

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

**DATE:** February 1, 2010

**SUBJECT:** Pollution Report (POLREP) #109  
TVA Kingston Fossil Fuel Plant Release Site Time-Critical Removal Action  
Harriman, Roane County, Tennessee

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

**TO:** Shane Hitchcock, Chief  
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**REPORTING PERIOD:** January 30 – February 01, 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 25 –31 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:**

- Responsiveness Summary for comments received during the public comment period on the EE/CA Work Plan have 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>.
- The Embayments and Dredge Cell EE/CA Report is available for public comment and can be viewed [here](#). The public comment period is 75 days beginning January 19<sup>th</sup> to April 5<sup>th</sup>.

**Significant Operational Activities:**

- Ash disposal transport to Perry County, AL: 0 trains transported ash during this reporting period (147 trains have left the site as of Monday).
- 20 inch, two 16 inch, and 14 inch dredges operated during this period. New 16 inch dredge (Shirley) was added and began operating Saturday January 30<sup>th</sup>. New 14 inch dredge (Adeline) to begin operating Friday. Daily work day removal average east of Dike 2 (including excavation) is approximately 13,324 cys.

**A. Meteorological Conditions**

- Water elevation 738.60 ft; river water flow 2,013 ([Oakdale](#) is used for early indication for river flow surge).
- Rainfall during this reporting period: 1.14 inches.
- Cumulative rainfall for this week: 1.14 inches.

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

**A. Current EPA Incident Management Staffing**

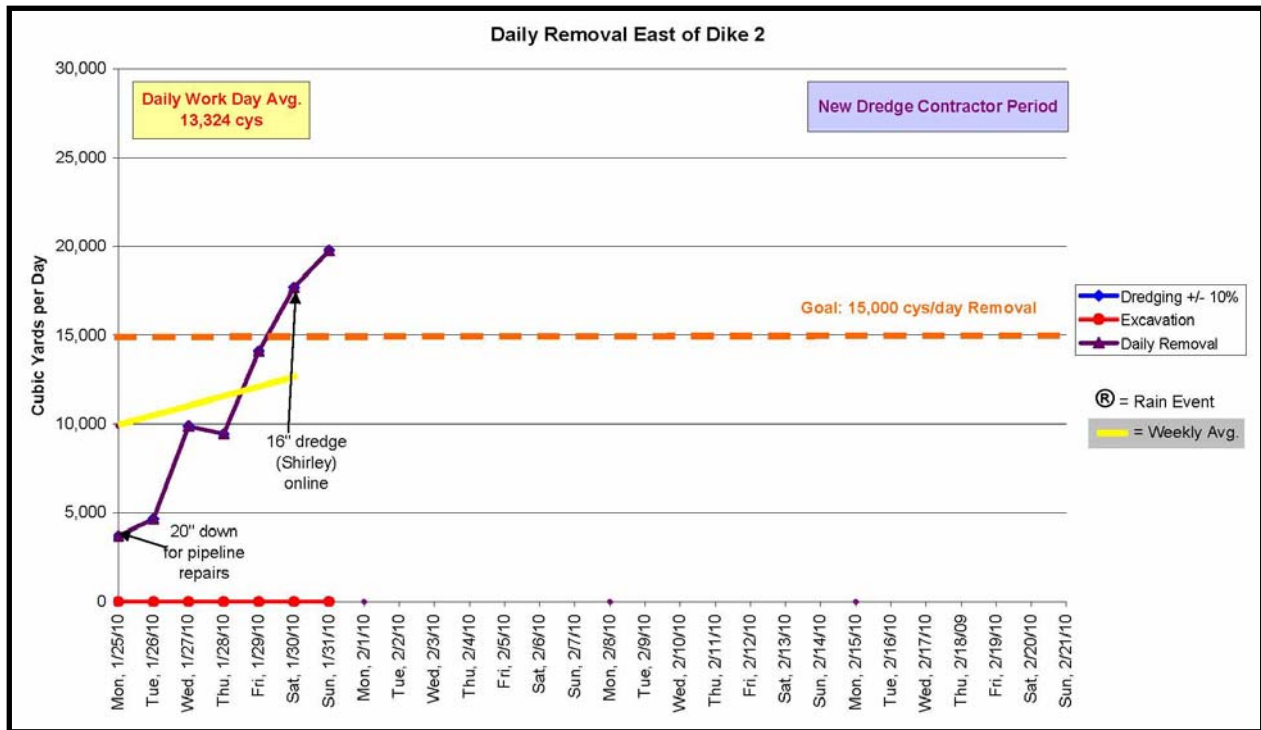
- 1 EPA On-Scene Coordinator (OSC)
- 1 EPA Remedial Project Manager (RPM, onsite)
- 1 EPA Community Involvement Coordinator (CIC)
- 5 Superfund Technical Assessment and Response Team (START) Contractors
- 2 US Coast Guard (Gulf Strike Team)
- 1 US Army Corps of Engineers (USACE, offsite in consult)
- 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	1,963,281 cys*	50,153 cys*	Jan. 29– 31
Excavation	559,426 cys	0 cys	Jan. 29– 31
<b>Total (dredging + excavation)</b>	<b>2,522,707 cys</b>	<b>50,153 cys</b>	<b>Jan. 29– 31</b>
Disposal	1,374,277 tons	0 tons	Jan. 30– Feb. 01

