

**Tennessee Valley Authority
Regulatory Submittal for Kingston Fossil Plant**

Documents submitted:

Filter Press Demobilization Work Plan

Work Package for Phase 1 – Disconnection and Demobilization of generators and electrical

Date Submitted:

04/30/2010

Submitted to whom

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Filter Press Demobilization Work Plan – revised 4/21/10

1.0 Purpose

This work plan outlines the strategy being taken to demobilize the filter presses. The presses no longer took feed starting the morning of April 15, 2010. The slurry left in the feed tanks was processed, the tanks and lines flushed, and then the presses opened and put in a safe shutdown mode that day. The detailed directions to the workers will be presented in the work package.

2.0 Design

There is no design needed for this activity.

3.0 Construction (demobilization)

The maintenance area on the west side of the filter presses and the area on the east side of the Mixing Tanks will be prepared for staging and decontamination. Extraneous material will be moved. Drainage from these areas will be directed towards the rim ditch.

The demobilization has been broken down into three stages: 1) Disconnect and demobilize generators and electrical equipment, 2) Demobilization of desanding equipment, tanks and pumps, 3) Demobilization of filter presses (canopy, plates, frames and stands).

First, the generators will be de-energized and dismantled along with the electrical equipment. With the generators disconnected, there will be no power source for the press system, eliminating electrical hazards while the rest of the decontamination and demobilization work occurs.

Second, the desanding equipment (shaker screens and v-bottom tank) will be cleaned and demobilized. At the same time, pumps and piping will be disconnected from the tanks, drained and decontaminated. Prior to shutdown the tanks had been flushed with clean water and it is not expected that confined space entry into the tanks will be necessary for additional cleaning. If additional cleaning of the tanks is necessary a high pressure water hose will be used from outside the tank and the water will be pumped out to the rim ditch. All exterior items and cables will be cleaned and prepared for loading.

Third, filter presses will be decontaminated and demobilized. The filter presses consist of four major parts: 1) Canopy (frame and tarp covering the presses), 2) Press plates (sit in the press frame and are covered with cloths), 3) Press frame (head, tail and side bars), and 4) Press stand (the base on the ground that includes the conveyor). Decontamination will begin with the plates; cloths will be removed from the plates and disposed with site debris. Plates and frames will then be washed down using a pressure washer. The canopy cover will be removed, cleaned, and prepared for loading followed by the plates and then the press frame. Press plates will be palletized for loading and removal. Final cleaning of the press stand will be accomplished after the plates and frame are removed. The press stand will then be loaded and removed.

All loaded equipment will be inspected prior to shipping for stability and for DOT requirements. Once the equipment is removed, a final cleanup of the area will occur and the area will be turned over to the ballfield operation or left as is. There are no plans to remove the asphalt.

A rough terrain, 75-ton crane is anticipated to be used for removing the desanding equipment press canopy and plates. A 240-ton hydraulic crane is anticipated to be used to move and load the press frames and stands.

4.0 Schedule

The demobilization will begin April 26, 2010, and will be completed before the end of the other demobilization activities to be conducted by Severson.

5.0 Waste Management

Ash slurry or decontamination water will be disposed in the rim ditch. Stackable ash will be moved to the ballfield. Fuel, oil, cleaning solutions, and unused products will be collected and either taken offsite for reuse or disposed of according to TVA waste management protocols. TVA and Jacobs personnel will inspect all equipment prior to removing it from the site to ensure proper cleaning.

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. There may be a confined space entry requiring a permit. Care will be taken to lock out/tag out equipment before cleaning or dismantling.

Sevenson Work Package

Contractor: Sevenson Environmental		Location: Kingston Fossil Plant
Work Package No:	WP-	Date:
Work Package Desc: Phase 1 - Disconnection and demobilization of generators and electrical		
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. This package covers disconnection and demobilization of genertors and electrical equipment.
2		SPAs included in this work package refer to this phase of work <i>only</i> . 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		Verify fuel tank is empty and using a forklift, move fuel tank out of area. Soak up any fuel that may be in the containment area with absorbant pads. Dispose of absorbent pad and liners with TVA waste Remove berms and grade off area to allow easier demob of generators.
5		Have technician from vendor (Aggreko) disconnect generators from the press system. Vendor will 1) Confirm unit is shut down, 2) Turn battery off at isolator switch, 3) Close and lock out/ tag out doors to the control panel, 4) Verify system is completely de-energized on the buss using a voltage meter and live/dead/live test, 5) Disconnect cables from puss bars using hand tools, 6) Verify power to system has been disconnected using a voltmeter and live/dead/live check. With generators disconnected there will be no need for electrical lock out/tag out of system components during decon/demob.
6		To reduce trip hazards and back strains during this task coil wires on pallets as they are removed and remove pallets with a forklift. Use proper PPE including leather gloves.
7		Disconnect cabling from generators, clean, coil and place on pallets. Use forklift to remove pallets from area and stage for shipping. Use proper PPE including leather gloves. Use tyvek, safety glasses and faceshields if pressure washer use is required for cleaning.
8		Disconnect electric cable from switchgear and electrical panels, clean and use forklift to move out of area and stage for shipping. Use proper PPE including leather gloves. Use tyvek, safety glasses and faceshields if pressure washer use is required for cleaning.
9		Begin removing cabling from overhead trays. If necessary, use a forklift or manlift with a qualified operator. Clean, coil, and place wire on pallets. Use forklift to remove pallets from area and stage for shipping. Fall protection must be worn at all times while in the basket of manlift.
10		When clearance around generators is sufficient, use a spotter to back tractor in and connect to generator trailer. Allow driver to check load and connections prior moving the load.

