

**U. S. Environmental Protection Agency, Region 4  
61 Forsyth Street  
Atlanta, Georgia 30303-8960**

**DATE:** January 11, 2010

**SUBJECT:** Pollution Report (POLREP) #100  
TVA Kingston Fly Ash Release Time-Critical Removal Action  
Harriman, Roane County, Tennessee

**FROM:** On-Scene Coordinator Leo Francendese  
Emergency Response and Removal Branch

**TO:** Shane Hitchcock, Chief  
Emergency Response and Removal Branch

James Webster, Chief  
Removal Management and Oil Section

**REPORTING PERIOD:** January 09 – 11, 2010

**I. Background and Site Description**

On Monday, December 22, 2008, a dike failure at the Tennessee Valley Authority (TVA) Kingston Fossil Fuel Plant caused the release of an estimated 5.4 million cubic yards of fly ash to the nearby Emory River. The overland impact was estimated at between 250-300 acres. EPA remobilized to the Site to begin work under the EPA/TVA Administrative Order on May 11, 2009. TVA's weekly report dated January 04 –10 can be found at [www.epakingstontva.com/TVA Weekly Reports](http://www.epakingstontva.com/TVA%20Weekly%20Reports).

**II. Site Status Highlights**

**Documents in Comment/Review:**

- The EPA Science Panel Selenium Review Paper 30 day comment period ended. Comments are being reviewed by the Agency. A response to comments was released Thursday December 17<sup>th</sup> and has been posted [here](#).
- The [EE/CA Work Plan](#) public comment period ended December 20<sup>th</sup>.
- The [Community Involvement Plan](#) public comment period ended December 20<sup>th</sup>.
- TDH released draft Public Health Assessment for public comment on Friday December 11<sup>th</sup>. Document can be found at <http://health.state.tn.us/coalashspill.htm>.

**Significant Operational Activities:**

- Ash disposal transport to Perry County, AL: 3 train transported ash during this reporting period (134 trains have left the site as of Monday).
- 20 inch, 16 inch, and 14 inch dredges operated during this period. Daily work day removal average east of Dike 2 (including excavation) is approximately 14,003 cys.
- Dry ash hauling from the east embayment and east of Dike 2 has resumed after evaluating data from Stantec. TVA has submitted a work plan to address wet ash storage on the failed dredge cell concerns. Main Wet Ash Storage Slope Remediation Work Plan is being revised for resubmission.
- Lateral Expansion continues to be used as additional settling basin for ash recovery system.

- Mechanical Filter Press became operational Monday and is being used to assist in ash drying activities.
- SESD’s EPA Performance Audits for field sampling and QAPP audit being conducted Monday through Thursday January 11<sup>th</sup> – 14<sup>th</sup>.

**A. Meteorological Conditions**

- Water elevation 736.49 ft; river water flow 614 ([Oakdale](#) is used for early indication for river flow surge).
- Rainfall during this reporting period: 0.00 inches.
- Cumulative rainfall for this week: 0.00 inches.

