.

5.3.3 The PE/AP shall be the individual who determines when MTE shall be added to or deleted from the list to comply with changing requirements during construction.

5.4 Procure Necessary MTE

5.4.1 The PE shall procure new or used MTE required to perform inspection and testing activities on the project.

5.4.2 The PE/AP shall ensure that all MTE equipment supplied for the project is provided with proper calibration certification from an off-site calibration facility.

5.4.3 If the item must be calibrated on site prior to use, the calibration shall be performed in accordance with the requirements of this procedure and performed by a CT selected and brought on-site by the PE.

5.4.4 Each piece of MTE requires calibration and shall be provided with a unique identification number (traceable to the calibration certification). In addition, MTE shall have a tag, sticker, or label affixed to the item (the sticker/label may be affixed to the instrument case if labeling of the instrument is impractical). The sticker/label shall contain the unique identification number of the MTE, date calibrated and calibration due date. Each item shall also be stored as described in this procedure.

5.5 On Site MTE Calibration

5.5.1 The PE/AP shall prepare field calibration instructions for each type of MTE which is to be calibrated onsite by a CT; due to the fact it is too large, or other circumstances prevent it from being shipped off-site for calibration. If equipment manufacturer instructions are unavailable, QCM shall prepare instructions, which demonstrate the equipment is capable of verifying product acceptability. The instructions shall:

5.5.1.1 Identify the MTE to be calibrated.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Identify the calibration reference standard, environmental conditions and equipment to be used for performing the calibration.
- Provide sequential instructions for performing the calibration.
- Provide adequate storage and maintenance for the site conditions.
- Provide adequate checkout and usage control for each item.
- Describe the method of adjustment or calibration at the designated interval, or prior to use.

5.5.2 A sample field calibration instruction is shown on the “Sample Pressure Gauge Calibration/Verification Instruction”, Reference 3.1. These instructions shall be retained in the project files.

5.5.3 The PE shall contact and authorize a CT or qualified outside calibration facility to come on-site to calibrate MTE and document the calibration test date. MTE shall be calibrated to or checked against equipment certified to recognized standards. In those instances where a nationally recognized standard reference is not available, the basis for calibration shall be documented. The reference standards used for calibration shall have accuracy levels and ranges that are four times greater than those of the MTE being calibrated.

5.5.4 The “Calibration Test Report” Form (Reference 6.2) shall be completed for each calibration performed indicating:

- Standard reading.
- As received reading.
- After adjustment reading (if required).

5.5.5 MTE calibration records shall be maintained by the QCM/AP.

5.5.6 After the QCM/QCE accepts the calibration results from the CT, a calibration label shall be affixed to each calibrated instrument and reference information indicating:

- The control or property number.
- Date calibrated
- Calibrated by
- Due date for next calibration.

5.5.7 The calibration label may be affixed to the instrument case if labeling the instrument or reference standard is impractical. Project personnel shall be knowledgeable of the requirements of this procedure and the control of MTE on the project.

5.5.8 If a situation arises during the everyday activities of work on the jobsite where the QCM/QCE deems or determines a MTE item to be out of calibration or suspects the MTE item may be out of calibration; the item shall be tagged “DO NOT USE” and placed in segregated storage.

The tagged MTE item(s) shall be sent off-site to be checked for calibration; and re-calibrated, if necessary, at a qualified facility by a qualified CT.

If the qualified test facility and/or CT determines the MT&E item to be deficient, the QCM shall then evaluate the suspected out of calibration incident and the potential impact of the out of tolerance condition on inspection and test results that was used for the device.

If the MTE Item is found to be good and within calibration, the item may be placed back into service, with the approval of the QCM. In either case, the results of this evaluation shall be documented on

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

an "Out of Calibration Report Form" (Reference 6.4) and the CSM shall be notified. If the out of tolerance conditions renders the quality of a previously completed installation suspect or indeterminate, the QCM/QCE shall initiate a Non-Conformance Report (Reference 2.2) in accordance with the EXCEL QMS.

5.6 Off Site Calibration Services

5.6.1 The PE shall approve the selection and detailed services to be provided by offsite calibration services. The PE shall ensure that:

- The technical services specification meets project requirements.
- Documentation submittal requirements meet project requirements.
- Calibration certification requirements and applicable test data and documentation requirements are imposed.
- Traceability to nationally recognized reference standards is required or documentation of the basis for calibration is required where national standards do not exist.

5.6.2 The PE shall approve the prospective off-site MTE calibration services facility to ensure that it is capable of providing the necessary calibration services with qualified CT personnel. The QCM/QCE and the CSM may elect to survey of the prospective calibration facility. The results of the survey shall be documented. Specific items to be checked during the survey include:

- Personnel qualifications.
- Preparation and use of calibration procedures and test reports.
- Traceability of calibration reference standards.
- Accuracy levels, ranges and tolerances of calibration reference standards.

5.6.2.1 Storage and identification of MTE.

- Application and use of calibration labels, records and certifications.

5.6.3 The offsite calibration service shall calibrate and provide a calibration test date for each item of MTE that requires national standard or equal traceability. The offsite service provider is to complete a Calibration Test Report and submit the test results to the QCM/QCE for approval. Once approval is obtained, a calibration number is provided and a tag affixed to the item prior to its use or storage.

5.7 Equipment Storage

5.7.1 MTE shall be stored in a designated storage facility with access controlled to QCM/QCE or authorized personnel (AP) only.

5.7.2 Appropriate environmental controls should be provided to prevent deterioration and damage of the equipment, and the storage facilities should be periodically inspected.

5.8 Equipment Checkout

5.8.1 Prior to issuing MTE for field use, the responsible QCM/QCE or AP; dependent on the area of issuance (i.e. tool room, equipment shed, etc.) shall verify the accuracy of the calibration label and complete the "MTE Checkout Log", Reference 6.4. The field checkout of MTE must be for a given period of time and for a specific work operation (or series of work operations). It is unacceptable to check out MTE:

- For undetermined periods of time.
- For undetermined work activities.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.8.1.1 To loan the MTE between work groups without first updating the MTE Checkout Log.

5.9 Recalled MTE

5.9.1 MTE may be recalled by the QCM/QCE or AP for recalibration prior to the calibration due date shown on the "MTE Checkout Log" and the individual calibration test reports.

5.9.2 Recalled MTE that must be calibrated shall be tagged "DO NOT USE" and/or placed in a segregated storage area to keep it separate from MTE which does not currently require recalibration.

5.9.3 Recalled MTE items may be recalibrated using on site or off-site CT calibration services at the discretion of the QCM/QCE or AP.

5.10 Damaged or Suspected Invalid MTE

5.10.1 If the QCM/QCE or AP; directly involved with the use of MTE considers the accuracy of an item or equipment to be questionable, the suspect MTE item shall be submitted for accuracy verification and/or re-calibration and shall be handled exactly as previously described in Section 5.5.8 of this procedure.

5.10.2 The QCM/QCE or AP shall assess each suspect item for equipment condition. MTE items, whose accuracy can be clearly established as good and accurate and deemed acceptable, may continue to be used; and the QCM/QCE or AP shall document the assessment in the calibration records. MTE items whose accuracy is suspect or cannot be clearly established shall be removed from service, tagged as "DO NOT USE" and submitted for calibration verification to an offsite calibration facility, as previously described in Section 5.5.8 of this procedure.

5.10.3 MTE submitted off-site for calibration verification and found to be within calibration may be returned to the jobsite, after re-calibration with a new calibration and calibration sticker and with approval from the PE/QCM. The MTE item may then continue to be used, after steps detailed in Section 5.5.8 of this procedure have been completed.

5.10.4 MTE items found to be out of calibration by the off-site calibration facility shall be repaired and re-calibrated; or scrapped, destroyed and/or replaced, as determined by the PE/QCM. In either case, the results shall be documented on an "Out of Calibration Report" Form, Reference 6.4. The QCM/QCE shall evaluate the out of calibration report and previous inspection and test results and document the findings. The QCM/QCE shall be responsible for determining if the degree of instrument inaccuracy would cause the equipment, components, or other items tested with the MTE item, to be classified as deficient.

5.10.5 If the condition of the MTE item is found to be deficient or out of calibration, all steps detailed in Section 5.5.8 of this procedure shall be followed. The QCM shall determine if the deficient condition renders the quality of a previously completed installation suspect or indeterminate. If it is determined, the QCM/QCE shall initiate a "Nonconformance Report" (NCR) in accordance with Reference 2.2.