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 rigging 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**

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 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 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

TVA TAKE TWO

Two Minute Hazard Identification

Filled out by: _____ Date: _____

WO Number (If applicable): _____

- Orient your thinking to the task at hand.
- Consider any abnormal conditions that might influence the task.
- Look for any potential hazards to personnel or hindrances to the task.

Explanation of task:

What are the hazards involved with the particular task or in the immediate area?

What am I going to do to mitigate those hazards?

Do I feel that this task can be performed safely?

Yes. I feel that I can safely perform this task.

No. I am unsure that all hazards are recognized and mitigated, and I request additional support.

Name of employee(s) assigned this task
Forman/Supervisor concurrence that risks have been controlled if "No" was checked above.

Reminders

- Complete a "Take Two" card for every assigned job.
- Any employee has the right to stop a job and ask for help to control the risks.
- Submit the completed card with the work package upon completion of the job



Daily Equipment Inspection

DATE/DAY: _____

OPERATOR: _____

EQUIPMENT AND #: _____

SHIFT: _____

CHECK ITEM	OK	Needs Work	N/A	COMMENTS
FLUID LEVELS:				
Oil **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hydraulic **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transmission **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Radiator **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grease Fittings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fuel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fluid Leaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SAFETY CHECKS:				
Fire Extinguishers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seat Belts **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Warning Devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
House keeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Broken Glass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Body Damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Controls and Levers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Brakes **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mirrors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Windshield Wipers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Steering **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Horn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Tires	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Tracks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Guards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Instruments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Exhaust Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hydraulic Lines & Cylinders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boom or Mast	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Level Indicators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Have any repairs or alterations been made to this equipment that affect load limits or equipment operations? Yes No

SIGN OFF:		** DO NOT OPERATE EQUIPMENT IF THESE ITEMS NEED WORK
Operators Initials		
Machine Hours		

Sevenson Environmental

TVA HARRIMAN FLY ASH REMOVAL

Project No. 1026

Job/Task De-Mob Electrical & Generators Work Area: Process Pad

Date _____

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources
Required PPE for Task		Workers will be required to wear the appropriate PPE to perform this task. Hard Hat, Safety Toed leather work boots, or Muck Boots with Steel toe Tyvec, Leather work gloves	
De Energizing Electrical System	Electrical Shock, Potential Stored Electrical Energy	Turn off battery at isolator switch, verify power is off to control panel then lock out/tag out control panel.	Worker review in safety meeting of Proper LOTO
	Verify no power is on buss	System tests may be necessary to verify potential Stored energy is mitigated. Use voltmeter to perform live/dead/live test on buss bars.	Voltmeter, qualified vendor representative.
Main Disconnect (ELECTRICAL)	Located in main generator	Qualified superintendent to make disconnect. Group locks may be necessary to complete LOTO. Use hand tools and disconnect cable from buss bars.	Voltmeter, qualified vendor representative.
Disconnecting wire from Junction Boxes	Electrical hazards, Shocks Electrocution	Try System Test with A Voltage Meter to assure no stored energy is present. Live/dead/live test.	Voltmeter, qualified vendor representative.
Remove wiring from junction boxes	Hand tools cuts and abrasions	Workers to protect hands with leather work gloves	
Removal of wiring in Cable Trays	Elevated Work, Heavy Loads, Trip Hazards, Heavy Equipment	Workers may need to utilize Man Lifts to perform this work.	Review fall protection and manlift use at safety meeting.
Man Lift Use	Falls from elevations, Pinch Points	100 % tie off while in A man Lift, Mindful of hand and body positioning	TVA Man Lift Training required
Pulling wire, Rolling Wire	Strains and Sprains, Back Injuries	Lift with your legs not with your back, Pulling electrical wire (Get help as the load increases as the work continues)	

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

Sevenson Environmental Services Inc.