**III. Superfund Division Operations, Coordination, and Oversight Activities**

**A. Current EPA Incident Management Staffing**

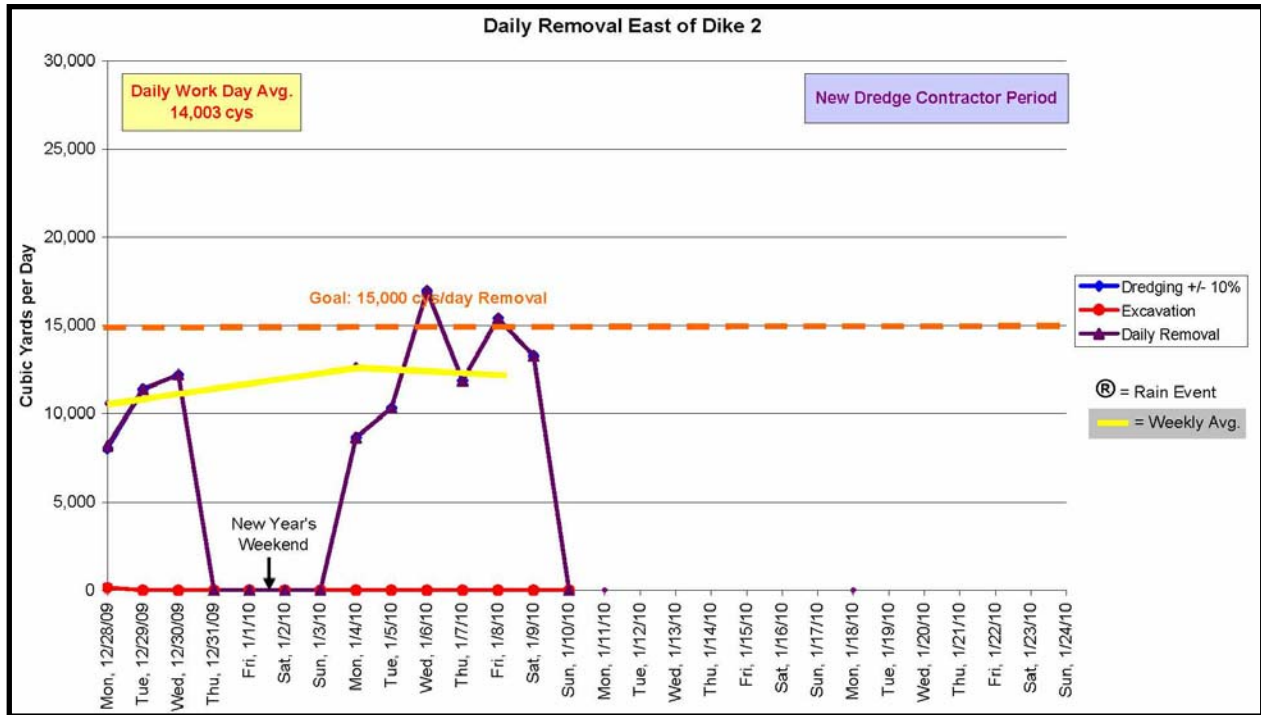
- 1 EPA On-Scene Coordinator (OSC)
- 1 EPA Remedial Project Manager (RPM, offsite)
- 1 EPA Community Involvement Coordinator (CIC)
- 5 Superfund Technical Assessment and Response Team (START) Contractors
- 2 US Coast Guard (Gulf Strike Team)
- 1 US Army Corps of Engineers (USACE, offsite in consult)
- 3 Bureau of Reclamation (BOR, 3 offsite)
- 1 EPA Emergency Response Team (ERT) National Health and Safety (offsite)

**B. Time Critical (East of Dike 2) Fly Ash Excavation, Dredging, and Disposal Operations**

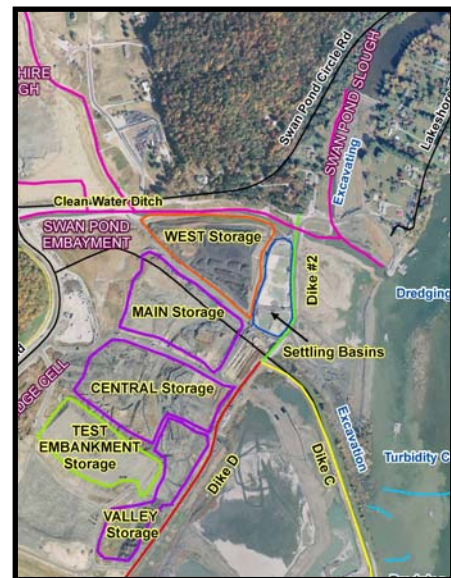
<i>Estimated Amounts</i>	<b>Cumulative</b>	<b>During This Period</b>	<b>Dates of this Period</b>
Dredging	1,779,833 cys*	28,692 cys*	Jan. 08– 10
Excavation	557,882 cys	0 cys	Jan. 08– 10
<b>Total (dredging + excavation)</b>	<b>2,337,715 cys</b>	<b>28,692 cys</b>	<b>Jan. 08– 10</b>
Disposal	1,257,277 tons	26,700 tons	Jan. 09– 11

\*Dredge values are estimated due to position of dredges making areas not able to be surveyed. Validated numbers require 3 to 5 working days to be updated.

Note: All graphs and cumulative amounts have been updated with latest validated dredge values. Graph of previous production periods available [here](#) for viewing.



