Tennessee Valley Authority
Regulatory Submittal for Kingston Fossil Plant

Documents submitted:
Heavy Equipment Demobilization Plan

Date Submitted:
06/18/2010

Submitted to whom
Leo Francendese, EPA

Concurrence

Received	Not Applicable	TVA
☒	☐	Steve McCracken
☒	☐	Dennis Yankee
☒	☐	Michelle Cagley
☒	☐	Kathryn Nash
☐	☒	R.L. Pope

Received	Not Applicable	Jacobs
☒	☐	Steve Richardson
☐	☒	Paul Clay
☐	☐	_____
☐	☐	_____
☐	☐	_____
☐	☐	_____

Approvals

TVA Kathryn Nash Date 6/18/10

EPA Leo Francendese Date 6/21/10

cc:

- ☒ Anda Ray, TVA
- ☒ Barbara Scott, TDEC
- ☒ Leo Francendese, EPA
- ☒ Craig Zeller, EPA
- ☒ Dennis Yankee, TVA
- ☒ Kathryn Nash, TVA
- ☒ Cynthia Anderson, TVA
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- ☒ Julie Pfeffer, Jacobs
- ☒ Steve Richardson, Jacobs
- ☒ Michelle Cagley, TVA
- ☒ Greg Signer, TVA
- ☒ KIF Incident Document Control
- ☒ Katie Kline, TVA
- ☒ Dannena Bowman, EPA
- ☒ Jeff Gary, Jacobs
- ☒ Robert Pullen, Jacobs

Heavy Equipment Demobilization Work Plan

1.0 Purpose

This work plan outlines the strategy being taken to demobilize the heavy equipment from the rim ditch/sluice trench/ballfield operation. The demobilization will occur over time. Equipment will be removed from the site as it is no longer needed. The major processing support activities will end June 30 so all of the equipment associated with processing will be available for demobilization at that time. The detailed directions to the workers are presented in the work package.

2.0 Design

There is no design needed for this activity.

3.0 Construction (demobilization)

Prior to beginning decontamination, an inspection will be conducted to ensure there is no visible oil leaking on the equipment. If oil is present, pads will be used to remove the oil and will be properly disposed. A spill kit will be located near all decontamination activities in the event a sheen is observed.

Using a pressure washer or water truck, the exterior of the piece of equipment including the tracks and cab will be cleaned, using brushes, as necessary. No soaps or cleaning solutions will be used and areas that have oil or fuel contact will be washed in a manner that minimizes contamination on the land.

Using a TVA qualified rigger and crane operator, the larger pieces of equipment will be disassembled. As trucks are available, the pieces of the equipment will be loaded and the load inspected.

A 50-ton hydraulic crane is anticipated to be used to move and load the equipment. Lift plans will be included in the work packages.

4.0 Schedule

The demobilization will begin once the equipment is no longer needed onsite. The majority of the demobilization effort will occur in July, 2010.

5.0 Waste Management

The wash water will be allowed to drain onto the ground inside the exclusion zone. Some decontamination will occur near the Sevenson maintenance shed near the ash pond, some will occur in areas adjacent to the MAP, and some may occur at the south dock. TVA and Jacobs personnel will inspect all water-based equipment and Jacobs will inspect all land-based equipment with TVA conducting spot checks prior to removing it from the site to ensure proper cleaning.

All equipment requiring decontamination will require EPA OSC concurrence prior to leaving the site. This responsibility has been delegated by the EPA OSC to the U.S. Coast Guard Strike Force or their designee.

6.0 Health and Safety

Work will be conducted according to the Site-Wide Safety and Health Plan, and supplemented by the JSAs. There will be crane lifts requiring lift plans and qualified riggers and operators. Because this work will occur on and off on a six day, 12 hour a day schedule, a single resource is not identified. Instead, overall responsibility for assigning appropriate resources for Jacobs safety oversight will reside with Danny Whitaker-Sheppard, for Sevenson safety oversight will reside with Scott Allaire, and for Jacobs construction oversight will reside with Steve Arington. They are responsible for insuring appropriately trained and qualified personnel are providing the oversight required.

Sevenson Work Package

Contractor:	Sevenson Environmental	Location:	Kingston Fossil Plant
Work Package No:	WP- 129	Date:	
Work Package Desc:	Demob of Heavy Equipment		

Note 1		Perform daily (minimum) pre-job briefings with crew. Each employee will have a pre-job briefing before each assignment, detailing the scope of the assigned task, the possible hazards, and steps to mitigate the identified hazards. Should the employee's daily assigned task be changed, a subsequent pre-job briefing will be given. Document briefings with signatures, and file in this Work Package. Once job has completed, perform post job briefing to discuss lessons learned from work execution or incidents.
Note2		Anytime the work package is found to have a change in the plan or a deficient area of instruction, the Foreman/Supervisor will stop work and assess the situation. If the foreman/Supervisor determines that the required change or revised area of instruction can be safely mitigated then a new pre-job briefing will be performed outlining the step change and requirements to allow work to safely continue. The Foreman/Supervisor will document the change and supply the documented change to appropriate personnel so that the master file can be updated. If the determination is made that the change is too significant to allow work to continue safely, work will be stopped and the matter referred to senior level management and engineering for resolution. There will be no exceptions.
Note3		This step text is arranged in sequence but is not intended for strict compliance. The Site Supervisor and/or Foreman may change the sequence in which the work is performed, providing the sequence change has no negative impact on job safety or work quality.
Step No.	**Initial & Date As Steps Are Completed**	**Work Description:**
1		Conduct Pre-Job Briefing and review step text. Note that when referring to 'Heavy Equipment' there are different sizes, makes, and types: 1) Excavators - Kolbelco 250, (Komatsu PC 300, PC 400, PC 600, PC 800), (CAT 345, and CAT 385), 2) Dozers - Komatsu (D65 and D41), CAT (D8, and D6), 3) Articulating Dump Trucks (Komatsu, Moxy, Volvo, Terex), 4) Komatsu Rubber Tire Loader, 5) JCB Forklifts, 6) Light Plants, 7) Mechanic Compound, 8) Pickup Trucks, 9) Miscellaneous small tools. All demobing activities to be coordinated through Jacobs CM.
2		SPAs included in this work package refer to this phase of work *only*. If personnel are added to the work crew while in progress stop and review SPAs with them for this package.
3		Every employee has the authority and duty to stop work if they feel a situation is unsafe!
4		Visually inspect the area around the piece of equipment being demobed as well as the equipment itself to insure safe start-up and movement of components. Check fluid levels and battery condition.
5		If the piece of equipment needs to be broken down into smaller pieces for transport then move to a safe area of operation for detachment of those pieces. Many pieces can be safely removed using the excavator and/or 50 ton crane.
6		Begin Demobilization but Note: If equipment being demobed needs attachments removed with excavator or crane a TVA qualified rigger or SES mechanic will be present. Trained personnel on the manlift will perform the work for the removal of the stick of large excavators [(Komatsu PC600 and PC 800)(CAT 345 and CAT 385)]. One strap is needed to hold the stick as mechanics remove pivot pin from the boom and stick.
7		Note: **Attachments removed consist of**: Komatsu PC 800 (Stick, Counterweight, Bucket), Komatsu PC 600 (Stick, Counterweight, Bucket), Cat 385 (Stick, Counterweight, Bucket), Cat 345 (Stick, Counterweight, Bucket), Komatsu PC 400 (Counterweight and Bucket), Komatsu D65 (Arms and blade), Cat D8 (arms and blade), Cat D6 (arms and blade).
8		Mechanics will perform the removal of the attachments with the use of appropriate tools for the task. The mechanic will use either an excavator or crane for the removal of Counterweight, Stick, Blade, and Arms.
9		**STOP** for load calculations and Lift Plan review. Take Two and assess the work area for levelness and hazards, clear the area of non-essential personnel and be sure the area between the lift and the truck to be loaded is clear of obstructions. Inspect lifting equipment including shackles, slings, chains, wire rope, etc. and be sure tag lines are in place. Use the proper rigging for this task. After successful removal of stick, counterweight, bucket, arms, and blade, they will be transported to decon area.
10		The decon will take place in 3 areas: area to the north and across the road from the mechanics shop, the area south of the mechanics shop, and the area along Swan Pond Road. The rinsate from the decon will be routed by taking advantage of existing drainage to currently impacted areas.