5.10.6 If an out of calibration MTE instrument can be recalibrated, it may be returned to service with the approval & determination of the PE/QCM.

5.11 Lost MTE

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.11.1 When MTE is identified as lost, the PE/QCM shall evaluate the impact of lost MTE on previously completed inspection and test results. Lost MTE equipment shall be replaced, depending upon the balance of testing requirements for the project.

5.11.2 Where the PE/QCM cannot determine that the previous inspections and tests are valid, the QCM/QCE shall issue a Nonconformance Report (NCR) in accordance with Reference 2.2.

6 FORMS (SEE SECTION IV)

6.1 QC.04.3004A Measuring & Test Equipment List

6.2 QC.04.3004B MTE Calibration Test Report

6.3 QC.04.3004C Measuring & Test Equipment Checkout Log

6.4 QC.04.3004D Out of Calibration/Suspected out of calibration Report

6.5 QC.04.3004E Equipment Calibration Log

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To ensure that welding, post weld heat treatment, and nondestructive examination activities are accomplished in compliance with Project drawings and specifications, applicable codes and standards, and contract requirements.

1.1.2 To define the construction work process for all Welding and NDE Documentation activities.

1.2 Scope

1.2.1 This procedure applies to work performed by EXCEL's force account (direct hire) construction. This procedure may also be applied to subcontractors when invoked by contract documents.

1.2.2 This procedure is to be implemented in conjunction with the QMS and all applicable project specifications.

1.2.3 This procedure covers Non-Destructive Examination (NDE) requirements and field coordination of NDE activities associated with piping erection and maintenance repairs, fixed equipment modifications and repairs, and structural steel erection and repairs.

1.2.4 This procedure applies to the Site Q.C. Manager, Area QC Managers, Craft Personnel (Welders), Craft Supervisors, and QC Examiners.

1.2.5 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents shall apply.

1.2.6 Deficiencies identified during in-process monitoring and final inspections shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)
2.2 ASME Section V, Non-Destructive Examination and ASME Codes
2.3 B31.3 Chemical Plant and Petroleum Refinery Piping
2.4 B31.1 Power Piping
2.5 AWS D1.1 Structural Steel Welding
2.6 Project Welding Procedures
2.7 Project Nondestructive Examination Procedures

3 ATTACHMENTS

3.1 QC.03.3005A Recommended Practice for Storage of Processed Radiographs.
3.2 QC.03.3005B Welder's Instructions.

4 GENERAL

4.1 Definitions

4.1.1 Nondestructive Examination (NDE) - the testing to detect internal and concealed surface defects in materials using techniques that do not damage or destroy the item being tested. The most common types of NDE are radiography (RT), ultrasonic (UT), magnetic particles (MP), and liquid penetrant

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

(LP) methods. Depending on the applicable code, visual examination (VT) may also require control as an NDE process.

4.1.2 Post Weld Heat Treatment (PWHT) - the process of removing stresses in welds using heat applied in accordance with approved procedures.

4.2 Responsibilities

4.2.1 Quality Control Manager (QCM) and Quality Control Examiner (QCE)

The QCM is responsible for carrying out the duties and responsibilities given throughout this procedure. To have direct communication with the Director of Quality control on a regular basis and notify the director if the need arises to revise this procedure or sections of the procedure due to Client changes. To ensure implementation, management, and maintenance of the welding quality assurance program, manage Welder Performance Qualification(s). To check compliance with project specifications, requirements and applicable governing codes.

The QCM shall generate statistical welding reports and Welder continuity reports. The QCM is responsible for assessments of Welder performance, and resolution of unacceptable performance, and communicating Welder qualifications to the RP to ensure appropriate job assignments. The QCM shall provide orientation to new hire welders and shall brief them on each WPS they are qualified to use and to provide them with a copy of the *"Welder's Instructions"* (Reference 3.2) to read and sign.

The QCM/QCE shall perform a visual inspection of all pressure containing and load bearing welds, prior to any required Non-Destructive Examination (NDE), complete daily Weld Tracking Reports and record weld tracking data on drawings and/or weld tracking software.

The QCM/QCE shall monitor production welding, hold points (i.e. verify and witness fit up, weld preparation, back gouge, tack welds, and root passes) when required by the QC Plans. Shall monitor preheat/interpass temperatures and establish and monitor filler metal control and storage. Coordinate NDE setup (X-rays, UT, etc.), manage associated records and compliance with WPS's, engineering drawings, and applicable codes and standards, and manage PWHT, NDE, PMI, BHN, etc. including applicable documentation to be included in the Client acceptance packages.

The QCM/QCE shall perform visual inspection of completed welds and/or weldments for compliance with applicable codes, standards and Client specifications. Shall gauge weld size, i.e. fillet weld, buttweld reinforcement, and weld width per WPS/ and client specifications. Initiate nonconformance reports as applicable. Review of Mill Certifications (MTR) documentation as required. Additionally, the QCM/QCE is responsible for auditing welding equipment.

4.2.2 Welders

Welders are responsible for understanding and complying with the WPS and following the Welder's Instruction Sheet. Welders are responsible for ensuring proper filler metal selection and control, for visual inspection of completed welds and keeping cleaning equipment available (e.g. wire brush, chipping hammer, needle gun) and using appropriately.

Welders are responsible for complying with all hold points and notifying the QC Examiner or Craft Supervisor upon completion of any welding issues as well as at completion of any weldment. The welder is responsible for stenciling or marking Welder ID on welds, unless instructed otherwise by the QC Examiner or Managing Contractors Inspector.

5 PROCEDURE

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.1 Welding Control

5.1.1 Welding and post weld heat treatment activities including requirements for welding procedures, weld material control, and welder qualification, shall be in accordance with Reference 2.7 “Project Welding Procedures”, Project specifications and contract requirements. NDE activities shall be in accordance with Reference 2.8 “Project Nondestructive Examination Procedures”, applicable codes, standards and Project specifications.

5.1.2 Project activities within the scope of the ASME Boiler and Pressure Vessel Code, Sections I and VIII or National Board Inspection Code (NBIC) shall be accomplished in accordance with the appropriate ASME Quality Control System Manual.

5.1.3 Upon receipt of the engineering drawings and specifications, the Project Engineer shall issue the documents to the Responsible Superintendent (RS)/Field Engineer (FE).

5.1.4 The QCM/QCI shall prepare a tracking chart for welds requiring NDE or PWHT. This form may be used for assignment of any required inspection points and documentation of completed welding control and inspection/NDE activities.

5.1.5 Field drawings, sketches, isometrics, weld maps, etc. shall be used to identify and document inspection and process control procedures and activities. On large Projects, a Construction “Welding, PWHT and NDE tracking” database program may be used. This program may also be used on smaller Projects as determined by site management.

5.1.6 The RS/FE shall control field welding, PWHT, and NDE activities in accordance with Section through 5.1.11 of this procedure (below).

5.1.7 Requisition craft welding personnel, as necessary, and coordinate with the QCM, on the number of craft welders to be qualified, and the applications/welding processes to which the welders will be assigned. A Welders Qualification Log Form will be provided with the Project construction welding procedures and shall be maintained for all welders requiring qualification.

5.1.8 Assign and supervise craft personnel in the performance of fit-up, welding operations, and PWHT activities in accordance with applicable specifications, procedures, and/or drawings.

5.1.9 Direct welding, NDE, and PWHT activities in compliance with applicable engineering drawings and special process procedures.

5.1.10 Document completion and verification of welding, PWHT, and NDE activities on the “Welding Tracking Chart”. Appropriate information should also be recorded on Field drawings, sketches, isometrics, and weld maps.

5.1.11 Applicable information from the Welding Tracking Chart, or other recording methods shall be input into the “Welding, PWHT and NDE Tracking” database program when it is used to track these activities.

5.1.12 The QCM/QCE, depending on Project size, shall provide overall administration of the site welding program, including performance of Section 5.1.13 through 5.1.16 of this procedure (below).

5.1.13 Ensure that sufficient quantities and types of welding equipment and welding filler materials are purchased to support the construction schedule. Ensure the following are required for all weld material purchases:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Welding consumables shall be supplied by EXCEL approved manufacturers only. Contact the Director of Quality Control for a current list of approved manufacturers.
- Mill Test Reports or Certificates of Compliance shall be provided for welding consumables.
- Low hydrogen and low hydrogen/iron powder electrodes shall be purchased in hermetically sealed containers.
- Welding materials shall be identified in accordance with the applicable AWS/ASME Standard.
- All bare rods shall be flag tagged, color coded, or stamped to denote identification.

