United States Environmental Protection Agency
Region IV
POLLUTION REPORT

SITE: TVA Kingston Fossil
BREAK: 2.10
OTHER:

Date: Wednesday, December 31, 2008
From: Steve Spurlin, Les Sims, Federal On Scene Coordinators

To: Steve Spurlin, U.S. EPA
David Dorian, USEPA
Matt Taylor, ERRB
Benjamin Franco, EPA

Subject: Continuation of ER
TVA Kingston Fly Ash Release
714 Swan Pond Road, Harriman, TN
Latitude: 35.894929
Longitude: -84.534744

POLREP No.:	3	**Site #:**	A4XP
Reporting Period:	12/28-12/31/2008	**D.O. #:**	
Start Date:	12/22/2008	**Response Authority:**	CERCLA
Mob Date:	12/22/2008	**Response Type:**	Emergency
Completion Date:		**NPL Status:**	Non NPL
CERCLIS ID #:		**Incident Category:**	Removal Action
RCRIS ID #:		**Contract #**	

Site Description

On Monday 12/22/2008, in response to NRC report #893129, and at the request of Roane County EMA and Tennessee EMA, OSC Sims and START responded to a catastrophic dike failure at the Tennessee Valley Authority Kingston Fossil Plant, Harriman, Roane County, TN. A breached settling pond retaining wall caused the release of an estimated 5.4 million cubic yards (approximately 300 acres outside the ash storage areas) of fly ash to the Emory and Clinch Rivers. The incident occurred around 0100 hrs. The cell was one of three at the facility used for dewatering fly ash. The release caused a massive slide that disrupted power, ruptured a major gas line, and destroyed several homes. As a result of the incident, residents in a nearby neighborhood were evacuated and relocated to temporary shelters.

Current Activities

Activities conducted during this reporting period (12/28/2008 - 12/31/2008):

12/28/2008
EPA collected 3 ash samples (two onsite and one offsite), 8 soil samples and 4 surface water samples along the shoreline. The ash and soil samples were submitted to an offsite certified-laboratory for analysis. The sampling parameters for the ash and soil samples were : total metals, TCLP metals, BTEX, and silica. The sampling parameters for the surface water samples were: total metals, dissolved metals, total suspended solids, and dissolved silica.

Laura Niles, EPA External Affairs, mobilized to the site to coordinate the setup of a Joint Information Center (JIC) to include representatives from TVA, TEMA, Roane County EMA and EPA.

12/29/2008
EPA collected ten water samples from various points along the Emory and Clinch Rivers (refer to Sampling Location Map dated 12/29 - posted under the Documents Section of this website). The locations are the same as the December 23, 2008 sampling event. Also, during this sampling event, EPA collected surface water intake and treated water effluent samples from the Kingston and Rockwood Water Treatment Plant (WTP). The sampling parameters were: total metals (EPA Method 6010), dissolved metals (EPA Method 6010), total suspended solids (EPA Method 160.2), and dissolved silica (EPA Method 200.7).

TVA command operations transitioned from TVA Corporate Office in Chattanooga to the Kingston Fossil Fuel Plant Unified Command Center. Additional EPA personnel were mobilized to the site to provide support to the incident. OSCs David Dorian and Randy Nattis were deployed to the site to provide ICS support and data management consultation to TVA and TDEC. EPA Region 4's Mobile Command Post was deployed and is currently serving as a temporary data management center. TVA has adopted the SCRIBE system and commenced the establishment of a centralized database for sampling data.

Sherryl Carbonaro, Community Information Coordinator, mobilized to assist TVA in community outreach and obtaining access authorization from residents for property sampling.

12/30/2008
EPA's Science Ecosystem and Support Division (SESD) deployed to the site and conducted private well sampling at 4 residential properties impacted by the release. Additionally, SESD collected intake and treated water samples at WTPs located in Kingston, Cumberland, and Rockwood, TN . The sampling parameters were: total metals, dissolved metals and total suspended solids.

EPA, utilizing portable handheld particulate air monitoring equipment, provided real time air monitoring for particulates on and offsite near the ash removal operations. Utilizing PM 2.5 format (cyclone attachment), nine readings were collected during road/rail clearing operations in the vicinity of dredge cells #1, 2, and 3. Monitoring results ranged from 1.8 to 8.3 ug/m3. The National Ambient Air Quality Standard for PM 2.5 (24 hour sample) is 35 ug/m3 for 24 hours and 15 ug/m3 annually.

EPA ERRB Chief Hitchcock and OSC Sims met with representatives from TDEC and TVA in the TDEC Nashville Office to discuss current and planned operations, and the transitioning plan from EPA to TDEC oversight of the response. TDEC agreeed to provide a representative to integrate into the unified command at the Kingston Fossil Plant command center with the in preparation for transition to TDEC response oversight.