Sevenson Work Package

Step No.	Initial & Date As Steps Are Completed	Work Description:
11		Using pressure washers, wash the outside and inside of the equipment until free of fly ash. Use proper PPE including faceshields, tyvek, safety glasses, steel toed boots and gloves.
12		When truck is loaded, allow driver and Jacobs CM to inspect load and tie down appropriately before moving the truck. Truck driver to be in a safe area.
13		Contact SES Safety personnel to inspect equipment for cleanliness and sign off on a decon certificate. Notify Jacobs CM that equipment is ready for inspection prior to it leaving site, Jacobs will arrange any inspections by TVA or Coast Guard as needed.

06-21-10

Jacobs Lead CM / DATE

~~WITH VOIED REV. TO SPA.~~
SPA FOR LOADING TO LOW-BOY
REVISED. 06.21.10

Fossil Development and Construction
CONTRACTOR SAFETY
PRE-JOB BRIEF

Turn into Site Manager/Safety Department at end of day or completion of the work task.

The PJB shall be completed daily for each task. Post this PJB in a conspicuous location throughout the length of the task. Each crewmember involved with the task shall sign this PJB at the beginning of shift

Plant/Site: _____

Contractor: _____

Foreman _____

Employee / Conducting PJB Name

_____

Date: _____

Location of Task: _____

_____

Task Description: _____

_____

Does the task require special training? Yes ☐ No ☐

If yes, what type? _____

_____

General Information

1. Should Safety Professional be involved in the planning of this job? Yes ☐ No ☐

Job Safety Analysis

1 What are the hazards associated with the job? Be **PARTICULARLY** careful about:

_____

_____

_____

_____

_____

Hazard Corrections: _____

_____

_____

_____

_____

2. Has job task specific JSA been completed /reviewed with all crew members for this task? Yes ☐ No ☐

3. Has the Two Minute Rule been observed before starting this job specific task? Yes ☐ No ☐

Rigging

1. Has the rigging plan been discussed and all paper work been completed? Yes ☐ No ☐ N/A ☐

Note: Complete Appendix (A) when using chain falls and come-a-longs Yes ☐ No ☐

2. Has rigging equipment been inspected? Yes ☐ No ☐

3. Person in-Charge of rigging

_____

4. Signal Person N/A ☐

_____

5. Person In-Charge / Signal person directed to wear a yellow safety vest during all rigging task. Yes ☐ N/A ☐

6. Cranes/Overhead power lines & associated electrical hazards evaluated (guy wires, poles, structures).

Yes ☐ No ☐ N/A ☐

7. Low clearance Electrical Hazards have been identified and flagged, (guy wires, conductors, etc.)

Yes ☐ No ☐ N/A ☐

Rigging Requirements Verified By:

Signature _____

Tools and Equipment

Has the required user inspection been completed on all tools, ladders, electrical cords, and safety equipment? Yes ☐ No ☐

Scaffolds / Ladders

Have all scaffolds/ladders been inspected and all scaffold tags been signed? Yes ☐ No ☐ N/A ☐

Emergency Equipment

Identify below the location of the nearest extinguisher and communication source and your assembly area.

_____

_____

_____

_____

Housekeeping

Is housekeeping safe & acceptable in the work area?

Yes ☐ No

☐Location: _____

_____

_____

Fall Protection

Have areas been identified as requiring fall protection systems? (i.e. static lines, barricades, hole covers, etc.) Yes ☐ No ☐

Have they been installed? Yes ☐ No ☐

Asbestos

Have all areas that may present an asbestos exposure hazard while executing task been identified including known asbestos containing material and potentially asbestos containing material? Yes ☐ No ☐ N/A ☐

Fire Protection

Are flammable / combustible materials stored, separated, inspected, and secured per procedure? Yes ☐ No ☐

Personal Protective Equipment Required

1. Hard Hat..... Yes ☐ No ☐
2. Fall Protection..... Yes ☐ No ☐
3. Eye / Face..... Yes ☐ No ☐
4. Respirator..... Yes ☐ No ☐
5. Foot..... Yes ☐ No ☐
6. Hand..... Yes ☐ No ☐
7. Hearing..... Yes ☐ No ☐
8. Knee Pads..... Yes ☐ No ☐
9. Tyveks..... Yes ☐ No ☐

Applicable Permits
Procedures / Permits Required

1. Hot Work..... Yes ☐ No ☐
2. Clearance..... Yes ☐ No ☐
3. Excavation..... Yes ☐ No ☐
4. Signs / Barricades..... Yes ☐ No ☐
5. Confined Space..... Yes ☐ No ☐
6. Crane Lift..... Yes ☐ No ☐
7. Line Break / Hot Tapping..... Yes ☐ No ☐
8. Scaffolds..... Yes ☐ No ☐
9. Fire/Hole Watch..... Yes ☐ No ☐

Other (specify below)..... Yes ☐ No ☐

Name_____

Employee Certifications Required

1. Crane Operator _____ ☐
2. Forklift Operator _____ ☐
3. Mobile Equipment Operator _____ ☐
4. Powder-Actuated Tool User _____ ☐
5. Competent Person (Lead, asbestos, excavation, confinedspace, hazard material, scaffolds) _____ ☐

Other (specify below) _____ ☐

_____

_____

FOREMAN'S POST JOB REVIEW

Foreman:_____

Date: _____

1. Was anyone injured or did an unplanned incident occur today? Yes ☐ No ☐
   If yes, explain: WHO, WHAT, TIME

_____

_____

2. Was it reported to your Supervisor? Yes ☐ No ☐
   If yes, state: Name, Date and Time

_____

3. What problems did you have with today's work assignment? _____

_____

_____

4. Miscellaneous concerns: _____

_____

5. Housekeeping left in good order? Yes ☐ No ☐

Explain if NO: _____

_____

_____

6. Reviewed by: _____

Supervisor: _____

General Foreman: _____

Validation Visits

Initial site PJB visit (Foreman), Time:.....

Foreman's Name: _____

PJB Covered_____ Suitable _____

If not suitable list changes: _____

_____

_____

Validation visits may be conducted by any Manager or Supervisor conducting an audit. One MUST be done by the foreman.

Site PJB Validation Visit: Time: _____

Name/Title: _____

PJB being followed: ..... Yes ☐ No ☐

Comments/Recommendations _____

_____

_____

Site PJB Validation Visit: Time: _____

Name/Title: _____

PJB being followed: ..... Yes ☐ No ☐

Comments/Recommendations _____

_____

_____

_____

"Additional Comments"

If PJB was not being followed during validation visit list action taken, ALSO LIST REVISIONS TO PJB:

_____

_____

_____

By my signature below I acknowledge instructions regarding this PJB prior to my job task / work shift.