5.1.14 Ensure welding consumables are received and stored in accordance with the following:

- Verify quantity and type against purchase order.
- Accepted welding consumables are kept in a designated “rod room”.
- Welding consumable test reports are transmitted to the QCM for review, acceptance and retention.
- The “rod room” attendant issues only welding consumables and associated heat numbers accepted by quality control.
- Approved welding consumables are stored in their original packaging until they are opened for issue.
- Coated electrodes shall be stored in heated ovens after the sealed package has been opened. The temperature of heated ovens shall be in accordance with the manufacturer’s instructions or as noted in the Project construction welding procedures. Low hydrogen electrodes shall be stored in heated rod oven at 250°F. If there is conflict between this temperature and client requirements, the client requirements shall supersede. At no time shall low hydrogen electrodes be stored outside the ranges specified in ASME Section II (50°F to 250°F above ambient temperature.

5.1.15 Ensure welding consumables are issued and returned in accordance with the following:

- Issue requires a Weld Material Requisition Form signed by the appropriate craft foreman. This form will be provided with the Project welding procedures.
- Low hydrogen electrodes shall be issued to all welders in electric rod caddies to be always plugged in.
- Bare rod shall be issued to welders per rod requirements. Rods shall be color coded on both ends.
- At the end of each shift, unused welding consumables are returned to the “rod room” for proper storage and control.
- Review drawings, specifications, and materials to be welded to ensure appropriate qualified welding procedures are available to cover the work. If necessary, request preparation and qualification of new Welding Procedures. Contact the Director of Quality Control or their Project designee to resolve Welding Procedure issues.
- Ensure that required welding and PWHT documentation is prepared and assign the welding procedure to be used on each welded joint.

5.1.16 Assure each welder has been qualified in accordance with the following:

- Each welder is qualified for the applicable welding procedure prior to start of welding.
- An EXCEL Representative witnesses welders in the performance of their qualification tests.
- Performance testing may be performed on-site or at a company approved off-site location.
- Required specimen testing is performed by an approved testing laboratory.
- Upon satisfactory completion of the performance weld test, a Welder Performance Qualification (WPQ) Record shall be completed and retained in the quality control files.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Review welder qualifications periodically to ensure welders maintain their qualifications. Welders shall be re-qualified as required by the applicable codes, standards and Project construction welding procedures. Per EXCEL procedure, welder qualifications expire after six months unless a weld was made within the six months.
- Assure each welder is assigned a unique symbol to identify their work. The symbol shall be stamped adjacent to each weld as required by Project procedures or code of construction. Assure adequate welder symbol control
- Monitor weld joint fit-up, production welding activities, and PWHT operations to ensure conformance to applicable specifications and drawing and conduct independent inspections and verifications in support of required CQP activities.

Note: Additional welding requirements may be included in the Project specific welding procedures.

5.2 General Welding Requirements

5.2.1 Minimum welding requirements shall comply with Client specifications, applicable codes/standards and the EXCEL QMS.

5.2.2 The NDE of welds shall be in accordance with client specification and applicable code requirements.

5.2.3 Production welding shall meet the requirements of the applicable code of construction and all client specifications.

5.2.4 Production welding shall be performed utilizing EXCEL Approved Welding Procedure Specifications (WPS), supported by Procedure Qualification Records (PQR).

5.2.5 Changes may be made in the nonessential variables of a WPS to suit production requirements without requalification provided such changes are documented with respect to the essential, nonessential, and, when required, supplementary essential variables for each process. This may be by revision to the WPS or by use of a new WPS. The Client Representative must approve changes.

5.2.6 Changes in essential or supplementary essential (when required) variables require requalification of the WPS (new or additional PQRs to support the change in essential or supplementary essential variables).

5.2.7 Welding performed outside the parameters or the scope of the WPS shall be considered non-compliance.

5.3 Welder Performance Qualification

5.3.1 Welder testing shall be done in accordance with ASME Section IX and EXCEL's Welder Qualification Procedures.

5.3.2 Welders will take the project specific EXCEL Test's.

5.3.3 Welder Performance Qualification Records shall be kept on-site by the QCM and made available to the Managing Contractors Inspector upon request.

5.4 Welding Consumables (purchasing)

5.4.1 Welding filler material shall be properly marked for identification in accordance with ASME Section II, Part C.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.4.2 Bare filler wire (GTAW) shall be purchased with identification flag tags or embossments on each end.

5.4.3 Material Tested Reports (MTR) shall be furnished with all alloy filler material.

5.5 Welding Operations

5.5.1 Portable rod ovens (rod caddies) shall be used in the field for flux-coated electrodes, except E6010.

5.5.2 Plastic caddies shall be used in the field for E6010 rods. Welders shall not carry welding rods in clothing pockets.

5.5.3 Flux coated rods that have been exposed to rain shall be discarded, not returned to holding ovens. Welding rods shall not be re-baked.

5.5.4 Rods may be returned to holding ovens provided they have been properly kept in portable ovens during field welding operations.

5.5.5 The external surface for piping and 2” back from the edge to be welded for structural steel, which has been hot-dipped galvanized, shall be cleaned to provide a contaminant free welding joint. Cleaning shall be done by means specified in the WPS. Stainless steel brushes or aluminum oxide flapper wheels shall be color coded and used to clean all alloys.

5.5.6 Preheat and inter-pass temperatures shall be strictly observed. Welders shall be furnished with appropriate temperature indicating crayons or laser temperature gun for temperature measurements as needed.

5.5.7 The Welder shall mark or stencil their Welder ID adjacent to each pressure containing or load-bearing weld. Carbon steels and low alloy steels shall be stamped or marked with paint marker, all other alloys (i.e. stainless, nickel/copper nickel) shall be marked with a chloride free paint marker.

5.5.8 The QC Examiner shall observe production welding to establish WPS compliance. Random-in-process observations shall be performed on each Welder. The Examiner shall verify the following:

- End preparation and joint configuration as established by applicable weld procedures and engineering specifications.
- Proper joint cleaning.
- Internal alignment and root opening prior to welding.
- Preheat and interpass temperature.
- Tack welds that are to be incorporated into the final weld and be assured of proper blend grinding and absence of visual defects.
- Welding materials, position, and other essential variables of applicable weld procedures.
- Interpass cleaning.
- Inspect completed welds for proper reinforcement. All welds should blend smoothly into the base metal and be free of cold lap.
- Inspect the weld for surface discontinuities such as undercut. Surface porosity is to be considered as an injurious defect and shall be repaired.
- All repairs are to be made in accordance with approved procedures.

5.5.9 The QC Examiner shall visually inspect each completed pressure containing or load bearing weld. Each weld accepted shall be marked with the Examiner's initials and the letters "VT" adjacent to the

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

weld. Markings shall be with a chloride free paint marker. Visual inspection of welds shall be recorded on Weld Tracker.

5.6 Weld Rejections/Rejection Rates

5.6.1 Acceptance criteria for NDE and repair/follow-up (tracers) for weld defects shall be according to the applicable code of construction or code of maintenance repair and client specifications as applicable.

5.6.2 A goal of zero defects should be considered attainable. While zero defects are an optimistic goal, elements beyond our control such as relative humidity can be contributing factors to welding discontinuities.

5.6.3 By assuring good welding practices are utilized and Welder compliance to Welding Procedure Specifications and Project specifications, the QC Examiner is also considered to be instrumental in achieving minimal weld defects.

5.6.4 The QC Examiner shall monitor weld rejection rates by individual Welder.

5.6.5 The QC Examiner shall monitor rejection rates for the projects he/she is assigned. Repair rates (>5%) shall be reported to the appropriate area QCM and Site QCM.

5.6.6 If at any time the weld reject rate for a Welder, or project reaches 5% or higher, the QC Examiner shall investigate the cause and take appropriate actions for resolution.

5.6.7 Rejection rates can be calculated using the formula as follows:

$$\% \text{ Rejection Rate} = \frac{\text{Total Weld Rejections}}{\text{Number of Welds Examined}} \times 100$$

RT/UT only

5.7 Weld Tracking and Reporting

5.7.1 Welders Performance Qualifications (WPQ) will be available for client review.

5.7.2 The client approves all welding Procedures Specifications (WPS/PQR).

5.7.3 The Examiner shall record weld information for all pressure containing welds (see Figure 1 Section 5.7.6 of this procedure) on the Weld Tracking Report forms.

