

Tennessee Valley Authority
Regulatory Submittal for Kingston Fossil Plant

Documents submitted:

Skimmer Wall Debris Removal Work Plan – Rev. 4

Date Submitted:

04/15/2010

Submitted to whom

Leo Francendese

Concurrence

Received

Not Applicable

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Approvals

TVA

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Date

4/15/10

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4/15/10

consulted w/ TDEC

cc:

- Anda Ray, TVA
- Barbara Scott, TDEC
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- Mike Scott, TVA
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- Steve McCracken, TVA
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- Julie Pfeffer, Jacobs
- Steve Richardson, Jacobs
- Michelle Cagley, TVA
- Greg Signer, TVA
- KIF Incident Document Control
- Katie Kline, TVA
- Gretchen Wahl, Jacobs
- Dannena Bowman, EPA
- Jeff Gary, Jacobs
- Robert Pullen, Jacobs

SKIMMER WALL DEBRIS REMOVAL WORK PLAN – REV 4

1.0 Purpose

In preparation for the construction of the new skimmer wall, the debris from the failed sections of the old skimmer wall that resulted from the ash spill is to be removed from the intake channel. The debris will include concrete beams and caissons, structural rebar, and possibly timber that washed downstream and caught up in the rubble. This work plan addresses the methodology planned for the removal of this debris.

2.0 Design

There is no design for the debris removal operations.

3.0 Construction/Operations

The plan for the removal of the submerged skimmer wall debris will be accomplished in two phases. The debris will be removed from an area of 100 feet from each side of the skimmer wall and along the width in the intake channel. This area will be cordoned off with turbidity curtains to control migration of ash outside of the area.

The first phase will be to mobilize a work barge equipped with a mechanical dredge to expose the skimmer wall debris by removing ash that settled and covered the debris. Ash covering the wall material will be mechanically dredged and placed on a material barge and taken to an appropriate processing/treatment location within the exclusion zone. This will include unloading the barge and loading haul trucks at either the north point or the skimmer wall dock landing, and hauling the material to the ball field for processing and disposal.

The second phase will consist of the recovery and removal of skimmer wall debris. Debris will be considered to be remnants of the skimmer wall 12 inches in size or greater. This will be accomplished through the mobilization of a work barge and crane for removing debris and placing on a barge for transport to an unloading area. A turbidity curtain will be installed around the recovery barge and work area to minimize migration of ash outside the work area. During decon activities; turbidity will be monitored outside of the turbidity curtains. If the turbidity outside of the curtain increases 2 times, the decon activities will be suspended and an additional turbidity curtain will be added. The unloading area will be located at either the south docking area south of the plant or an area near the bridge crossing the intake channel. Debris will be decontaminated and washed free of ash within the confinement of a turbidity curtain. Once decontaminated debris is offloaded, it will be temporarily stored in a clean area on TVA property until contractor can arrange for transport and disposal. Any debris that cannot be washed free of ash will be placed in a material barge and handled and disposed of similar other ash-contaminated debris.

4.0 Schedule

The schedule for this work is expected to take place beginning March 15, 2010. It is expected to be completed by May 01, 2010.

5.0 Waste Management

Waste management will greatly depend on the form in which the skimmer wall debris is recovered. Intact concrete beams of the skimmer wall can be decontaminated and washed free of ash while suspended over the edge of the barge to minimize the ash on the deck of the barge. All decon water will be allowed to flow directly into the intake channel within the confinement of the turbidity curtains. The barge deck where decontaminated debris is loaded will remain free of ash. Decontaminated debris will be transported to the south loading dock where it can be offloaded and staged in a clean area on TVA property until contractor arranges for transport and disposal. In the event a piece of debris cannot be washed free of ash, the debris and material will be placed on a different barge provided by the dredging contractor that is used for recovering dredged ash. This debris will be transported to either the north point or the skimmer wall dock landing to be offloaded and hauled to either the peninsula area noted on the attached map to be recycled or the ball field to be processed and disposed via rail to landfill.

Any personnel that may get ash on them during the debris removal and recovery process will be decontaminated prior to leaving the exclusion zone. All equipment exposed to ash during the debris removal and recovery process will be sufficiently cleaned prior to leaving the exclusion zone. All waste PPE (Personal Protective Equipment) will be collected and managed according to the site wide health and safety plan. A finalized plan detailing the decontamination methods has been included as Addendum 001.