Date:_____ Time: _____

Signatures

_____

_____

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APPENDIX (A)

RIGGING ACTIVITIES THAT REQUIRE ADDITIONAL PLANNING AND APPROVAL WHEN USING CHAIN FALLS AND COM-A-LONGS

1. Is the lift/hoist in a position that is beyond 15 degrees of vertical/plumb? ..... Yes ☐ No ☐
2. Is there multiple lift points? ..... Yes ☐ No ☐
3. Is the lift height greater than 20 feet? ..... Yes ☐ No ☐
4. Does component weigh greater than 80 percent of the rigging equipment capacity? ..... Yes ☐ No ☐
5. Is there any special rigging equipment (powered hoist, etc.)? ..... Yes ☐ No ☐
6. Is the material being lifted within two (2) feet of the hoisting device? ..... Yes ☐ No ☐
7. Is this a field rework/modification, specifically removing, modifying or taking out of service a component previously installed under new construction? ..... Yes ☐ No ☐

*** Rigging Specialist must sign:** **Rigging Specialist:** _____

* TVA Review/Sign-off: TVA Review _____ N/A ☐

CHECK LIST ITEMS TO CHECK WHEN USING CHAIN FALLS AND COM-A-LONGS

8. Is weight rigging/pick known? ..... Yes ☐ No ☐
9. Do you have the proper device, rigging, and attachments? ..... Yes ☐ No ☐
10. Do you have proper headroom / clearance for the rigging? ..... Yes ☐ No ☐
11. Do you have the mandated use of shackles in place for connecting multiple rigging points? ..... Yes ☐ No ☐
12. What degree angle (never use slings under 30 degree)? ..... Yes ☐ No ☐
13. Softeners required? ..... Yes ☐ No ☐
14. Latches, hooks are all in place and working? ..... Yes ☐ No ☐
15. Levers / chains free moving? ..... Yes ☐ No ☐
16. Barricaded area around work? ..... Yes ☐ No ☐
17. Is structure adequate to handle the intended load? ..... Yes ☐ No ☐
18. Is load centered over lifting device? ..... Yes ☐ No ☐
19. Will more then one device be used? ..... Yes ☐ No ☐
20. Shackle required for securing slings to lifting device? ..... Yes ☐ No ☐
21. Is there a potential of material, rigging and/or damaging load intended to be lifted? ..... Yes ☐ No ☐
22. Need to keep clear of load, when lifted, can you work device without getting under load? ..... Yes ☐ No ☐
23. Have you thought out a plan and reviewed with crew? ..... Yes ☐ No ☐
24. Will there be hot work going on around the device, slings or work area? ..... Yes ☐ No ☐
25. Have device been checked prior to lift? ..... Yes ☐ No ☐
26. Lifting, hoisting and/or restraining of material that employs the use of a lifting/hoisting device other than a crane? ..... Yes ☐ No ☐
27. Have all items been reviewed and discussed with the crew? ..... Yes ☐ No ☐

Sevenson Environmental

TVA HARRIMAN FLY ASH REMOVAL

Safe Plan of Action

Project No. 1017
Job/Task: Loading Equipment on Trucks **Work Area:** Process Pad **Date** _____

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources
Tractor trailer operator securing load	Driver not familiar with SES rules and PPE requirements Equipment Traffic	Educate and control the driver if he needs PPE supply him. Sevenson will stay with him at all times while out of his truck.	
Use of Loader, Fork Lift, or Crane to set Equipment on trailer	, Pinch Points, Crush Hazards Suspended loads	Trained Operator and Spotter to guide him No suspended loads should be flown over the cab of tractor. Tag Lines on all suspended loads. Leather work gloves for securing loads.	
Set Equipment on trailer	Lifting Injuries, Rigging, Pinch Points	Lift with your legs not with your backs, utilize heavy equipment whenever possible. Leather work gloves	
	Shifting Load	Leather work gloves	
Securing load on trailer	, Pinch Points Crushing hazards, Elevated work on Flat Bed	Use of ladder for elevated work, inspect ladder for defects prior to use. Use of fall protection if required to access. Securing load with Chain Binders. Leather work gloves	
Trailer loaded and ready to leave site.	Driver not familiar with Site rules or route to decon	One of Sevenson's workers will stay with him at all times and safely escort him to the truck decon area.	Teamster
Inspect Load	Heavy Equipment pinch points, Tipping Hazards	Trained Operator Spotter to guide him Awareness and Body Positioning	

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources

Team Members' Signatures

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

The signature of the supervisor confirms the completion of the hazard assessment and Safe Plan of Action by the crew

Supervisors Signature: _____ Date _____

Contractors Responsible Party: _____ Date_____

Sevenson Environmental
Dredging of Emory River
Safe Plan of Action

Project No. 1017
Job/Task: Loading equipment on Low Boy **Work Area:** _____ **Date** _____

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources
Inspect trailer and equipment to be loaded	Heavy Equipment pinch points, Tipping Hazards	Trained Operator Spotter to guide him Awareness and Body Positioning	
Detach tractor from trailer		Use of leather work gloves for disconnecting glad hands from trailer. Awareness of hoses and connections. Make sure they are secured after disconnecting.	
Walk tracked equipment on low boy trailer	Tipping hazards	Trained Spotter to guide Operator	
Securing load on trailer	Pinch Points Crushing hazards	Inspect chains for defects prior to use. Use of spotters while worker secures load.	
Tractor trailer operator securing load	Driver not familiar with SES rules and PPE requirements	Educate and control the driver. If he needs PPE supply him. Sevenson will stay with him at all times while out of his truck.	
Trailer loaded and ready to leave site.	Driver not familiar with SES rules	One of Sevenson workers will stay with him at all times and safely escort him to the truck decon area.	

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources

Team Members' Signatures

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

The signature of the supervisor confirms the completion of the hazard assessment and Safe Plan of Action by the crew

Supervisors Signature: _____ Date _____
Contractors Responsible Party: _____ Date_____

Figure 1: Lift Plan - Load and Capacity Calculations

Lift Load and Capacity Calculations
(Page 1 of 4)

Lift Description:

A. Weight of Load (Equipment) – Live Load

1. Load/Equipment Condition New	( )	Used	( )	
2. Weight of Load/Equipment Empty				Lbs.
3. Weight of Attachments				Lbs.
a. Platforms and Ladders				Lbs.
b. Piping and Accessories				Lbs.
c. Liquids Inside				Lbs.
d. Dirt and Debris				Lbs.
e. Internal Trays or Liners				Lbs.
f. Other				Lbs.
				Lbs.
4. Total Amount of Load/Equipment Weight (A2 through A3f)				Lbs.

B. Total Lifted Weight (load and/or equipment + rigging + main crane deductions)

1. Load and/or equipment weight plus contingency*		%	7. Wt. Jib Erected		Lb
2. Amount of Equipment Weight		Lb	7a. Wt. Of Jib Stowed		Lb
3. Weight of Headache Ball		Lb	8. Wt. Of Jib Headache Ball		Lb
4. Weight of Main Block		Lb	9. Wt. Of Cable (Load Fall)		Lb
5. Weight of Spreader Bar		Lb	10. Auxiliary Boom Head		Lb
6. Weight of Slings and Shackles		Lb	11. Other:		Lb

*Use 100% plus some percentage (example +10%) to multiply times number in A 4 to allow for contingency to compute B2.