5.7.4 Welds shall be recorded on Weld Tracking Report forms. Weld information shall be recorded on inspection drawings. Welds recorded on Weld Tracking Report forms shall be "mapped" on inspection drawings. Normally, inspection drawings include:

- Piping Isometrics (ISO's), (as built),
- IFC Fixed Equipment Modification/repair drawings, (as built),
- Hand sketches where engineering drawings are not available.

5.7.5 Weld numbers should not be duplicated, however if dictated by Client requirements it is permitted.

5.7.6 The following is an example of how weld-tracking information will be recorded on inspection drawings.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

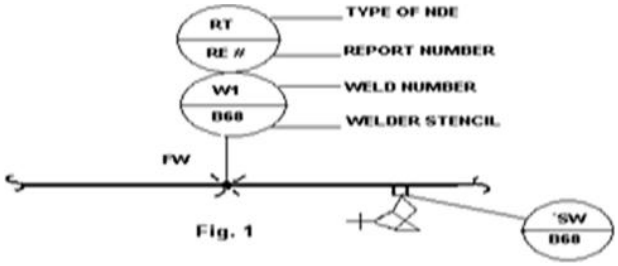


Fig. 1

5.8 Nondestructive Examination

5.8.1 The Craft Supervisor, QCM and QCE share the responsibility for assuring all required NDE is performed. Also share the responsibility for assuring Radiation Safety Procedures are strictly observed.

5.8.2 The area QCM/QCE is responsible for field coordination and documentation of all NDE activities. Documentation of NDE shall be according to the appropriate sections of this manual and all client requirements. The Sub-Contractor providing NDE services shall be Managing Contractor approved.

5.8.3 The client's inspector reserves the right to specify NDE on any weld or component at their discretion and cost.

5.8.4 When radiography is to be performed on welds, the QCE shall complete the information required on an X-Ray Shoot Sheet. The information is intended to be flashed onto radiographic film as required by ASME V. The completed X-Ray Shoot Sheet shall be provided to the Radiography Technician.

5.8.5 Welds to be radiographed shall be visually examined and found to be acceptable, numbered and flagged by the QCI prior to a field walk-down of the job with Radiography Technicians.

5.8.6 Welds to be radiographed shall be coordinated with operations personnel prior to radiography.

5.8.7 Hardness testing of welds shall be performed after any required Post Weld Heat Treatment (PWHT) as specified in job specifications and recorded on the PWHT Checklist (Reference 6.2).

5.8.8 The Inspector shall retain all NDE reports throughout the duration of field erection. NDE reports shall be kept in a binder (Report Book) and numbered or filed and be made available to the client's Inspector upon request. NDE reports shall be included in the client's final acceptance documentation when specified by this manual.

5.8.9 The Inspector shall assign a report reference number (RT/PT#) to each NDE report. The reference number shall be recorded in the weld tracking software.

5.8.10 The Inspector shall perform 100% visual inspection on all pressure containing and load bearing welds, prior to any NDE. The Inspector shall write their initials and date on the pipe, next to the weld with a non-chloride paint marker.

5.8.11 The first two production welds made by each new hire Welder should be radiographed to verify the welder's ability to make sound welds in a field environment and considered qualifiers. If either of the welds fail radiographic examination, the welder shall not be allowed to weld on the project. After proof of additional training and / or experience, a welder may be allowed to repeat the process described above. These first 2 welds shall not be counted in the project weld KPI.

5.9 Piping NDE

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.9.1 NDE of new piping shall meet the minimum requirements of ASME B31.3, B31.1, & Project Specific Specifications as applicable.

5.9.2 The minimum required radiographic inspection for girth-butt and miter bend welds shall be per ASME B31.3, B 31.1, and Project Specific and Client Specifications as applicable.

5.9.3 NDE acceptance criteria shall be according to ASME B31.3, ASME B31.1, and project specifications.

5.9.4 For tie-in butt welds that cannot be pressure tested (Closure Welds as defined in ASME B31.3, Chapter VI Inspection, Examination and Testing) shall be subjected to all items listed in paragraph 344.7.1 – In-process Examination, and the results/inspection data shall be recorded on an In-Process Examination Report. Full NDE of the weld will be required. All welds that meet this condition shall be identified and marked on the drawings. The initial root pass shall be LPT examined. The finished weld will be LPT examined and radiographed to ASME B 31.3 Acceptance Criteria. Seal welds and socket weld tie-ins shall meet the same criteria as girth welds, with the exception that radiography is not required for weld quality evaluation.

5.10 Lifting Lug NDE Requirements for Welding Lifting Attachments to Equipment:

5.10.1 Vessel and structural attachment areas, lifting lugs and other components (gussets, reinforcing pads, etc.), should be inspected, to ensure that the plates are free of laminations or other defects. Any unacceptable areas must be repaired and re-inspected prior to attaching a lifting device. Welding to any ASME stamped equipment shall be in strict accordance with the ASME Code Manual.

5.10.2 Attachment welds shall be made using both qualified welding procedures and welders. Qualified procedures may be either AWS or ASME for structural steel but must be ASME for pressure vessels.

5.10.3 Visual examination is required for joint preparation, fit-up and initial weld passes to assure compliance with the approved welding procedure. A qualified welding inspector must perform these examinations.

5.10.4 The completed weld shall be visually examined to ensure that the weld dimensions are correct and that there are no rejectable discontinuities that require repair. The completed weld must then be either magnetic particle (MT) or dye-penetrant (LPT) examined.

5.10.5 A written NDE report is required for UT (ultrasonic testing), VT (visual testing), MT (magnetic particle testing), and LPT (liquid penetrant testing).

5.11 Special Consideration

5.11.1 Special welding procedures and PWHT procedures may be necessary when attaching lugs to pressure vessels in some services. All lifting devices must comply with these requirements. Exceptions will be given only after approval of the Client's Engineer.

5.11.2 Equipment is defined as any fabricated or manufactured item that is designed to be lifted using any apparatus that is attached to the component by welding. This includes pressure vessels, structural steel assemblies, electrical transformers and switchgear, fired heater components and other fabricated assemblies. Fabricated piping spools are exempt unless the lifting apparatus is included in the engineering design for the purpose of field erection.

5.12 NDE Monitoring

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.12.1 Ensure NDE subcontractors are approved in accordance with company procedures before the start of NDE activities.

5.12.2 Ensure the NDE subcontractor has an approved procedure (written practice) for qualification and certification of NDE personnel in accordance with the American Society for Nondestructive Testing document (ASNT- SNT- TC -1A or CP-189) as required by Project procedures or the code or construction.

5.12.3 Ensure personnel performing and interpreting NDE are qualified and certified as NDE Level II or Level III in the appropriate NDE method.

5.12.4 Ensure the NDE subcontractor's NDE procedures are acceptable to meet Project requirements.

5.12.5 Ensure that all NDE equipment is correct, functional and appropriately calibrated.

5.12.6 Confirm that radioactive materials licenses and registrations for proposed radiation producing devices are correct and current.

5.12.7 Monitor the performance of NDE at the work site to assure correct, complete and safe NDE performance in accordance with applicable codes, standards and Project specifications.

5.12.8 Confirm correct use of barricades, warning signs and radiation monitoring devices during field radiographic operations.

5.12.9 Review NDE reports and radiographic film interpretations for acceptance. Assure that reports, radiographic film quality, and final weld quality meet the requirements of the specification and the applicable code. Radiographic film should be stored in accordance with the guidelines in ASME B31.3 where applicable.

Note: EXCEL personnel performing interpretation of radiographic film shall be certified Level II radiographic film interpreters, as required by applicable codes and Project specifications.

5.12.10 Subcontractor NDE procedures and personnel qualification records shall be forwarded to the Project Engineer or QCM for retention in site files.

5.12.11 The QCM or designee shall complete the Welding Status Report on a weekly basis and submit it to the Director of Quality Control. Weld reject rates shall be calculated based on linear inches of weld radiographed and rejected unless other methods of calculation are required by the contract.

5.12.12 The ASME B31.3 Random Radiography Requirements Reference, defines standard ASME B31.3 Code requirements for random radiography of butt welds. When a welder has completed twenty (20) welds, one (1) of that lot of twenty welds, five (5) percent shall be radiographed. Progressive examination is then followed in accordance with ASME B31.3 for that lot of welds if applicable. This methodology shall be applied to each welder, for each lot of twenty (20) of those welder's random radiography welds.