1. TVA Dredging ([dredging work plans link](#))
  - TVA 14 inch (yellow dredge) being used to maintain settling capacity in settling pond.
  - 3 dredges were in operation Friday and Saturday January 8<sup>th</sup> and 9<sup>th</sup>.
    - 20 inch dredge (Sandpiper): 28.3 hours
    - 16 inch dredge (Kylee): 42.5 hours
    - 14 inch dredge (McKenzie): 31.8 hours
  
2. TVA Excavation ([excavation work plans link](#))
  - Excavation continued Friday and Saturday January 8<sup>th</sup> and 9<sup>th</sup> for area east of Dike 2 and Swan Pond Slough.
  - Ash being hauled to WEST storage west of Dike 2.
    - Volume stored in west ash area: 134,417 cys.
  - Ash being hauled to MAIN storage west of Dike 2.
    - Volume stored in main ash area: 1,129 cys.
  - Ash being hauled to VALLEY storage west of Dike 2.
    - Volume stored in valley ash area: 95,154 cys.
  - Ash being hauled to CENTRAL storage area.
    - Volume stored in central storage area: 114,589 cys.
  - Ash being hauled to TEST EMBANKMENT storage area.
    - Volume stored in test embankment area: 265,985 cys.
  - Dry ash hauling from the east embayment and east of Dike 2 has resumed after evaluating data from Stantec. TVA has submitted a work plan to address wet ash storage on the failed dredge cell concerns. Main Wet Ash Storage Slope Remediation Work Plan is being revised for resubmission.



3. TVA Fly Ash Loading and Disposal ([disposal work plans link](#))
  - Drying agents continue to be added to railcars.
  - Three 88 railcar trains transported during this period. One train each day on Saturday, Sunday, and Monday January 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup>.
4. Ash Recovery System Improvements
  - Lateral Expansion continues to be used as additional settling basin for ash recovery system. Daily average: 1,598 cys.
  - Mechanical Filter Presses became operational Monday and is being used to assist in ash drying activities. Design production for 24-hour work day is 4,600 cys.

### C. Time Critical Support Activities

- **BOR** offsite consulting OSC as per Interagency Agreement (IAG) on construction and engineering assessments of:
  - stability of dikes
  - ash stacking height in ash processing areas
  - rim ditch stability
  - additional wet ash processing areas
- **US Coast Guard (Gulf Strike Team)** as per IAG to provide health and safety oversight, and river closure management.
  - As part of health and safety oversight, providing perimeter monitoring of truck movement as well as enforcement of on-site exclusion zones including Emory River closure area.
  - EPA and TVA in coordination with Coast Guard closed Emory River from river mile marker 3 to 1.5 on August 11<sup>th</sup> for 30 days. Closure extension coordinated with Coast Guard (GST and Ohio Valley Sector) and other appropriate agencies has been extended through February 2010. Map available at [www.epakingstontva.com](http://www.epakingstontva.com).
- **EPA Data Team** providing oversight to SCRIBE database activities.
  - TDEC continues to compile SCRIBE database and publishing analytical data.
  - START has published EPA and TVA analytical data to SCRIBE database.
- **START** conducting cenosphere and field sampling activities.
  - Conducting cenosphere and debris location reconnaissance focusing on historically known collection areas on the Emory, Clinch, and Tennessee Rivers. Reports are coordinated with TVA for response actions.
  - Event sampling took place on Friday December 18<sup>th</sup> due to rain fall. Results are pending.
- TVA Phase 2 bathymetry was completed week of January 4<sup>th</sup>. Data and maps are pending. Phase 1 maps available at [www.epakingstontva.com/Nature and Extent](http://www.epakingstontva.com/Nature and Extent). Work plan available at [www.epakingstontva.com/Nature and Extent/Sub-bottom Profiling Workplan Final](http://www.epakingstontva.com/Nature and Extent/Sub-bottom Profiling Workplan Final).

### D. Public Information and Community Involvement Activities

- **Community Involvement Coordinator Activities**
  - January 7<sup>th</sup> CAG meeting postponed due to weather.
  - Second quarterly EPA factsheet will be mailed out to residents on January 18<sup>th</sup>.
  - Public meeting tentatively scheduled for January 26<sup>th</sup> at Roane County High School from 5 – 8:30 pm.
  - CIP and EE/CA Work Plan public comment period ended December 20<sup>th</sup>. CIP is available [here](#).
  - EPA has provided an independent Interim Technical Advisor (TA) to the CAG until they receive all proposals and hire a TA.