TOTAL LIFTED WEIGHT (Sum B2 thru B11) Lbs.

Source of Load Weight (A2):
(Name Plate, Drawings, Calculated, Weighed, etc.)

Weights and Calculations By:		Date:	
Weights and Calculations Verified By:		Date:	

(See page 2)

Load and Capacity Calculations (Page 2 of 4)

C. Capacities of the (Main) Crane

Make & Model of Crane			
2. Counter Weight Size:		Type of Boom:	
3. Lifting Arrangement			
a. Max. Radius During Lift		Ft.	
b. Length of Boom		Ft.	
c. Angle of Boom at Pick		Deg.	
d. Angle of Boom at Set		Deg.	
Rated Capacity Under Most Severe Conditions			
1. Over Rear		Lbs.	
2. Over Front		Lbs.	
3. Over Side		Lbs.	
f. Rated Capacity for Lift Radius, Crane Configuration, and Orientation (over front, side or....)			Lbs.
4. Jib			
a. Is the Jib to be used	Yes	No	
b. Length of Jib		Ft.	
c. Jib Angle		Deg.	
d. Rated Jib Capacity for Lift Radius, Crane Configuration, and Orientation (over front, side, or...)			Lbs.
5. Load Line/Fall Cable			
a. Is Main Block to be used?	Yes	No	
b. Number of Parts of Cable			
c. Size of Cable		Ø inches	
d. Maximum Capacity for Lift Radius, Crane Configuration, and Orientation (over front, side, or ....)			Lbs.

D. Percent of Cranes Capacity (>85% requires High Hazard Lift Approvals)

	Total Lifted Weight X 100 = Rated Capacity	%

E. Size of Slings

1. Sling Selection			
a. Type of Arrangement			(Spreader, Vertical Slings, etc.
b. Number of Slings to Hook	Ø	Capacity	Lbs.
c. Sling Size		Ø	
d. Sling Length		Ft.	
e. Sling Capacity (At angle used)		Lbs.	
f. Number of Slings to Load		#	
g. Total Rigging capacity (e x f)			Lbs.

Comments:

Sketch of rigging arrangement available	Yes	No	See Page ( )

End of Standard Lift Plan Paperwork (

Load and Capacity Calculations (Page 3 of 4)		
F. Total Lifted Weight to be lifted by Tailing Crane		
1. Percent of Total Equipment/Material Weight**		% (**Generally 50+% based on CG and movement during up righting)
2. Amount of Equipment Weight (A4 x F1)		Lbs.
3. Weight of Headache Ball		Lbs.
4. Weight of Block		Lbs.
5. Weight of Lifting Bar		Lbs.
6. Weight of Slings and Shackles		Lbs.
7. Weight of Jib Erected		Lbs.
8. Weight of Jib Headache Ball		Lbs.
9. Weight of Cable Load (Load Fall)		Lbs.
10. Auxiliary Boom Head		Lbs.
11. Other		
12. Total Weight of Load/Equipment lifted by tailing crane (F2 through F11)		**Lbs.**
Source of Load Weight:		
(Name Plate, Drawings, Calculated, Weighed)		
Weights Verified By (Name Print and Sign):		
G. Capacities for Tailing Crane Based on Configuration		
Make & Model of Crane		
2. Counter Weight Size:		Type of Boom:
3. Lifting Arrangement		
a. Max. Radius During Lift		Ft.
b. Length of Boom		Ft.
c. Angle of Boom at Pick		Deg.
d. Angle of Boom at Set		Deg.
Rated Capacity Under Most Severe Conditions		
1. Over Rear		Lbs.
2. Over Front		Lbs.
3. Over Side		Lbs.
f. Rated Capacity for Lift Radius, Crane Configuration, and Orientation (over front, side or…)		Lbs.
4. Jib		
a. Is the Jib to be used	**YES**	**NO**
b. Length of Jib		Ft.
c. Jib Angle		Ft.
d. Rated Jib Capacity for Lift Radius, Crane Configuration. and Orientation (over, front, side, or…)		Lbs.
5. Cable		
a. Number of Parts		
b. Size of Cable		Inch.
c. Maximum Capacity		Lbs.

Load and Capacity Calculations (Page 4 of 4)

H. Percent of Cranes Capacity Tailing Crane

	Total Lifted Weight X 100 = Rated Capacity	%

I. Size of Slings for Tailing Crane

1. Sling Selection			
a. Type of Arrangement			
b. Number of Slings to Hook		Capacity	Lbs.
c. Sling Size			
d. Sling Length		Ft.	
e. Sling Capacity (at angle used)		Lbs.	
f. Number of Slings to Load		#	
g. Total Rigging Capacity (e x f)			Lbs.

J. Soil Bearing Analysis

1. Soil bearing capacity main crane
2. Required ground bearing pressure main crane
3. Soil bearing capacity tailing crane
4. Required bearing capacity tailing crane

K. Note any rotation of load at final set location

Comments:

Sketch of rigging arrangement available | **Yes** | **No** | **See Page ( )**

Reviewed by (*additional reviews required for high hazard lifts, see figure 2*):

Contractor Construction Manager:

Lift Supervisor:

Rigging Supervisor :

Crane Operator:

Jacobs Construction Manager:

Figure 2: High Hazard Lift Permit

A. Lift Identification

Job Number: Location:

Lift Supervisor Name:

Date of Lift: Time:

Lift Description:

B. Approvals (Signatures Required)

Site Construction Manager: Date:

Project Manager: Date:

Lift Supervisor: Date:

Rigging Superintendent: Date:

Crane Coordinator: Date:

Operator(s): Date:

Engineering: Date:

If Engineering Designs Are Used

Other: Date:

C. Attachments (Insert Page Numbers)

1. Operator Certifications
2. Capacity Certificates and Inspection Reports for all Lifting Equipment
3. Inspection Reports for all Rigging Equipment
4. Insurance Certificates
5. Applicable capacity charts and chart notes for lifting equipment
6. Load and Capacity Calculations
7. Rigging Diagram(s)
8. Lift Geometry and Free Body Diagram(s)
9. Other
10. Other

Figure 3: Pre-Lift Checklist

		Yes	No
1.	*Crane operator meets company qualification requirements?*	☐	☐
2.	Lift calculations and rigging plan completed?	☐	☐
3.	Are lift equipment swing & travel requirements & clearances known?	☐	☐
4.	Are all required approvals/permits signed?	☐	☐
5.	Crane inspections up to date (Annual/Monthly/Daily)?	☐	☐
6.	Weather conditions and wind speed acceptable?	☐	☐
7.	Has the stability of the ground been assured by soil bearing analysis?	☐	☐
8.	Location and size of underground facilities are known?	☐	☐
9.	Matting and/or outrigger pads inspected and approved?	☐	☐
10.	Electrical equipment and power lines at required distance?	☐	☐
11.	Rigging Inspected for defects?	☐	☐
12.	Engineered lifting lugs fabricated and installed correctly?	☐	☐
13.	Connecting/disconnecting means been developed?	☐	☐
14.	Have the safety precautions been reviewed?	☐	☐
15.	Is survey equipment required?	☐	☐
16.	Lift Hold Point of ≥_____ lbs communicated to crew?	☐	☐
17.	Signal person(s) assigned?	☐	☐
18.	Safe Plan of Action (SPA) Completed?	☐	☐
19.	Pre-Lift Meeting/Task Safety Awareness Meeting (TSA) held?	☐	☐
20.	Hoist area & load path cleared of non-essential personnel?	☐	☐
21.	Crane set up per the lift plan (radius, configuration, etc)?	☐	☐
22.	Rigging equipment and tag line(s) installed per plan?	☐	☐