5.12.13 EXCEL personnel performing and/or interpreting NDE methods shall be qualified and certified in accordance with the appropriate EXCEL procedures for the qualification and certification of NDE personnel. NDE methods performed by EXCEL NDE personnel shall be applied and interpreted in accordance with appropriate EXCEL NDE procedures.

5.13 Documentation

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.13.1 Documentation of all NDE performed on piping, vessels, structure, or other miscellaneous pieces of equipment shall be in accordance with project specifications.

5.13.2 NDE Documentation related to the evaluation of shell material and lifting lugs is required prior to lifting any equipment. This documentation shall be forwarded to the Client Representative.

6 FORMS (SEE SECTION IV)

6.1 QC.04.3005A Closure Weld/Tie-in Weld Inspection Report

6.2 QC.04.3005B PWHT Checklist

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To provide a procedure for organizing, planning and conducting construction site quality assessment and surveillances.

1.1.2 To describe the methods used to measure quality in field construction.

1.2 Scope

1.2.1 This procedure applies to both force account (direct hire) and subcontracted construction activities.

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)

2.2 EXCEL Quality Management System (QMS)

2.3 QC.02.1002 Basis of Operation

2.4 QC.02.1003 Quality Control Personnel Training and Qualification

2.5 QC.02.3001 Nonconformance and Stop Work Reporting

3 ATTACHMENTS

3.1 QC.03.3009A Quality Assessment ScoringCriteria

4 GENERAL

4.1 Definitions

4.1.1 None

4.2 Responsibilities

4.2.1 Quality Control Manager (QCM) and Quality Control Examiner (QCE)

The QCM is responsible for performing and documenting construction site quality assessment and surveillance as required herein.

5 PROCEDURE

5.1 Quality Measurement

5.1.1 Quality measurements at the construction site level should be structured to provide information for immediate attention and improvement. Quality measurements traditionally address product and workmanship quality. Quality measurements should also include defined effects on cost, schedule and safety.

5.1.2 Quality measurement should include Client satisfaction, quality awareness, communication and teamwork. These items are major contributors to project success and award for future work.

5.1.3 The QCM is the primary initiator of quality measurement at the construction site.

5.1.4 Quality measurements for construction activities shall be accomplished by recording and periodic evaluation of the following:

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- Observations resulting from Quality Assessments or Surveillance of construction activities.
- Deficiencies or rework noted in Nonconformance Reports or Stop Work Notices.
- Concrete strength test (28-day breaks).
- Weld radiographic reject rate by inspection criteria.
- Any additional Nondestructive Examination not covered above, not included in radiography.
- Any construction related to independent tests including those from an external agency, commissioning group or owner.

5.1.5 The QCM in conjunction with the Project Engineer (PE) shall evaluate the preceding items to assure appropriate immediate corrective actions are taken and actions are taken to prevent recurrence. Quality measurements are an important element in controlling project cost and schedule and any negative trends must be addressed accordingly.

5.1.6 Where quality measurement results indicate a probable impact to future project work, the PE shall include the results as a “lessons learned” item and forward pertinent data to the Director of Quality Control (DQC).

5.2 Job Quality Assessments

5.2.1 The QCM will prepare an assessment schedule based on the status and importance of construction site activities. This schedule shall be distributed to the Construction Site Manager (CSM) and the Director of Quality Control (DQC). However, small, limited scope projects may only require unscheduled quality surveillance to monitor construction activities. In either case, project quality monitoring practice shall be decided and agreed with the DQC before the start of construction.

5.2.2 Quality assessments shall be documented and shall assess compliance of an element or elements of construction with project requirements. This assessment should review how personnel are performing construction in relation to meeting the project requirements. The assessor should also evaluate how construction performance might be improved even when the requirements are being met.

5.2.3 The assessment atmosphere should be positive. The assessment is a tool to measure and improve performance and should not provoke elaborate assessment preparations to disguise real construction conditions. If real conditions are not measured, real improvement is impossible.

5.2.4 Job Quality Assessment Scoring Criteria is included as an attachment to this procedure (Reference 3.1).

5.3 Internal Quality Assessments

5.3.1 Internal quality assessments are evaluations that assess construction site functions performed by EXCEL personnel.

5.3.2 Internal quality assessments may assess direct performance of construction work by EXCEL personnel or EXCEL management and control of construction work performed by subcontractors.

5.4 External Quality Assessments

5.4.1 External quality assessments assess the work of primary subcontractors and their sub-tier providers.

5.4.2 Assessments of sub-tier providers shall be coordinated through the primary subcontractor with primary subcontractor participation.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.5 Quality Surveillance

5.5.1 Quality surveillance is the routine, periodic, informal monitoring of construction site activities to assess in-process work practice and assure conformance to project requirements. Quality surveillance is performed in support of formal quality assessments.

5.5.2 Quality surveillance may be performed by the QCM or designee. The designee may, in certain circumstances, be a craftsperson or subcontractor employee.

5.5.3 Routine patrol daily surveillance, at the discretion of the QCM, may be undocumented. However, documentation requirements of the applicable QMS procedure shall be followed and any noted deficiencies not corrected the same day shall be reported.

5.6 Reports/Assessment Forms

5.6.1 Construction site quality assessments will be documented in a written assessment report/form. Written assessments will include proposed corrective actions for any noted deficiencies including any required follow-up actions.

5.6.2 The "Daily Quality Assessment Report" (Reference 6.1) and the "Job Quality Assessment Report" (Reference 6.2) shall be distributed to the Construction Site Manager and the Director of Quality Control.

6 FORMS (SEE SECTION IV)

6.1 QC.04.3006A Daily Quality Assessment (use electronic/nativeform)

6.2 QC.04.3006B Job Quality Assessment (use electronic/native form)

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To provide guidelines for assembly, maintenance, tracking, documenting, and execution of Structural Steel packages. This procedure goes into specific detail outlining the System Turnover Manager's duties, responsibilities and expectations.

1.2 Scope

1.2.1 This procedure applies to both force account (direct hire) and subcontracted construction activities.

1.2.2 This procedure applies to all EXCEL Structural Steel Turnover Packages.

1.2.3 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents shall apply.

1.2.4 Deficiencies identified during in-process monitoring and final inspections, shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)

2.2 QC.02.2001 QMS Structural Steel Execution Procedures

3 ATTACHMENTS

3.1 QC.03.4001A Sample Structural Steel Turnover Package

4 GENERAL

4.1 Definitions

4.1.1 System Turnover Manager (STM) – designee appointed by Quality Control Manager (QCM) to oversee Structural Steel Packages.

4.1.2 System Turnover Coordinator (STC) – designee who has the authority to represent EXCEL and sign Structural Steel Packages for Turnover.

4.1.3 System Package Walker (SPW) – designee appointed by QCM or STM to walk down Structural Steel Packages.

4.1.4 System Status Log (SSL) – Interface which tracks each step of the System Turnover Process for all disciplines

4.1.5

4.2 Responsibilities

4.2.1 System Turnover Manager (STM)

The STM shall be responsible for managing this entire process and shall report directly to the CSM. Additionally, the STM shall maintain open lines of communication with the Site QCM.

5 PROCEDURE

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.1 Package Assembly Preparation

5.1.1 The STM/QCM will sort drawings for Structural Steel Packages based on Scope of work. Package drawing should include plot plan.

5.1.2 Locate Area boundaries determined by Client. Color-coded (highlighted) drawings are typically provided.

> **Note:** If color coded drawings are not provided a set must (1) be requested by RFI or (2) produced by the STM.

5.1.3 Maintain drawings in conjunction with Document Control.

5.2 Creating Packages

5.2.1 Create a Structural Steel master with a set of drawings. Highlight the contents and boundaries of each package. Determine limits (contents of packages) by area.

5.2.2 Collect and follow all connecting Area drawings that make each package. Mark boundaries per Plot Plan.

5.2.3 Highlight contents of package on each drawing. If only a portion of a drawing is part of the package, highlight the portion that is not in the package another color, cloud it in red ink and write in the clouded area “For Reference Only.”

5.2.4 Enter Concrete Package No(s). on “Master Sets” of associated tracking lists. These will serve as great reference tools throughout the project.

5.2.5 Fill out Part I of the “Structural Steel Erection Sign-Off Sheet” (Reference 6.1) and add to the applicable package(s).