OSC Alyssa Hughes was deployed to the site to provide support to the ICS in planning and supervising START field activities.

12/31/2008
EPA continued to monitor ambient particulate levels at PM 2.5. Twenty one readings were collected in various locations. The results ranged from 4.0 ug/m3 to 16 ug/m3. The higher values were located near TVA construction activities being conducted near the dredge cells.

The Governor of Tennessee met with incident command staff at the Kingston Fossil Plant Incident Command Center and was briefed on current site operations.

OSC Sims attended a joint press conference with representatives from TDEC, TVA and Roane

County EMA to answer questions regarding the release incident and ongoing cleanup and monitoring activities.

OSC Nattis continues to assist TVA and TDEC in building a centralized data management system which will be utilized to receive, manage and disseminate all analytical data generated during this response.

TVA KINGSTON ACTIVITIES

TVA released air monitoring data collected from 4 low volume 24 hour samplers (Air Check Sampler 224 PCX R8 collected on filter media) and multiple instantaneous samples collected with handheld instruments (TSI SidePak AM 510). The four 12 hour samples were analyzed for Arsenic, Beryllium, Cadmium, Chromium, Lead, Selenium, Thallium, Vanadium, Dust, and Quartz. Three of the four samples were non-detect for all constituents. The remaining sample was non-detect for all constituents except quartz. The quartz measurement was 7.4 ug/m3 . Approximately 203 instantaneous samples were obtained over a two day period from December 29-30th. Measurements corresponded to PM 10 and were all below the National Ambient Air Quality Standard for PM 10, which is set at 150 ug/m3 on a 90 day rolling average. The results were shared with the media during the EPA, TDEC, Roane County EMA and TVA joint press conference.

TVA continues to manage river flows on the Clinch and Tennessee Rivers to minimize impact of the ash release to the Kingston WTP intake. The Kingston water intake, located on the Tennessee River approximately one half mile upstream of the confluence of the Tennessee and Clinch Rivers. Flow from the Tennessee towards the intake is maximized while flow from the Clinch is minimized.

Radiological samples were collected on-site by TVA Nuclear personnel. One composite sample was collected from around the dredge cell. In addition, five samples were collected from around the Kingston fly ash pond for radiological characterization. These samples were submitted for analysis to the Western Area Radiological Lab (WARL) in Muscle Shoals, Alabama.

In this reporting period, TVA released municipal drinking water sample results from the December 22 and 23, 2008 sampling event. The results for constituents of concerns were below MCLs. TVA collected a total of 20 stream water samples at 14 discreet locations near the City of Kingston's Water Intake, Swan Pond Methodist Church on Swan Pond Road, the Kingston Water Treatment Plant (pre- and post- treatment), four sites along the Emory River, five sites along the Clinch River, one site along the Tennessee River and the TVA Watts Bar Nuclear Plant Water Intake. All samples were hand delivered to Microbac laboratory in Maryville, TN for expedited analysis.

TVA continued to construct a rock weir on the Emory River to minimize sediment flow downstream. Approximately one third of the weir has been completed to date.

Recovery of cenospheres continues. TVA has set approximately 6000 feet of skimmer boom to contain the cenospheres, which are in turn collected by skimmers and vacuum trucks.

TDEC ACTIVITIES

TDEC collected approximately 40 residential well samples (from outdoor spigots) for metals (dissolved and totals) analysis. Under an agreement between TDEC and TVA, TVA agreed to provide the funding of all analytical costs associated with sampling residential wells. TDEC also sampled the water intake and the finished treated water from the Kingston and Rockwood WTPs.

Planned Removal Actions

EPA PLANNED ACTIONS:

EPA will continue to provide independent ambient air sampling and monitoring of site activities, as well as assist TDEC and TVA in implementing a centralized data management system.

TDEC PLANNED ACTIONS

Beginning, Friday January 3, 2009, TDEC will sample the intakes and finished (treated) water from the Kingston and Rockwood WTPs.

TVA PLANNED ACTIONS:

TVA is currently identifying 6 permanent air monitoring locations. TVA has to date contacted and attained authorization from five property owners in order to establish long term high volume air monitoring locations.

A second weir is under design to confine ash and prevent it from entering the river. The 2000 foot rock weir will extend from Swan Pond Circle south to the the plant river bank. Dredging plans are under development with the US Army Corps of Engineers.

Next Steps

EPA will continue as needed in its support and monitoring role, and conduct all actions necessary to ensure the protection of public welfare and/or the environment.

Key Issues

TVA has taken full responsibility for the cleanup and engaged the necessary resources to mitigate the release.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
RST/START	$100,000.00	$0.00	$100,000.00	100.00%
Intramural Costs				
Total Site Costs	$100,000.00	$0.00	$100,000.00	100.00%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.