- START contractor providing technical support to EPA OSC and CIC for public information.
- **Public Information**
  - Press release for river closure extension can be found at [www.epakingstontva.com/Lists/River Page Documents](http://www.epakingstontva.com/Lists/River%20Page%20Documents).

#### **E. State Coordination**

- Tennessee Department of Health's Environmental Epidemiology Program, under a Cooperative Agreement with the Federal Agency for Toxic Substances and Disease Registry, announces the release of the draft Public Health Assessment for the TVA Kingston Coal Ash Release for public comment.
  - Already had internal government review
  - 4-page fact sheet summary and full 200-page Public Health Assessment are both available at <http://health.state.tn.us/coalashspill.htm>.
  - Comments must be received by February 9, 2010.
- TDEC released "[Lessons Learned from the TVA Kingston Dredge Cell Containment Facility Failure: TDEC Advisory Board Recommendations for Safe Performance](#)" on Monday November 30<sup>th</sup>.
- Tennessee Department of Environment and Conservation (TDEC) coordinating with USACE/ERDC on "Evaluation of Metals Release from Oxidation of Fly Ash during Dredging of the Emory River, TN". Report was released Tuesday October 20<sup>th</sup> and can be viewed [here](#).
- TDEC is addressing fugitive dust issues outside of houses.
- TDEC forwarding community concerns to START in response to cenosphere reports.
- TDEC and Tennessee Department of Health (TDH) in coordination with OSC continue to address concerns related to lower Emory River advisory. Contact TDH or TDEC's Barbara Scott (865-696-9614) for concerns.
- Full TDEC report regarding the September 18<sup>th</sup> stack emissions event can be found [here](#).

#### **IV. Water Protection Division Activities**

- No report during this reporting period.

#### **V. Resource Conservation and Recovery Act (RCRA) Division Activities**

- No report during this reporting period.

#### **VI. Air, Pesticides and Toxics Management Division (APTMD) Activities**

- Air monitoring network operated by TVA and TDEC continues collecting PM data that is in compliance with the National Ambient Air Quality Standards.
- EPA submitted the Performance Audits and Network Assessment of the Ambient Air Monitoring Network at the Kingston, Tennessee Fossil Plant Fly Ash Removal Project, Friday August 21<sup>st</sup> and available at [www.epakingstontva.com/EPA Air Audits and Reviews](http://www.epakingstontva.com/EPA%20Air%20Audits%20and%20Reviews).
- *EPA continues reviewing the air quality monitoring conducted by TDEC and TVA and confirms TDEC's belief that there is no known threat to public health from an air pollution exposure associated with the clean-up of the ash spill at the TVA Kingston Steam Plant. National ambient air quality standards for inhalable particulate (PM10) and respirable particulate (PM2.5) are being met. Air sampling continues to show no metal concentrations of concern. Persons wishing to view the monitoring data can see it at the following web address: <http://www.state.tn.us/environment/kingston/air/>.*
- SESD's EPA Performance Audits and Network Assessment of the Ambient Air Monitoring Network is pending release.

## **VII. Science and Ecosystem Support Division (SESD) Activities**

- SESD's EPA Performance Audits and Network Assessment of the Ambient Air Monitoring Network is pending release.
- SESD's EPA Performance Audits for field sampling and QAPP audit being conducted Monday through Thursday January 11<sup>th</sup> – 14<sup>th</sup>; 2 personnel for field sampling and 3 personnel for QAPP review.

## **VIII. Non-Time Critical Removal Action Activities**

- EPA approved the Engineering Evaluation and Cost Analysis (EE/CA) Work Plan October 16<sup>th</sup>; it is available [here](#). Document public review and comment period ended December 20<sup>th</sup>.
- EE/CA Report for the material West of Dike 2 is expected to be out for 30-day public comment period in late February.
- River sampling work plan based on Wednesday October 7<sup>th</sup> meeting for ecological risk sampling on Emory, Clinch, and Tennessee Rivers is expected for release early March. Additional sampling based on this work plan is expected in spring 2010.

## **IX. Recommended Sources for Additional Information**

- TVA's weekly report dated January 04 –10.