5.2.6 Add the appropriate Pre-Pour Grout Checklist and the “Structural Subcontractor Sign-off Form” to the package (See 6.0 Forms)

5.2.7 Add other forms as needed; for example, Mechanical Punchlist. All forms located in Section IV of the QMS.

5.2.8 When the information provided is not complete while building the package, attach sticky notes to areas of missing information with notes and move on to the next one. Generate a log documenting the missing information for future reference and acknowledgement once received.

5.2.9 The STO shall verify placement on the distribution lists of document control and RFI/EWO generators/managers. All revised drawings, RFI and EWO must be put into packages in a timely manner.

5.2.10 The STO shall communicate known/established priorities with the QCM.

5.3 Status Systems Log (SSL)

5.3.1 As packages are being built, enter the package into the System Status Log.

5.3.2 When packages start progressing be sure to enter dates in each column as the package moves through the process.

5.3.3 Make copies of the drawings for each package and label them with the test package number, and the designated system number. Place drawing in manilla folders labeled “Field Packages”. The field

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

package folders shall be used by the foremen and supervisors to work towards completing the contents of each package.

5.3.4 Arrange either bins or shelves for the packages to be placed as they are worked. Packages need to be set up in sequence and labeled, corresponding with the columns on your status log spreadsheet.

5.3.5 Bin/Shelf Labels for Packages need to be labeled as:

- Field Packages
- Installation Complete
- To Be Worked
- Ready to Test
- Post-Items to be Worked.

5.3.6 Once the *"Structural Steel Erection Sign-off"* is completed and turned in; fill in the corresponding column on the SSL and continue with the columns to the right. This may change slightly project to project depending on EXCEL's responsibility for Subcontractors.

5.4 In-House Work Completion Tools

5.4.1 The STM must be familiar with EXCEL's In-House Tools and their purpose. Each foreman is responsible for completing a daily foreman report documenting time for each employee, productivity for the job planners.

5.4.2 EXCEL field supervision is responsible for color coding a master set of drawings, based on the information turned in on these reports. On a weekly basis, the STM should assess the daily foreman's reports against the master set of drawings and report deficiencies to the CSM.

5.4.3 When a package is deemed completed by EXCEL's field supervision, PART II (Installation) on the "Structural Steel Erection Sign-Off", must be completed and turned in to the STM. The "Status Systems Log (SSL)" needs to be updated at this time adding the date into the complete column. Then place the package in the appropriate bin labeled "Installation Complete". Next the STM assigns a STO to perform the field walk (verification) of that package.

Note: When there are small packages, provide the package walker with 2-3 packages at a time for proficiency.

5.4.4 All test packages must be signed in and signed out of the Quality Control Department throughout the process. Package walkers need to verify all checklist items are complete.

5.4.5 Make copies of the Erection Sign-Off and the appropriate Pre-Pour Grout Checklist(s) forms and place in the original package on file, to ensure there is a back-up if the punch list is lost or damaged in the field. If there are items that need to be worked the STM puts the package in the pre-punch items "To Be Worked Bin". The STM shall notify field supervision of items existing.

5.4.6 When supervision has completed any punch lists, they must sign and date the "Completed By" section and turn into the STM. The STM updates the SSL and assigns a STW to the field verify the completion. If the items are deemed complete by the package walker, they must sign and date the column labeled "Q.C. Accepted" section and turn it into the STM. If items are found to be incomplete, the punch lists must be placed back in the "To Be Worked" bin.

5.4.7 If all is deemed complete by the Quality Control Department the package is ready to be tested, if tests are required. The STM shall update the SSL and place the test package in the "ready to test"

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

bin. Supervision will feed from this box as necessary to perform field testing of structural steel packages (as required).

5.5 Post Test Items, Update SSL

Post test punch items are now ready to be addressed. The package should be in the "Post Items to be Worked" bin.

5.5.1 The STM communicates and works together with supervision. Field supervision will take the packages that are priority and work the items. When the supervisor has completed all Post items listed, they will sign and date the "Completed By" column on the appropriate form. Supervision then turns the form in to the STM and the STM updates the SSL.

5.5.2 The STM assigns the packages to be walked down for verification to a SPW. The package walker physically verifies the items are complete.

Note: If some items are found to be incomplete, the STM must place the package back into the "Post Items to be Worked" bin and update the SSL accordingly. Any excessive Pre/Post items should be brought to the attention of the CSM.

5.6 Package Completeness, Update SSL

5.6.1 The package is ready to be signed for Completeness. All package documents are to be reviewed between the STM or EXCEL Rep. and Client Rep. for final acceptance. Upon acceptance the STM or EXCEL Rep. and Client Rep. shall sign the designated lines on all required forms.

5.6.2 In pre-job meetings or via RFI, Client requirements shall be established in writing as to the type of turnover required, i.e.: turnover system books, turnover by packages as work progresses or turnover all documentation at project completion. If turnover books are required, the following items shall be included in the appropriate packages:

- Documentation for civil signoff
- Documentation for structural signoff
- Documentation for piping signoff
- Weld mapping
- NDE
- Documentation for equipment signoff
- Documentation from fabricators
- RFI per system
- As-built Drawings

5.6.3 As the systems are completed, insert sign-off documentation in the turnover book by systems.

5.6.4 Upon completion, the turnover book shall be copied and scanned for archived records and originals turned over to client via transmittal, listing all items contained in the turnover book.

5.7 Subcontractor Management, Update SSL

5.7.1 If EXCEL is responsible for subs, each package that applies to the sub must be released to the subcontractor to complete the "Structural Subcontractor's Sign-Off Form" (Reference 6.5).

5.7.2 Release forms for each discipline are provided in the QMS. There is a designated line for each representative to sign. Copies should always be kept on file.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.7.3 Update the SSL as Subcontractor(s) work is signed for and released. There are also Final Acceptance forms in the QMS for each Subcontractor(s) discipline of work. When the Subcontractor has completed their work scope, they will sign and turn in the final acceptance form for that work using the "Structural Subcontractor Sign-off Form". The STM shall update the SSL and assign an SPW to physically verify the Subcontractor's work to be complete.

5.7.4 If work is found to be complete, the package walker signs in the final acceptance area on that form. The package walker reviews the package with the client representative and gets their signature in the designated area for final acceptance. All forms are to be returned to the STM. The STM updates the SSL. The package is now 100 % complete.

5.8 System Turnover Book

5.8.1 Reference 3.1 "Sample Structural Steel Turnover Package" exhibits EXCEL guidelines for the final piping turnover book with examples.

5.8.2 The Final Civil Turnover Package shall include the following sections:

- A Table of Contents with the Job#
- Package Sign-Off and Punch List
- Specs
- Grout Pour Card
- WPS/WPQ
- RFI
- Drawings
- Paint/Fireproofing
- NDE/Weld Mapping
- Concrete Tickets / Break Reports

6 FORMS (SEE SECTION IV)

6.1	QC.04.4002A	Structural Steel Erection Sign-Off Sheet
6.2	QC.04.4002B	Pre-Pour Checklist Cementitious Grout
6.3	QC.04.4002C	Pre-Pour Checklist Epoxy Grout
6.4	QC.04.4002D	Mechanical Punch List
6.5	QC.04.4002E	Structural Subcontractors Sign-Off Form
6.6	QC.04.4000	Status System Log | Structural

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

1 PURPOSE AND SCOPE

1.1 Purpose

1.1.1 To provide guidelines for assembly, maintenance, tracking, documenting, and execution of piping packages and piping systems. This process shall follow the "System Turnover Process Flow Diagram" (Reference 3.1), depicting the sequence of events. The sections referenced in this procedure correspond with the flow chart mentioned and go into specific detail outlining the System Turnover Manager's duties, responsibilities and expectations.

1.2 Scope

1.2.1 This procedure applies to both force account (direct hire) and subcontracted construction activities.

1.2.2 This procedure applies to all EXCEL System Turnover packages.

1.2.3 Should any inconsistencies exist between the requirements of this procedure and the project documents and specifications, the project documents shall apply.

1.2.4 Deficiencies identified during in-process monitoring and final inspections shall be documented and tracked in accordance with the Project Quality Plan (PQP).