6.0 Health and Safety

The activities in this work plan will follow the site-wide health and safety plan. Operations will be performed using TVA Diving Services following all TVA diving protocol. All personnel, vehicles, and equipment will be subject to decontamination requirements as listed in the site wide health and safety plan prior to leaving the site.



Addendum 001 Rev 2 – Aquarius Marine, LLC – Decontamination Plan Section 5.0

5.0 WASTE MANAGEMENT

AML will operate boats, a crane, a generator, and an a-frame barge. The boats and a-frame have confined engine rooms that will contain any accidental oil or fuel spills. The crane, which operates on a barge, has a dike built around its operating area that will contain any accidental oil or fuel spills. Bilge water and used oil are stored in tanks aboard the M/V Claude R. Should the bilge water and used oil tanks on the M/V Claude R become full and or need emptied, AML will contact the TVA to arrange for Southern Waste Systems to empty the tanks.

Should the accidental release of any oils or fuel occur during the course of the work, the TVA will be immediately notified and the work will be stopped. The extent of the impacted area will be assessed. If the impacted area is contained to a piece of equipment it will be decontaminated by wiping it down with absorbent pads. If the impacted area spreads to the river, AML will immediately contact TVA Environmental at the contact numbers provided. The impacted area will be contained by surrounding the area with floating oil absorbent booms. Oil absorbent pads will then be used to clean the oil or fuel from the top of the water. Impacted areas will be cleaned before continuing with the debris removal work. AML will coordinate with applicable TVA personnel in order to dispose of any waste generated during this process. AML will also contact TVA Environmental in the event that it recognizes excess turbidity or foreign material in the Emory River.

Once decontaminated, the concrete Skimmer Wall Debris will be transported to and offloaded at a property owned by AML along the Ohio River at Taylorsport, Kentucky. Steel casings will be cut and removed from the caissons. Concrete will be hoe-rammed. Steel will be recycled and the broken concrete will be utilized as aggregate base at same site. Fly ash decontamination will occur per the plan below:

5.1. Decontamination Plan

The intent of this plan is to cover personnel and equipment decontamination during the skimmer wall debris removal. This covers ash removal for: Skimmer Wall Debris, Personnel, Construction Equipment, Marine Equipment, and Diver Equipment.

5.1.1. Skimmer Debris Decontamination

After the skimmer wall debris is lifted above the water line a tag line will be attached to the skimmer wall debris by the TVA divers. The tag line will allow personnel to rotate the skimmer wall debris allowing the use of a trash pump with a fire hose type nozzle to spray the ash off of the skimmer wall debris before being loaded into the receiver hopper barge. While spraying the suspended load, personnel operating the fire hose will wear a full body harness and will be tethered to a point on the barge. The tether will not be used for fall arrest, it will be sized to keep the personnel from going overboard should a loss of footing occur during the operation. In the event that it is not practical to rotate suspended loads more fire hose vantage points will be added to wash hoisted items and load will not be rotated. It is intended that spraying the suspended debris will completely remove all contamination.

Should additional decontamination be necessary the skimmer wall debris will be placed on a deck barge for additional decontamination. Additional decontamination will be done using a fire hose type nozzle to spray the remaining ash. Should a fire hose type nozzle not be adequate, power washers will be used. After decontamination, and certification by TVA personnel, Jacobs

Engineering, and EPA(Coast Guard Strike Force), the clean material will be placed in a hopper barge for removal from the site.

5.1.2. Personnel Decontamination

AML will be prepared to decontaminate any personnel that may get ash on them during the removal and decontamination process. A single station located on the crane barge with a 3/4 inch submersible pump (garden hose type) will be utilized to pump water from a poly tank for personnel decontamination. After all the gross ash has been removed from the personnel they will be required to do a follow up with phosphate free soap and water for final cleaning.

5.1.3. Construction Equipment Decontamination

AML will monitor the need to clean all associated support equipment during construction. Periodic cleaning of support equipment may be necessary, but is not anticipated. All equipment will be cleaned prior to leaving the Exclusion Zone.

AML will be prepared to decontaminate any equipment utilized during the removal operation. Any equipment used during the removal operation will be cleaned on the crane barge by using a 3/4 inch submersible pump (garden hose type) with the rinse water going directly back into the Emory River within the turbidity curtains.

5.1.4. Marine Equipment Decontamination

AML will monitor the need to clean all associated marine equipment during construction. Periodic cleaning of support equipment may be necessary, but is not anticipated. All marine equipment will be cleaned prior to leaving the Exclusion Zone.