Completed By Signature: Name Printed: Date:

Sevenson Work Package

Contractor:	Sevenson Environmental	Location:	Kingston Fossil Plant
Work Package No:	WP- 130	Date:	
Work Package Desc:	10,000 psi Hydroblaster Operation		

Note 1		**Perform daily (minimum) pre-job briefings with crew. Each employee will have a pre-job briefing before each assignment,** detailing the scope of the assigned task, the possible hazards, and steps to mitigate the identified hazards. Should the employee's daily assigned task be changed, a subsequent pre-job briefing will be given. Document briefings with signatures, and file in this Work Package. Once job has completed, perform post job briefing to discuss lessons learned from work execution or incidents.
Note2		Anytime the work package is found to have a change in the plan or a deficient area of instruction, the Foreman/Supervisor will stop work **and assess the situation. If the foreman/Supervisor determines that the required change** or revised **area of instruction** can be safely **mitigated then a new pre-job briefing will be performed outlining the step change and requirements to allow work** to safely continue. **The Foreman/Supervisor will document** the change **and supply the documented change to appropriate personnel** so that the master file can be updated. If the determination is made that the change is too significant to allow work to continue safely, work will be stopped **and the matter referred to senior level management and engineering for resolution. There will be no exceptions.**
Note3		This step text is arranged in sequence but is not intended for strict compliance. The Site Supervisor and/or Foreman may change the sequence in which the work is performed, providing the sequence change has no negative impact on job safety or work quality.
Step No.	**Initial & Date As Steps Are Completed**	**Work Description:**
1		One extensively trained operator was sent with the hydroblaster. This operator will be the only person to operate the hydroblaster during pressure washing activities.
2		Operator must inspect his equipment before operation begins. Inspection will include checking the oil and fuel levels of the hydroblaster. Inspect each hose for possible failure. Inspect tips to make sure they are free of debris.
3		One of the mixing tanks will supply the hydroblaster reservoir through a filter pod with 10 or 5 micron bags to help maitain clean water for machine and decon. All lines running from the pump of the hydroblaster to the wand will be equiped with a whip line.
4		Two people will work the wand during decon in 15 minute shifts. Signals between the operator and the employees working the wand will be established before operation begins. Proper PPE (safety glasses, faceshield, leather working gloves, steel toed boots, shin and foot protectors) will be worn during operation. The employees working the wands will position themselves with their feet spread shoulder length apart. The wand will be pressed against their shoulder resting in a cradle (if necessary) of held in front of their body during sprayng operations.
5		Area of decon will be barricaded off so that **ONLY** personnel working the wands will be allowed in the area. Barricades will consist of caution tape tied to highly visible cones. Under no circumstances shall anyone go through the barricaded area until approved by operator or supervision.
6		Every employee has the authority and duty to stop work if they feel a situation is unsafe and apply the 2 Minute Rule
7		Start hydroblaster at an idle with the clutch disengaged. When personnel are ready with their wands the signal is given and the operator will engage the clutch. With additional signaling the operator will increase the throttle to the suitable pressure. The operator will maintain eye contact with personnel working the wands at all times and will stop work if anyone feels a situation is unsafe.
8		Personnel working the wands will begin pressure washing by squeezing the trigger, making sure to point the tip away from him and other personnel at all time toward the piece of equipment they are deconning. **They will sweep at a controlled speed from top to bottom and at no time swing the wand around with out releasing the trigger first (Example: Someone yells to get their attention).** Side to side sweeping is also acceptable practice when working the wand and aiming the wand, in such a way as to minimize by-pass spraying. Proper practice is to sweep with an overlap at a steady speed to allow for proper decon of equipment. This makes sure every spot is hit with the pressure washing.
9		Operator will shutdown hydroblaster pump through a series of steps. 1) Throttle down the pump to an idle, 2) Disengage the pump, 3) Shut the engine down. This can be a result to a unsafe situation, signaling from the personnel working the wand, and lightning shutdown.

Sevenson Work Package

Step No.	Initial & Date As Steps Are Completed	Work Description:

06-21-10

Jacobs Lead CM / DATE

Fossil Development and Construction
CONTRACTOR SAFETY
PRE-JOB BRIEF

Turn into Site Manager/Safety Department at end of day or completion of the work task.

The PJB shall be completed daily for each task. Post this PJB in a conspicuous location throughout the length of the task. Each crew member involved with the task shall sign this PJB at the beginning of shift.

Plant/Site: _____

Contractor: _____

Foreman: _____

Employee / Conducting PJB Name

_____

Date: _____

Location of Task _____

_____

Task Description _____

_____

Does the task require special training? Yes ☐ No ☐

If yes, what type? _____

_____

General Information

1. Should Safety Professional be involved in the planning of this job? Yes ☐ No ☐

Job Safety Analysis

1. What are the hazards associated with the job? Be PARTICULARLY careful about

_____

_____

_____

_____

_____

Hazard Corrections: _____

_____

_____

_____

_____

2. Has job task specific JSA been completed / reviewed with all crew members for this task? Yes ☐ No ☐

3. Has the Two Minute Rule been observed before starting this job specific task? Yes ☐ No ☐

Rigging

1. Has the rigg ng plan been discussed and all paper work been completed? Yes ☐ No ☐ N/A ☐

Note: Complete Appendix (A) when using chain falls and com-a-longs Yes ☐ No ☐

2. Has rigging equipment been inspected? Yes ☐ No ☐

3. Person In-Charge of rigging

_____

4. Signal Person N/A ☐

_____

5. Person In-Charge / Signal person directed to wear a yellow safety vest during all rigging task. Yes ☐ N/A ☐

6. Cranes/Overhead power lines & associated electrical hazards evaluated (guy wires, poles, structures).

Yes ☐ No ☐ N/A ☐

7. Low clearance Electrical Hazards have been identified and flagged, (guy wires, conductors, etc.)

Yes ☐ No ☐ N/A ☐

Rigging Requirements Verified By:

Signature _____

Tools and Equipment

Has the required user inspection been completed on all tools, ladders, electrical cords, and safety equipment? Yes ☐ No ☐

Scaffolds / Ladders

Have all scaffolds/ladders been inspected and all scaffold tags been signed? Yes ☐ No ☐ N/A ☐

Emergency Equipment

Identify below the location of the nearest extinguisher and communication source and your assembly area.

_____

_____

_____

_____

Housekeeping

Is housekeeping safe & acceptable in the work area?