2 REFERENCES

2.1 QC.02.1007 Project Quality Plan (PQP)

2.2 QC.02.2003 QMS Piping Execution Procedures

2.3 ASME B31.3

3 ATTACHMENTS

3.1 QC.03.4003A System Turnover Process Flow Diagram

3.2 QC.03.4003B Sample System Turnover Piping Package

4 GENERAL

4.1 Definitions

4.1.1 System Turnover Manager (STM) – designee appointed by Quality Control Manager (QCM) to oversee System Test Packages.

4.1.2 System Turnover Coordinator (STC) – designee who has the authority to represent EXCEL and sign System Test Packages for System Turnover.

4.1.3 System Package Walker (SPW) – the designee appointed by QCM or STM to walk down System Test Packages.

4.1.4 System Status Log (SSL) - Interface which tracks each step of the System Turnover Process for all disciplines

4.2 Responsibilities

4.2.1 Construction Site Manager (CSM)

The CSM is responsible for ensuring that the requirements of this Procedure are properly implemented.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

4.2.2 System Turnover Manager (STM)

The STM shall be responsible for managing this entire process and shall report directly to the CSM. Additionally, the STM shall maintain open lines of communication with the Site QCM.

5 PROCEDURE

5.1 Package Assembly Preparation

5.1.1 Sort P&ID, line list, tie-in schedule, and ISO.

5.1.2 Locate system boundaries determined by client. Color-coded (highlighted) P&ID are typically provided.

Note: If color coded P&ID are not provided a set must (1) be requested by RFI or (2) produced by the System Turnover Manager.

5.1.3 Maintain drawings in conjunction with Document Control.

5.2 Creating Packages

5.2.1 Create a hydro-master with a set of P&ID. Highlight the contents and boundaries of each test package. Determine test limits (contents of packages) by spec. (line class)/pressure ratings. Mark-up and number all temporary test blinds on P&ID with a flag. If P&ID are not provided, mark-up and number all temporary blinds on ISO. Enter each blind as an item on the “Temporary Blind List” form (Reference 6.4) to be removed as a post-hydro item. Label the test package number in several places next to the line on the P&ID.

5.2.2 Collect and follow all connecting ISO that make each package. Mark boundaries per P&ID.

5.2.3 Highlight contents of test package on each ISO. If only a portion of any ISO is actually part of the test package, highlight the portion that is not in the package another color, cloud it in red ink and write in the clouded area “For Reference Only.”

5.2.4 Mark boundaries in red flags.

5.2.5 Enter Test Package No(s). on “Master Sets” of Line Lists, Tie-in Schedules, and ISO. These will serve as great reference tools throughout the project.

5.2.6 Fill out Part I of the “Piping Installation Report” and add to the applicable package(s).

5.2.7 Add the “Pre-pressure Test Punch List”, “Post Pressure Test Punch List”, and “Piping Subcontractor Sign-off” forms to the package (Reference 6.0).

5.2.8 Add other forms as needed; examples: Insulation/Painting Release and Final Acceptance. All forms located in EXCEL’s QMS.

5.2.9 As packages are built, generate a master question log that includes description, date of inquiry, who was inquired and RFI No(s). if asked in RFI form. Minor questions may be verbal. This tool can be referenced throughout the project. Examples of questions may be:

- Can control valves be tested through and/or in-line instruments?
- If a spec. break arises, and test pressures are the same or close, can piping be tested together and meet at a medium pressure?

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- If a spec. break happens at a valve, can that valve be tested against? (If so, we must mark this in red ink in the test package as test limit boundary).
- When tie-ins are made to existing pipe, can next valve be tested or set of flanges in that system?

Note: This may not be practical in some circumstances.

- Welded tie-points may be treated as closure welds, in these cases it must be known in advance and communicated to supervision (Reference ASME B31.3 paragraph 345.2.3 (c) for specific information relative to closure welds).

5.2.10 When the information provided is not complete while building the package, attach sticky notes to areas of missing information with notes and move on to the next one. Generate a log documenting the missing information for future reference and acknowledgement once received.

5.2.11 Identify any Pneumatic tests (if applicable). The STO shall coordinate with the site QCM to get Pneumatic Test Data Forms filled out. This form will become part of the applicable package.

5.2.12 The STO shall verify placement on the distribution lists of document control and RFI/EWO generators/managers. All revised drawings, RFI and EWO must be put into packages in a timely manner.

5.2.13 The STO shall meet with the CSM and determine what the system/package priorities are. At approximately 40-50% complete, the project needs to shift to system driven to ensure system priorities can be achieved.

5.2.14 The STO shall communicate known/established priorities with the QCM, to prepare and verify NDE accordingly, especially on large packages and when 100% NDE and PWHT are required.

5.3 Status Systems Log (SSL)

5.3.1 As packages are being built, enter the package into the System Status Log.

5.3.2 When packages start progressing be sure to enter dates in each column as the package moves through the process. **DO NOT** use “NA”.

5.3.3 Make copies of the ISO for each package and label them with the test package number, and the designated system number. Place ISO in folders labeled “Field Packages”. The field package folders shall be used by the foremen and supervisors to work towards completing the contents of each package.

5.3.4 Arrange either bins or shelves for the packages to be placed as they are worked. Packages need to be set up in sequence and labeled, corresponding with the columns on your status log spreadsheet.

5.3.5 Bin/Shelf Labels for Packages need to be labeled as:

- Field Packages
- Installation Complete
- Pre- Punch items to be Worked
- NDE Verification
- Ready to Test
- Post-Punch Items to be Worked.

5.3.6 Once the *“Piping Installation Report” (Reference 6.1)* is completed and turned in; fill in the corresponding column on the SSL and continue with the columns to the right. This may change slightly project to project depending on EXCEL’s responsibility for Subcontractors.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.4 In-House Work Completion Tools

5.4.1 The STM must be familiar with EXCEL's In-House Tools and their purpose. Each foreman is responsible for completing a daily foreman report documenting time for each employee, productivity for the job planners, and weld identification for the QCM.

5.4.2 EXCEL field supervision is responsible for color coding a master set of drawings, based on the information turned in on these reports. On a weekly basis, the STM should audit the daily foreman's reports against the master set of drawings and report deficiencies to the CSM.

5.4.3 Reference 3.1, "System Turnover Process Flow Diagram", sections: 5, 6, 7, 8, 9, 10 & 11 Pre- Hydro & Post-Hydro Punch List Execution & Documentation.

5.4.4 When a package is deemed completed by EXCEL's field supervision, PART II (Installation) on the "Piping Installation Report", must be completed and turned into the STM. The "Status Systems Log (SSL)" needs to be updated at this time adding the date into the complete column. Then place the package in the appropriate bin labeled "Installation Complete". Next the STM assigns a STO to perform the field walk (verification) of that package.

Note: When there are small packages, provide the package walker with 2-3 packages at a time for proficiency.

5.4.5 All test packages must be signed in and signed out of the Quality Control Department throughout the process. Package walkers need to verify all checklist items are complete and compare the copy of the weld map to actual welds.

Note: Any extra welds must be noted on the drawing and record the stencil from the pipe. When this happens, it is a pre-hydro item and must be addressed by the Quality Control Department.

5.4.6 Upon walking down the package, all components on the drawings must be verified to be correct in the field. If changes were made, they must be captured, documented on the appropriate RFI/EWO, include supporting drawings and/or documentation, and placed in the package. As packages are walked down, all items deemed pre-hydro shall be entered on Form Pre- Pressure Test Punch List". All items deemed post-hydro shall be entered on Form, "Post- Pressure Test Punch List". When the walk down is completed the SPW shall turn in the package to the STM and the STM updates the SSL. Again, if any extra welds are found, it will need to be addressed with the Quality Control Department.

5.4.7 Make copies of the Installation, and Pre/Post Punch List and place in the original package on file, to ensure there is a back-up if the punch list is lost or damaged in the field. The STM places the "Pre-Pressure Test Punch List" form in the pre-punch items "To Be Worked Bin". The STM shall notify field supervision of pre-hydro items existing. The "Pre-Pressure Test Punch List" form is to be placed in the post-hydro items to be "Worked Bin" and executed whenever practical.

5.4.8 When supervision has completed any punch lists, they must sign and date the "Completed By" section and turn into the STM. The STM updates the SSL and assigns a STW to the field verify the completion. If the items are deemed complete by the package walker, they must sign and date the column labeled "Q.C. Accepted" section and turn it into the STM. If items are found to be incomplete, the punch lists must be placed back in the pre-hydro or post-hydro items "To Be Worked" bin. If all pre-hydro items are complete, the package shall be placed in the "NDE Verification" bin by the STM.