Flat deck barges, including the crane barge, will be cleaned utilizing a trash pump with a fire hose type nozzle to spray the ash off of the deck and sides. Crew Boats will be hoisted out of the water prior to demobilization and will be decontaminated in the same manner as the flat deck barges. The exterior of the Hopper Barges will be decontaminated by utilizing a trash pump with a fire hose type nozzle to spray the ash off of the sides. The interior of the Hopper Barges will be decontaminated by utilizing a trash pump with a fire hose type nozzle to spray the ash off of the interior sides and bottom. Fly ash solids will be consolidated in one corner of the barge by mechanical means and will be removed. Push boats will have the lower hull rinsed utilizing a trash pump with a fire hose type nozzle.

5.1.5. Diver Equipment Decontamination

Diver equipment will be decontaminated after each use. AML will have all of the appropriate equipment and materials on site to clean the divers gear and equipment. . Equipment will consist of pumps and hoses to rinse all dive equipment. AML personnel will work directly with the dive team to clean their equipment.

McDermott, Mary F

From: Cagley, April M
Sent: Friday, April 09, 2010 10:22 AM
To: Guinn, Darrell
Subject: FW: Request for Concurrence--Decon of Recovered Skimmer Wall Material TVA Kingston

From: Cagley, April M
Sent: Thursday, April 08, 2010 4:16 PM
To: 'Leo Francendese (Francendese.Leo@epamail.epa.gov)'; 'barbara.scott@tn.gov'; Yankee, Dennis Hunter; Nash, Kathryn Amanda; Incident.Documentation; Russ, Timothy A; Howard, Jack L
Cc: 'Clay, Paul'
Subject: FW: Request for Concurrence--Decon of Recovered Skimmer Wall Material TVA Kingston

This is response to the question concerning the potential need for characterization of the debris removed from the intake channel.

From: Clay, Paul F
Sent: Thursday, April 08, 2010 3:48 PM
To: Cagley, April M
Subject: FW: Request for Concurrence--Decon of Recovered Skimmer Wall Material TVA Kingston

From: Darby, Jason Daniel [mailto:DarbyJD@oro.doe.gov]
Sent: Thursday, April 08, 2010 2:48 PM
To: Clay, Paul F
Subject: RE: Request for Concurrence--Decon of Recovered Skimmer Wall Material TVA Kingston

Paul,

I have looked over the data you provided. It's consistent with our understanding that very little cesium exists in the Emory River sediment. Based on the few low level detections of cesium which are well below the action level of 11 pCi/g, it will not be necessary to characterize debris you remove from this area.

Jason D. Darby
Project Manager
USDOE
865-241-6343
fax 865-576-2347

From: Clay, Paul F [mailto:pclay@tva.gov]
Sent: Thursday, April 08, 2010 11:07 AM
To: Darby, Jason Daniel
Cc: Cagley, April M
Subject: Request for Concurrence--Decon of Recovered Skimmer Wall Material TVA Kingston

Jason-

This is a follow-up to our telephone conversation of Monday April 5 regarding TVA's work to recover debris from the plant intake channel skimmer wall that was destroyed by the December 2008 ash spill.

I am attaching a figure depicting vibracore sampling locations. As we cored, we collected samples from both the ash (if present) and native sediment layer in the core. The Cs-137 data for the ash is in red (upper box) and for the sediment blue (lower box). The skimmer wall debris is located at the top center of this figure where the plant intake channel meets the Emory River. The sampling points immediately adjacent to the skimmer wall debris are 56-61 in the channel and 50-55 in the Emory River.

A TVA subcontractor has mobilized a crane and barge to recover the skimmer wall debris which is primarily large sections of concrete and steel. As the material is lifted from the water, any ash and sediment will be pressure washed until visually clean (note that the work area will be surrounded by turbidity curtains to mitigate movement of the suspended ash/sediment). The cleaned material will be placed on a barge and transported to the contractor's facility for recycling.

The EPA On-scene Coordinator has requested concurrence that characterization of the recovered, decontaminated skimmer wall debris for Cs-137 is not necessary before it is transported from the area. Your response to this e-mail would be acceptable to him.

I will call shortly to follow up and provide any additional information you might need.

Thanks,

Paul

Paul Clay, PMP
Restoration Services, Inc.
TVA Ash Recovery Project
865-567-6540