Yes ☐ No

☐ Location: _____

_____

_____

Fall Protection

Have areas been identified as requiring fall protection systems? (i.e. static lines, barricades, hole covers, etc.) Yes ☐ No ☐

Have they been installed? Yes ☐ No ☐

Asbestos

Have all areas that may present an asbestos exposure hazard while executing task been identified including known asbestos containing material and potentially asbestos containing material? Yes ☐ No ☐ N/A ☐

Fire Protection

Are flammable / combustible materials stored, separated, inspected, and secured per procedure? Yes ☐ No ☐

Personal Protective Equipment Required

1. Hard Hat..... Yes ☐ No ☐
2. Fall Protection..... Yes ☐ No ☐
3. Eye / Face..... Yes ☐ No ☐
4. Respirator..... Yes ☐ No ☐
5. Foot..... Yes ☐ No ☐
6. Hand..... Yes ☐ No ☐
7. Hearing..... Yes ☐ No ☐
8. Knee Pads..... Yes ☐ No ☐
9. Tyveks..... Yes ☐ No ☐

Rev. 11 January 11, 2010

Applicable Permits
Procedures / Permits Required

1. Hot Work ..... Yes ☐ No ☐
2. Clearance ..... Yes ☐ No ☐
3. Excavation ..... Yes ☐ No ☐
4. Signs / Barricades ..... Yes ☐ No ☐
5. Confined Space ..... Yes ☐ No ☐
6. Crane Lift ..... Yes ☐ No ☐
7. Line Break / Hot Tapping ..... Yes ☐ No ☐
8. Scaffolds ..... Yes ☐ No ☐
9. Fire/Hole Watch ..... Yes ☐ No ☐

Other (specify below) ..... Yes ☐ No ☐

Name_____

Employee Certifications Required

1. Crane Operator _____ ☐
2. Forklift Operator _____ ☐
3. Mobile Equipment Operator _____ ☐
4. Powder-Actuated Tool User _____ ☐
5. Competent Person (Lead, asbestos, excavation, confinedspace, hazard material, scaffolds)_____ ☐

Other (specify below)_____ ☐

_____

_____

FOREMAN'S POST JOB REVIEW

Foreman:_____

Date:_____

1. Was anyone injured or did an unplanned incident occur today? Yes ☐ No ☐
   If yes, explain: WHO, WHAT, TIME

_____

_____

2. Was it reported to your Supervisor? Yes ☐ No ☐
   If yes, state: Name, Date and Time

_____

3. What problems did you have with today's work assignment? _____

_____

_____

4. Miscellaneous concerns: _____

_____

5. Housekeeping left in good order? Yes ☐ No ☐

Explain if NO: _____

_____

_____

6. Reviewed by: _____

Supervisor: _____

General Foreman: _____

Validation Visits

Initial site PJB visit (Foreman). Time:.....

Foreman's Name: _____

PJB Covered_____ Suitable _____

If not suitable list changes: _____

_____

_____

Validation visits may be conducted by any Manager or Supervisor conducting an audit. One MUST be done by the foreman.

Site PJB Validation Visit: Time: _____

Name/Title: _____

PJB being followed: ..... Yes ☐ No ☐

Comments/Recommendations _____

_____

_____

Site PJB Validation Visit: Time: _____

Name/Title: _____

PJB being followed: ..... Yes ☐ No ☐

Comments/Recommendations _____

_____

_____

_____

"Additional Comments"

If PJB was not being followed during validation visit list action taken. ALSO LIST REVISIONS TO PJB:

_____

_____

_____

By my signature below I acknowledge instructions regarding this PJB prior to my job task / work shift.

Date:_____ Time: _____

Signatures

_____

_____

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APPENDIX (A)

RIGGING ACTIVITIES THAT REQUIRE ADDITIONAL PLANNING AND APPROVAL WHEN USING CHAIN FALLS AND COM-A-LONGS

1. Is the lift/hoist in a position that is beyond 15 degrees of vertical/plumb? ..... Yes ☐ No ☐
2. Is there multiple lift points? ..... Yes ☐ No ☐
3. Is the lift height greater than 20 feet? ..... Yes ☐ No ☐
4. Does component weigh greater than 80 percent of the rigging equipment capacity? ..... Yes ☐ No ☐
5. Is there any special rigging equ pment (powered hoist, etc.)? ..... Yes ☐ No ☐
6. Is the material being lifted within two (2) feet of the hoisting device? ..... Yes ☐ No ☐
7. Is this a field rework/modification, specifically removing, modifying or taking out of service a component previously installed under new construction? ..... Yes ☐ No ☐

*** Rigging Specialist must sign:** **Rigging Specialist:** _____

*** TVA Review/Sign-off:** **TVA Review** _____ **N/A ☐**

CHECK LIST ITEMS TO CHECK WHEN USING CHAIN FALLS AND COM-A-LONGS

8. Is weight rigging/pick known? ..... Yes ☐ No ☐
9. Do you have the proper device, rigging, and attachments? ..... Yes ☐ No ☐
10. Do you have proper head room / clearance for the rigging? ..... Yes ☐ No ☐
11. Do you have the mandated use of shackles in place for connecting multiple rigging points? ..... Yes ☐ No ☐
12. What degree angle (never use slings under 30 degree)? ..... Yes ☐ No ☐
13. Softeners required? ..... Yes ☐ No ☐
14. Latches, hooks are all in place and working? ..... Yes ☐ No ☐
15. Levers / chains free moving? ..... Yes ☐ No ☐
16. Barricaded area around work? ..... Yes ☐ No ☐
17. Is structure adequate to handle the intended load? ..... Yes ☐ No ☐
18. Is load centered over lifting device? ..... Yes ☐ No ☐
19. Will more then one device be used? ..... Yes ☐ No ☐
20. Shackle required for securing slings to lifting device? ..... Yes ☐ No ☐
21. Is there a potential of material, rigging and/or damaging load intended to be lifted? ..... Yes ☐ No ☐
22. Need to keep clear of load, when lifted, can you work device without getting under load? ..... Yes ☐ No ☐
23. Have you thought out a plan and reviewed with crew? ..... Yes ☐ No ☐
24. Will there be hot work going on around the device, slings or work area? ..... Yes ☐ No ☐
25. Have dev ce been checked prior to lift? ..... Yes ☐ No ☐
26. Lifting, hoisting and/or restraining of material that employs the use of a lifting/hoisting device other than a crane? ..... Yes ☐ No ☐
27. Have all items been reviewed and discussed with the crew? ..... Yes ☐ No ☐

Sevenson Environmental Services Inc.
TVA Harriman Fly Ash Removal
Safe Plan Of Action

Project No: 1026
Job/Task: Pressure Washer (HYDRO BLASTER) **Work Area:** Process Pad **Date:** _____

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources
Pre-Operation Check must be completed and reviewed with all personnel involved in the work -Fueling -Connecting Hoses	Fuel and Oil Spills and Fires Loose Hoses Hand Injuries Leaks in hoses and fittings	-Operator will be sure to check oil and fuel level prior to use. -Spill Kit will be accessible in case of over fueling. -Make sure hoses are connected properly and quick connect is in proper working order. Check hoses, nozzles and fittings	Proper PPE (Leather Gloves) Spill Kit
Operating Pressure Washer One worker will be assigned to the pressure washer as an operator. Mr. Harry Mason has been assigned to this project and his extreme experience operating this unit as a full time employee of Sevenson Industrial Services Two workers will assist one another in the operation of the lance.	Fuel and Oil Spills and Fires Contact with Fly Ash Loose Hoses Eye Injuries Hand Injuries CO2 Levels Noise Levels	- Be sure to keep fuel or oil far enough away from the pressure washer while running to prevent a spill or fire. -Workers will wear Tyvek to prevent contact with Fly Ash. -Safety Glasses and Face Shields must be worn at all times while operating to prevent eye injuries. -Be sure to place pressure washer down wind so that CO2 levels don't peak. -Operators are to wear hearing protection while operating to ensure safe noise levels.	Proper PPE (Safety Glasses, Face Shields, Tyvek, Ear Plugs, Leather work gloves, Shin and foot protection) Steel toed work boots or equivelant
Work area to be cordoned off with high visibility barrels and rope or caution tape. Danger Signs will be posted	Worker inadvertently entering into work zone and interfering with operations, or surprising operator	Workers to be briefed on entering barricaded work zone Workers are instructed to release trigger mechanism on wand prior to speaking to anyone	SPA
Medical Emergencies	Lance making contact with the skin	Workers will immediately shut down the	Worker will carry A laminated card