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

5.4.9 The Quality Control Department will verify if all required NDE is actually completed. If all NDE is deemed complete by the Quality Control Department the package is ready to be tested. The STM shall update the SSL and place the test package in the "ready to test" bin. Supervision will feed from this box as necessary to perform field testing of piping systems.

5.5 Hydro-testing, Update SSL (Reference 3.1, sections 12 & 13)

5.5.1 The test package is ready to be tested by the designated test. This may be a hydro-test, pneumatic test, or service test. Hydro-tests will be performed by field personnel and walked down/approved by the STO. Results are recorded in the Pressure Testing Record section of the "Piping Installation Report". The assigned STO and Client Representative shall sign in the designated area. The package is turned in to the STM and the SSL is updated accordingly.

5.6 Post Hydro Punch Items, Update SSL (Reference 3.1, sections 14, 15 & 16)

Post-hydro punch items are now ready to be addressed. The "*Post-Pressure Test Punch List" (Reference 6.3)* has already generated the lists during the initial walk down and recorded the items that need to be checked. The package should be in the "Post Items to be Worked" bin.

5.6.1 The STM communicates and works together with supervision. Field supervision will take the packages that are priority and work the items. When the supervisor has completed all Post items listed, they will sign and date the "Completed By" column on the "Post Pressure Test Punch List" form. Supervision then turns the form into the STM and the STM updates the SSL.

5.6.2 The STM assigns the packages to be walked down for verification to a SPW. The package walker physically verifies the items are complete. The SPW is to sign in the "Q.C. Accept" column and turn in to the STM and the STM updates the SSL.

Note: If some items are found to be incomplete, the STM must place the package back into the "Post Items to be worked" bin and update the SSL accordingly. Any excessive Pre or Post items should be brought to the attention of the CSM.

5.7 Mechanical Completeness, Update SSL

5.7.1 The package is ready to be signed for Mechanical Completeness. All package documents are to be reviewed between the STM or EXCEL Representative and Client Representative for final mechanical acceptance. Upon acceptance the STM or EXCEL Rep. and Client Rep. shall sign the designated lines for Post Hydro Acceptance/Mechanical Complete.

5.7.2 In pre job meetings or via RFI, Client requirements shall be established in writing as to the type of turnover required, i.e.: turnover system books, turnover by test packages as work progresses or turnover all documentation at project completion. If turnover books are required, the following items shall be included in the appropriate packages:

- Highlighted P&ID per system
- Documentation for civil sign-off
- Documentation for structural sign-off
- Documentation for piping sign-off
- Weld mapping
- NDE
- Documentation for equipment sign-off

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

- RFI per system

5.7.3 As the systems are completed, insert sign-off documentation in the turnover book by systems.

5.7.4 Upon completion, turnover book shall be copied and scanned for archived records and original turned over to Client via transmittal, listing all items contained in the turnover book.

5.8 Sub-Contractor Management Paint, Insulation, Tracing, etc. Update SSL (Reference 3.1, sections 18, 19, 20, 21).

5.8.1 If EXCEL is responsible for subcontractors, each package that applies to the sub must be released to the subcontractor to complete the "Piping Sub Contactor Sign-off" form.

5.8.2 Release forms for each discipline are provided in the EXCEL QMS. There is a designated line for each EXCEL representative to sign. Copies should always be kept on file.

5.8.3 Update the SSL as sub-contractor(s) work is signed for and released. There are also Final Acceptance forms in the EXCEL QMS for each subcontractor(s) discipline of work. When the subcontractor has completed their work scope, they will sign and turn in the final acceptance form for that work. The STM shall update the SSL and assign a SPW to physically verify the subcontractor's work to be complete.

5.8.4 If work is found to be complete, the package walker signs in the final acceptance area on that form. The package walker reviews the package with the Client Representative and gets their signature in the designated area for final acceptance. All these forms are to be returned to the STM. The STM updates the SSL. The package is now 100% complete.

5.9 System Turnover Book

5.9.1 Reference 3.2 Sample System Turnover Piping Package exhibits the EXCEL guidelines for the final piping turnover book with examples.

5.9.2 The Final System Turnover Piping Package shall include the following sections:

- A table of Contents with the Job#
- Package Sign-off forms
- Specs
- Pipe supports details
- WPS/WPQ
- MTR
- Spool Sheets
- RFI(s)
- P&IDs/ISOs/Line list from SSL **and** Client
- Paint/Insulation/Tracing
- NDE/Weld Mapping
- Flange Forms/Flange Mapping

6 FORMS (SEE SECTION IV)

6.1	QC.04.4003A	Piping Installation & Inspection Report
6.2	QC.04.4003B	Pre-Pressure Test Punch List
6.3	QC.04.4003C	Post-Pressure Test Punch List

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

6.4 QC.04.4003D Temporary Blind List
6.5 QC.04.4003E Flange Torque Form
6.6 QC.04.4003F Piping Subcontractors Sign-Off Form
6.7 QC.04.4003G Temporary Custody Release and Acceptance Sign-Off Form
6.8 QC.04.4000 Status System Log | Piping

7 REVISION HISTORY

7.1 Complete the following table for each document revision.

Rev No.	Description of Change	Prepared By	Approved By	Effective Date
0	ORIGINAL	BARRY CARPENTER	BARRY CARPENTER	01-Jan-17
1	UPDATED FORMATTING	PHILLIP TODORA	PHILLIP TODORA	01-Jan-21
2	UPDATED FORMATTING / WORDING	DENA POTTS	CLINT GREEN	01-Jan-25
3				
4				
5				
6				
7				
8				
9				
10				

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT H

LETTER OF BONDABILITY

Docusign Envelope ID: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA

ATTACHMENT I

ANNUAL REPORT

Certificate Of Completion

Envelope Id: 3E33A731-8BB0-4A0D-8E4E-E5B5BBB639EA
Status: Completed
Subject: Excel_Doc1539254856_Builder_executed contract
Source Envelope:
Document Pages: 1028
Signatures: 1
Envelope Originator:
Certificate Pages: 2
Initials: 0
Carrie Shortt
AutoNav: Enabled
4316 Mail Service Center
EnvelopeId Stamping: Enabled
Raleigh, NC 27699-4316
Time Zone: (UTC-05:00) Eastern Time (US & Canada)
carrie.shortt@commerce.nc.gov
IP Address: 2603:6080:d23d:

Record Tracking

Status: Original
9/15/2025 3:56:26 PM
Holder: Carrie Shortt
carrie.shortt@commerce.nc.gov
Location: DocuSign
Security Appliance Status: Connected
Pool: StateLocal
Storage Appliance Status: Connected
Pool: NC Department of Commerce - Division of Workforce Solutions
Location: Docusign

Signer Events	Signature	Timestamp
Lee Lilley lee.lilley@commerce.nc.gov Secretary, North Carolina Department of Commerce Security Level: Email, Account Authentication (None)	Signed by: [redacted] FE0DA442C5114B4... Signature Adoption: Pre-selected Style Using IP Address: 24.241.150.38	Sent: 9/15/2025 4:03:15 PM Viewed: 9/15/2025 4:27:28 PM Signed: 9/15/2025 4:28:38 PM

Electronic Record and Signature Disclosure:
Not Offered via Docusign

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
Carrie Shortt carrie.shortt@commerce.nc.gov Security Level: Email, Account Authentication (None)	COPIED	Sent: 9/15/2025 4:28:48 PM Resent: 9/15/2025 4:28:50 PM Viewed: 9/15/2025 4:38:13 PM

Electronic Record and Signature Disclosure:
Not Offered via Docusign

Angela Dunaway angela.dunaway@commerce.nc.gov Security Level: Email, Account Authentication (None)	COPIED	Sent: 9/15/2025 4:28:48 PM Viewed: 9/16/2025 8:02:29 AM

Electronic Record and Signature Disclosure:
Not Offered via Docusign

Carbon Copy Events	Status	Timestamp
Mr. Jerry Johnson jjohnson@excelusa.com Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via Docusign	COPIED	Sent: 9/15/2025 4:28:49 PM Viewed: 9/15/2025 4:34:20 PM

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	9/15/2025 4:03:15 PM
Certified Delivered	Security Checked	9/15/2025 4:27:28 PM
Signing Complete	Security Checked	9/15/2025 4:28:38 PM
Completed	Security Checked	9/15/2025 4:28:49 PM

Payment Events	Status	Timestamps