TVA Harriman Fly Ash Removal

Safe Plan Of Action

Project No. 1026 _____
 Job/Task Mobile Pressure Washer _____ Work Area Process Pad _____ Date _____

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources
General Operation	Injury to people	Keep bystanders a safe distance away from work area. Cone off work area	
	Cuts	Do NOT Spray directly at glass or fragile objects	
	Hearing Loss	Wear hearing protection	Earplugs, Ear Muffs
	Eye Injury	Wear Eye Protection – Safety glasses <u>and</u> face shield required	Safety Glasses and Face Shield
	Chemical Exposure	Read MSDS sheet of chemical (if using a chemical)	MSDS
Refueling Operations	Burns, carbon monoxide poisoning	DO NOT fill gas when engine is running, hot or near open flame	
		DO NOT run engine in enclosed area	
		DO NOT touch or come in contact with hot muffler, cylinders, cooling fans, or hot exhaust gases	
		DO NOT operate near open flames, flammable vapors or gases	
Transporting Equipment	Fuel Leaks	When transporting shut-off fuel valve (put in the OFF position)	
Misc. Safety		Inspect equipment for damage to hoses, fittings, etc...	
		Inspect oil level, fuel and or water leaks	
		Operate on level surfaces	
		NEVER start washer without adequate water supply	

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources
		Never leave pressurized unit unattended. ALWAYS shut-off the unit and relieve trapped pressure before leaving.	
		DO NOT run the unit for more than 3 minutes with the spray gun in the closed position	
		Clean up spilled fuel or oil immediately to avoid falls	
		NEVER squeeze the spray gun trigger unless you are securely braced.	
		NEVER attempt to use power washer on or near electrical outlets, fuse boxes, transformers, high voltage wires, etc...	
Wearing Proper PPE			Hearing Protection, eye protection/face shield Boots, Tyvek
<u>Any additional Hazards or safety practices not identified above?</u>			

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.

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

SEVENSON ENVIRONMENTAL SERVICES INC.

TVA HARRIMAN FLY ASH REMOVAL

Safe Plan Of Action

Project No. 1026

Job/Task Operating Man Lift

Work Area Process Pad

Date _____

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources
Operating Man Lift	Faulty Equipment	Equipment Checklist is to be completed prior to operation of man lift. Operator must be TVA Man Lift Certified	Equipment Checklist TVA Certified Operator
	Crush Hazards	Inspect work area prior to use to ensure that it is clear of other workers and equipment	Job Awareness
	Uneven Terrain – Tip Over	Inspect the ground that will be traveled on to ensure man lift stays on 4 wheels	Job Awareness
	Operating Speed	Observe all speed limit signs as well as operating speed compared to how far the operator is boomed out	TVA Certified Operator
	Working at an elevation	While operating the man lift the operator is to wear a harness and lanyard	Proper PPE – Fall Protection
<u>Any additional Hazards or safety practices not identified above?</u>			

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
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<input type="checkbox"/> Hot Work	<input type="checkbox"/> Crane or other Lifting Equipment	<input type="checkbox"/> Signalman assigned <input type="checkbox"/> Tag lines in use <input type="checkbox"/> Area around crane barricaded
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<input type="checkbox"/> Hard Hat, Class C		<input type="checkbox"/> Reviewed electrical safety procedures
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<input type="checkbox"/> Safety Glasses		<input type="checkbox"/> Adjacent area protected <input type="checkbox"/> Unnecessary flammable material removed
<input type="checkbox"/> Face Shield	<input type="checkbox"/> Vehicular Traffic or Heavy Equipment	<input type="checkbox"/> Traffic Barricades <input type="checkbox"/> Cones <input type="checkbox"/> Signs <input type="checkbox"/> Flagmen <input type="checkbox"/> Lane closure
<input type="checkbox"/> Chemical Goggles		<input type="checkbox"/> Communication with equipment operator
<input type="checkbox"/> Welding Hood	<input type="checkbox"/> Noise >85 dB	Hearing protection is required: <input type="checkbox"/> Ear plugs <input type="checkbox"/> Ear Muffs <input type="checkbox"/> Both
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<input type="checkbox"/> Safety Vest		<input type="checkbox"/> Weather <input type="checkbox"/> Terrain <input type="checkbox"/> Adjacent operations or processes <input type="checkbox"/> Biological hazards
Fall Protection:	<input type="checkbox"/> Adjacent Work/Processes	<input type="checkbox"/> Animals/reptiles/insects hazards
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<input type="checkbox"/> Anchorage Point Available		<input type="checkbox"/> Caution barricade tape required <input type="checkbox"/> Danger barricade tape required <input type="checkbox"/> Rigid railing required
<input type="checkbox"/> Additional Anchorage Connector Needed e.g. Cross Arm Strap, etc.		<input type="checkbox"/> Covers over opening <input type="checkbox"/> Warning signs required
<input type="checkbox"/> Retractable Device Needed	Additional Information:	
<input type="checkbox"/> Horizontal Life Line System Req'd.		
<input type="checkbox"/> Fall Clearance Distance Adequate		
<input type="checkbox"/> Fall Rescue/Retrieval Plan Set Up		

Sevenson Environmental
TVA HARRIMAN FLY ASH REMOVAL
Safe Plan of Action

Project No. 1026

Job/Task: PHASE 1 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 or Fork Lift 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. Securing load with Chain Binders. Do not move truck until load is secure! 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	
<u>Any additional Hazards or safety practices not identified above?</u>			

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources

Team Members' Signatures

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

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.