	And /or penetrating the skin	operation and notify supervision that they may have sustained an injection injury. WORKER WILL BE BROUGHT OUT OF HARMS WAY AND EMERGENCY NOTIFICATIONS WILL ENSUE. Contact EMS beforehand let them know unique hazards	with him stating- **"This man has been involved with** HIGH PRESSURE WATER JETTING AT PRESSURES UP TO 14,500 LB/IN2 (11Mpa, 1000 BAR, 1019 kg/cm2) with a jet velocity of 900 mph. PLEASE TAKE INTO ACCOUNT WHEN MAKING DIAGNOSIS. UNUSUAL INFECTIONS WITH MICRO-AEROPHILIC ORGANISMS OCCURING AT LOWER TEMPERATURES HAVE BEEN REPORTED. THESE MAY BE GRAM NEGATIVE PATHOGENS SUCH AS FOUND IN SEWAGE. BACTERIAL SWABS AND BLOOD CULTURES MAY THEREFOR BE HELPFUL.
		Arrange transportation to the Hospital	
Shutting down in case of emergency Lightning or Injury	Be familiar with emergency procedures so we don't create a second emergency	Throttle down machine, Disengage Clutch, Relieve wand pressure	
Shutting Down and Storing Pressure Washer	Slips, Trips, and Falls Fuel and Oil Spills and Fires	-Once machine is shut down store out of the way. -Ensure that fuel cans and oil bottles are stored in the proper places such as flammable cabinets.	Job Awareness (Proper Storage of Combustibles)

Team Members' Signatures

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

The signature of the supervisor confirms the completion of the hazard assessment and Safe Plan of Action by the crew.

Supervisors Signature: _____ Date_____

Instructions: 1. Write name of job or task in space provided. 2. Conduct walk-through survey of work area. 3. Write the steps of the task in a safe sequence. 4. List all possible hazards involved in each step and reaction to change. 5. In the Safe Plan column, state actions that will be taken to prevent the hazards or injury from reaction to change. 6. In Resources column, list equipment, tools, etc. needed to do the job. 8. Ask each team member, who helped develop and will use this SPA, to sign in spaces provided. 9. Review the SPA at the end of the task for improvements.

Work shall stop when conditions change, the job changes, or a deficiency in the plan is discovered, and the current SPA will be modified or a new SPA created

Project No. _____

Job/Task _____ **Work Area** _____ **Date:** _____

Team Member Signature Sheet Continuation

Review checklist while completing front page of SPA. Check all that apply.

A new SPA is required if the job scope or work conditions change.

Required Permits	Hazards	Safe Plan
☐ Confined Space	☐ Overhead Utilities	☐ Power de-energization required ☐ Insulation blankets required ☐ Wire watcher required ☐ Required clearance distance = _____Ft. ☐ Safe work zone marked
☐ Critical Lift	☐ Crane or other Lifting Equipment	☐ Signalman assigned ☐ Tag lines in use ☐ Area around crane barricaded ☐ Lifting equipment inspected ☐ Personnel protected from overhead load
☐ Hot Work	☐ Underground Utilities	☐ Reviewed as-builts ☐ Subsurface surveys ☐ Received dig permit ☐ Required clearance distance = _____ Ft. ☐ Safe work zone Marked
☐ Lock Out/Tag Out	☐ Electrical	☐ Lock Out/Tag Out/Try Out ☐ Permit required? ☐ Confirm that equipment is de-energized ☐ Reviewed electrical safety procedures
☐ Soil Disturbance (Over 12")	☐ Excavations	☐ Permits ☐ Inspected prior to entering ☐ Proper sloping/shoring ☐ Barricades provided ☐ Access/egress provided ☐ Protection from accumulated water
☐ Utility Clearance	☐ Fire Hazard	☐ Hot Work Permit ☐ Fire Extinguishers ☐ Fire watch ☐ Adjacent area protected ☐ Unnecessary flammable material removed
Required PPE	☐ Vehicular Traffic or Heavy Equipment	☐ Traffic Barricades ☐ Cones ☐ Signs ☐ Flagmen ☐ Lane closure ☐ Communication with equipment operator
☐ Hard Hat, Class C	☐ Noise >85 dB	Hearing protection is required: ☐ Ear plugs ☐ Ear Muffs ☐ Both
☐ Hard Hat, Class E *(Elect. Protect)*	☐ Hand & Power Tools:	☐ Inspect general cond. ☐ GFCI in use ☐ Identified PPE required for each tool ☐ Reviewed safety requirements in operators manual(s) ☐ Guarding OK
☐ Ear Plugs/Ear Muffs	☐ Hand Hazards	List sharp tools, material, equipment: _____ ☐ PPE gloves, etc. ☐ Protected sharp edges as necessary
Eye Protection:	☐ Manual Lifting	☐ Reviewed proper lifting tech. ☐ Identified material requiring lifting equipment ☐ Hand protection required ☐ Back support belts
☐ Safety Glasses	☐ Ladders	☐ Inspect general cond. before use ☐ Ladder inspected with in last quarter ☐ Ladder tied off or held ☐ Proper angle and placement ☐ Reviewed ladder safety
☐ Face Shield	☐ Scaffolds	☐ Inspect general condition before use ☐ Tags in place ☐ Properly secured ☐ Toe boards used ☐ Footings adequate ☐ Materials properly stored on scaffold
☐ Chemical Goggles	☐ Slips, Trips Falls	☐ Inspect for trip hazards ☐ Hazards marked ☐ Tools & material properly stored ☐ Extension cords properly secured ☐ Work zone free of debris
☐ Welding Hood	☐ Pinch Points	List potential pinch points: _____ ☐ Working near operating equipment ☐ Hand/Body positioning
Hand Protection:	☐ Working w/ Chemicals	☐ List specific chemicals involved and list hazards and precaution on front side. ☐ Reviewed MSDS ☐ Exposure Monitoring required ☐ Have proper containers and labels. ☐ Identified proper PPE (respirators, clothing, gloves, etc.)
☐ Cut Resistant Gloves	☐ Asbestos or Lead Paint Potential	☐ Areas to be worked may contain asbestos or lead paint ☐ Asbestos controls incorporated ☐ Lead based point controls in place ☐ Exposure monitoring conducted.
☐ Welders Gloves	☐ Heat Stress Potential	☐ Heat stress monitoring (>85°) ☐ Liquids available ☐ Cool down periods ☐ Sun Screen ☐ Reviewed Heat Stress symptoms
☐ Nitrile Gloves	☐ Cold Stress Potential	☐ Proper clothing (i.e.. gloves, coat, coveralls) ☐ Wind chill <32° ☐ Reviewed Cold Stress symptoms ☐ Warm up periods
☐ Surgical Gloves	☐ Environmental	☐ Air emissions ☐ Water discharge ☐ Hazardous wastes ☐ Other wastes ☐ Pollution prevention ☐ Waste minimization
☐ Rubber Gloves	☐ Natural or Site Hazards	☐ Weather ☐ Terrain ☐ Adjacent operations or processes ☐ Biological hazards ☐ Animals/reptiles/insects hazards
☐ Elect. Insulated Gloves	☐ Adjacent Work/Processes	☐ Notified them of our presents ☐ Other workers adjacent, above, or below. ☐ Coordinated with adjacent supervisor/customer/operator ☐ Need barriers between.
☐ Arm Sleeves	☐ Barricades/covers	☐ Caution barricade tape required ☐ Danger barricade tape required ☐ Rigid railing required ☐ Covers over opening ☐ Warning signs required
Foot Protection:	**Additional Information:**	
☐ Sturdy Work Boots		
☐ Safety Toe Boots		
☐ Rubber Boots		
☐ Rubber Boot Covers		
☐ Dielectric Footwear		
Respiratory. Protection:		
☐ Dust Mask		
☐ Air Purifying Respirator		
☐ Supplied Air Respirator		
☐ SCBA		
☐ Emergency Escape Respirator		
Special Clothing:		
☐ Tyvek ®		
☐ Poly Coated Tyvek ®		
☐ Fire Resistant Coveralls		
☐ Rain Suit		
☐ Safety Vest		
Fall Protection:		
☐ Harness		
☐ Double Lanyard Required		
☐ Anchorage Point Available		
☐ Additional Anchorage Connector Needed e.g. Cross Arm Strap, etc.		
☐ Retractable Device Needed		
☐ Horizontal Life Line System Req'd.		
☐ Fall Clearance Distance Adequate		
☐ Fall Rescue/Retrieval Plan Set Up		