\*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.

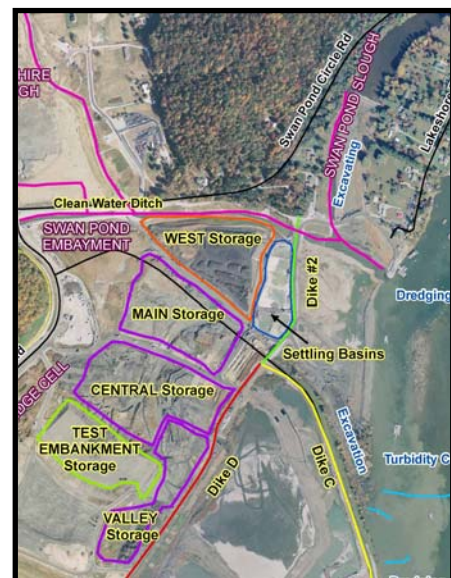


1. TVA Dredging ([dredging work plans link](#))

- TVA 14 inch (yellow dredge) being used to maintain settling capacity in settling pond.
- 4 dredges were in operation Friday, Saturday, and Sunday January 29<sup>th</sup> thru 31<sup>st</sup>. New 16 inch dredge (Shirley) began operating Saturday January 30<sup>th</sup>. New 14 inch dredge (Adeline) to begin operating Friday February 5<sup>th</sup>.
  - 20 inch dredge (Sandpiper): 50.4 hours
  - 16 inch dredge (Kylee): 52.4 hours
  - 16 inch dredge (Shirley): 29.3 hours
  - 14 inch dredge (McKenzie): 51.8 hours
  - 14 inch dredge (Adeline): 0.0 hours

2. TVA Excavation ([excavation work plans link](#))

- Excavation continued Friday and Saturday January 29<sup>th</sup> and 30<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: 118,692 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: 307,397 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. Wet Ash Mitigation 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.
  - No trains transported on Saturday, Sunday, or Monday January 29<sup>th</sup> thru 31<sup>st</sup> due to snow and ice.
4. Ash Recovery System Improvements
  - Lateral Expansion continues to be used as additional settling basin for ash recovery system. Daily average: 1,776 cys.
  - Mechanical Filter Presses continues to operate in assisting ash drying activities. Design production for 24-hour work day is 4,600 cys. Daily average since January 11<sup>th</sup>: 554 cys. For the week of January 24<sup>th</sup> to 31<sup>st</sup>: 1,017 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 May 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.
- 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**
  - Responsiveness Summary for comments received during the public comment period on the EE/CA Work Plan has been posted [here](#).
  - The Embayments and Dredge Cell EE/CA Report is available for public comment and can be viewed [here](#). The public comment period is 75 days beginning January 19<sup>th</sup> to April 5<sup>th</sup>.
  - CIP and EE/CA Work Plan public comment period ended December 20<sup>th</sup>. CIP is available [here](#).

- START contractor providing technical support to EPA OSC and CIC for public information.
- **Public Information**
  - Press release for the Embayments and Dredge Cell EE/CA Report can be found [here](#).
  - 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, draft Public Health Assessment for the TVA Kingston Coal Ash Release for public comment until March 9, 2010 can be found at <http://health.state.tn.us/coalashspill.htm>.
- 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 has been posted [here](#).

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

- SESD's EPA Performance Audits and Network Assessment of the Ambient Air Monitoring Network has been posted [here](#).
- SESD's EPA Performance Audits for field sampling and QAPP audit conducted Monday through Thursday January 11<sup>th</sup> – 14<sup>th</sup>. Audit report can be found [here](#).

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

- Embayments and Dredge Cell EE/CA Report is available for public comment and can be viewed [here](#). The public comment period is 75 days beginning January 19<sup>th</sup> to April 5<sup>th</sup>.
- 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.
- Responsiveness Summary for comments received during the public comment period on the EE/CA Work Plan have been posted [here](#).

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

- TVA's weekly report dated January 25 –31.