Review checklist while completing front page of SPA. Check all that apply.

A new SPA is required if the job scope or work conditions change.

Required Permits	Hazards	Safe Plan
☐ Confined Space	☐ Overhead Utilities	☐ Power de-energization required ☐ Insulation blankets required ☐ Wire watcher required ☐ Required clearance distance = _____Ft. ☐ Safe work zone marked
☐ Critical Lift		
☐ Hot Work	☐ Crane or other Lifting Equipment	☐ Signalman assigned ☐ Tag lines in use ☐ Area around crane barricaded ☐ Lifting equipment inspected ☐ Personnel protected from overhead load
☐ Lock Out/Tag Out		
☐ Soil Disturbance (Over 12")	☐ Underground Utilities	☐ Reviewed as-builts ☐ Subsurface surveys ☐ Received dig permit ☐ Required clearance distance = _____ Ft. ☐ Safe work zone Marked
☐ Utility Clearance		
Required PPE	☐ Electrical	☐ Lock Out/Tag Out/Try Out ☐ Permit required? ☐ Confirm that equipment is de-energized ☐ Reviewed electrical safety procedures
☐ Hard Hat, Class C		
☐ Hard Hat, Class E *(Elect. Protect)*	☐ Excavations	☐ Permits ☐ Inspected prior to entering ☐ Proper sloping/shoring ☐ Barricades provided ☐ Access/egress provided ☐ Protection from accumulated water
☐ Ear Plugs/Ear Muffs		
Eye Protection:	☐ Fire Hazard	☐ Hot Work Permit ☐Fire Extinguishers ☐ Fire watch ☐ Adjacent area protected ☐ Unnecessary flammable material removed
☐ Safety Glasses		
☐ Face Shield	☐ Vehicular Traffic or Heavy Equipment	☐ Traffic Barricades ☐ Cones ☐ Signs ☐ Flagmen ☐ Lane closure ☐ Communication with equipment operator
☐ Chemical Goggles		
☐ Welding Hood	☐ Noise >85 dB	Hearing protection is required: ☐ Ear plugs ☐ Ear Muffs ☐ Both
Hand Protection:	☐ Hand & Power Tools:	☐ Inspect general cond. ☐ GFCI in use ☐ Identified PPE required for each tool ☐ Reviewed safety requirements in operators manual(s) ☐ Guarding OK
☐ Cut Resistant Gloves		
☐ Welders Gloves	☐ Hand Hazards	List sharp tools, material, equipment: _____ ☐ PPE gloves, etc. ☐ Protected sharp edges as necessary
☐ Nitrile Gloves		
☐ Surgical Gloves	☐ Manual Lifting	☐ Reviewed proper lifting tech. ☐ Identified material requiring lifting equipment ☐ Hand protection required ☐ Back support belts
☐ Rubber Gloves		
☐ Elect. Insulated Gloves	☐ Ladders	☐ Inspect general cond. before use ☐ Ladder inspected with in last quarter ☐ Ladder tied off or held ☐ Proper angle and placement ☐ Reviewed ladder safety
☐ Arm Sleeves		
Foot Protection:	☐ Scaffolds	☐ Inspect general condition before use ☐ Tags in place ☐ Properly secured ☐ Toe boards used ☐ Footings adequate ☐ Materials properly stored on scaffold
☐ Sturdy Work Boots		
☐ Safety Toe Boots	☐ Slips, Trips Falls	☐ Inspect for trip hazards ☐ Hazards marked ☐ Tools & material properly stored ☐ Extension cords properly secured ☐ Work zone free of debris
☐ Rubber Boots		
☐ Rubber Boot Covers	☐ Pinch Points	List potential pinch points: _____ ☐ Working near operating equipment ☐ Hand/Body positioning
☐ Dielectric Footwear		
Respiratory. Protection:	☐ Working w/ Chemicals	☐ List specific chemicals involved and list hazards and precaution on front side. ☐ Reviewed MSDS ☐ Exposure Monitoring required ☐ Have proper containers and labels. ☐ Identified proper PPE (respirators, clothing, gloves, etc.)
☐ Dust Mask		
☐ Air Purifying Respirator	☐ Asbestos or Lead Paint Potential	☐ Areas to be worked may contain asbestos or lead paint ☐ Asbestos controls incorporated ☐ Lead based point controls in place ☐ Exposure monitoring conducted.
☐ Supplied Air Respirator		
☐ SCBA	☐ Heat Stress Potential	☐ Heat stress monitoring (>85°) ☐ Liquids available ☐ Cool down periods ☐ Sun Screen ☐ Reviewed Heat Stress symptoms
☐ Emergency Escape Respirator		
Special Clothing:	☐ Cold Stress Potential	☐ Proper clothing (i.e.. gloves, coat, coveralls) ☐ Wind chill <32° ☐ Reviewed Cold Stress symptoms ☐ Warm up periods
☐ Tyvek ®	☐ Environmental	☐ Air emissions ☐ Water discharge ☐ Hazardous wastes ☐ Other wastes ☐ Pollution prevention ☐ Waste minimization
☐ Poly Coated Tyvek ®		
☐ Fire Resistant Coveralls	☐ Natural or Site Hazards	☐ Weather ☐ Terrain ☐ Adjacent operations or processes ☐ Biological hazards ☐ Animals/reptiles/insects hazards
☐ Rain Suit		
☐ Safety Vest	☐ Adjacent Work/Processes	☐ Notified them of our presents ☐ Other workers adjacent, above, or below. ☐ Coordinated with adjacent supervisor/customer/operator ☐ Need barriers between.
Fall Protection:	☐ Barricades/covers	☐ Caution barricade tape required ☐ Danger barricade tape required ☐ Rigid railing required ☐ Covers over opening ☐ Warning signs required
☐ Harness	**Additional Information:**	
☐ Double Lanyard Required		
☐ Anchorage Point Available		
☐ Additional Anchorage Connector Needed e.g. Cross Arm Strap, etc.		
☐ Retractable Device Needed		
☐ Horizontal Life Line System Req'd.		
☐ Fall Clearance Distance Adequate		
☐ Fall Rescue/Retrieval Plan Set Up		