

US EPA ARCHIVE DOCUMENT



**U.S. Environmental Protection Agency  
Action Memorandum (AM) Fact Sheet on Selected  
Engineering Evaluation/Cost Analysis (EE/CA) Alternative  
Kingston Fossil Fuel Plant Release Site  
Harriman, Roane County, Tennessee**

May 2010

*This fact sheet is intended to keep the community informed about progress at the Tennessee Valley Authority (TVA) Kingston Fossil Fuel Plant Release Site. This fact sheet announces the selection of the Engineering Evaluation/Cost Analysis (EE/CA) alternative for non-time critical cleanup at the site.*

## **SITE BACKGROUND**

On December 22, 2008, at approximately 1:00 a.m., a failure of the northwest side of a dike used to contain fly ash occurred at the TVA Kingston Fossil Fuel Plant, located at 714 Swan Pond Road in Harriman, Roane County, Tennessee. Subsequent to the dike failure, approximately 5.4 million cubic yards of fly ash were released into the Swan Pond embayment and three adjacent sloughs, eventually spilling into the main Emory River channel. The release extended approximately 300 acres outside of the fly ash storage areas of the plant. Local emergency officials first responded to the scene and, shortly thereafter, began to assist residents affected by the flows of fly ash. At the request of local and state emergency management agencies, the U.S. Environmental Protection Agency (EPA) responded to the scene the same day the incident occurred to monitor the cleanup, conduct water quality sampling and help establish a unified command system. EPA remobilized to the site to oversee the cleanup under the Administrative Order and Agreement on Consent signed by EPA and TVA on May 11, 2009.

## **CLEANUP PLAN SELECTED**

EPA Region 4 has approved the TVA's selected cleanup plan for the next phase of coal ash removal at the TVA Kingston site. Following consultation with the Tennessee Department of Environment and Conservation, EPA and TVA signed the Action Memorandum (AM) on May 18, 2010, approving the selected cleanup plan.

Of the three alternatives considered in the EE/CA, the agencies chose this cleanup plan (Alternative 3b) above the others because of its protectiveness, ease of implementation, and cost effectiveness. All the ash will be consolidated in an on-site disposal area, and no material will be taken off-site—eliminating potential impacts associated with off-site disposal. Details about the plan are posted on the EPA's and TVA's web pages (see box to the right). The plan is also available at the information repositories listed on the back page.

**Find the complete AM and  
Responsiveness Summary:**

**[www.epakingstontva.com](http://www.epakingstontva.com)  
[www.tva.gov/kingston](http://www.tva.gov/kingston)**

## **SELECTED ALTERNATIVE DETAILS**

The plan calls for all the fly ash that was released into the Swan Pond embayment to remain on-site. The approximately 2.5 million cubic yards of ash from the embayment will be disposed of in an on-site disposal area encompassing the ash pond and former dredge cell—no material will be taken off-site. A new dike will be installed around the entire perimeter of the on-site disposal area to keep the ash from entering the embayment in the future, and the area will be graded for drainage. This dike will go 60 to 70 feet below the ground to the shale bedrock, and will consist of overlapping soil-cement columns that are able to withstand a local 6.0 magnitude earthquake. Ash will be placed into the on-site disposal area slowly so that it does not slide and, once all the ash

has been put in place, a two-foot clay cover and one foot of top soil will be put over it. Vegetation will then be planted to prevent erosion.

The height of the closed on-site disposal area will be approximately 790 feet in elevation above mean sea level, which is 30 feet lower than the former dredge cell. Basically, this means that the height of the on-site disposal area will be about 25 feet above the road surface. This cleanup plan entails closing the ash pond at the same time as the former dredge cell. Closing the areas at the same time will eliminate the need for imported fill material to close the ash pond, which is expected to result in schedule efficiencies and cost savings. Following the removal of ash to native sediments, the embayment area will be restored to conditions that protect human health and the environment. This will enhance diverse habitats for fish, semi-aquatic amphibians, and bird species.

Drinking water, river water and groundwater in the area are sampled on a routine basis, and current results indicate no exceedances of drinking water standards or surface water quality criteria. Semiannual sampling of groundwater wells indicates no contaminant plume is present under or around the site. Continued ecological, groundwater and river sampling will be conducted after the cleanup is complete to monitor water conditions surrounding the site.

This cleanup plan is expected to take about four years to complete and will cost approximately \$268.2 million, which includes an estimated \$686,000 in annual maintenance costs for the first 30 years once the cleanup is complete. Ongoing five-year reviews will be conducted to ensure the integrity of the ash containment.

This cleanup plan builds on work already done during the time-critical phase. Ash recovered during the time-critical phase will continue to be taken off-site to the landfill in Perry County, Alabama. Disposal of this material off-site is expected to continue until the end of 2010.

## RESPONSIVENESS SUMMARY

TVA received comments on its proposed plan from a total of 36 individuals and groups, including the Roane County Environmental Review Board, the Environmental Integrity Project and the Roane County Community Advisory Group. TVA's responses to all comments can be found in the responsiveness summary, an appendix of the AM, on the websites shown in the box on Page 1.

### **ACTION MEMORANDUM PUBLIC COMMENT PERIOD**

There will be a 30-day public comment period on the AM starting

**May 19, 2010 through June 18, 2010.**

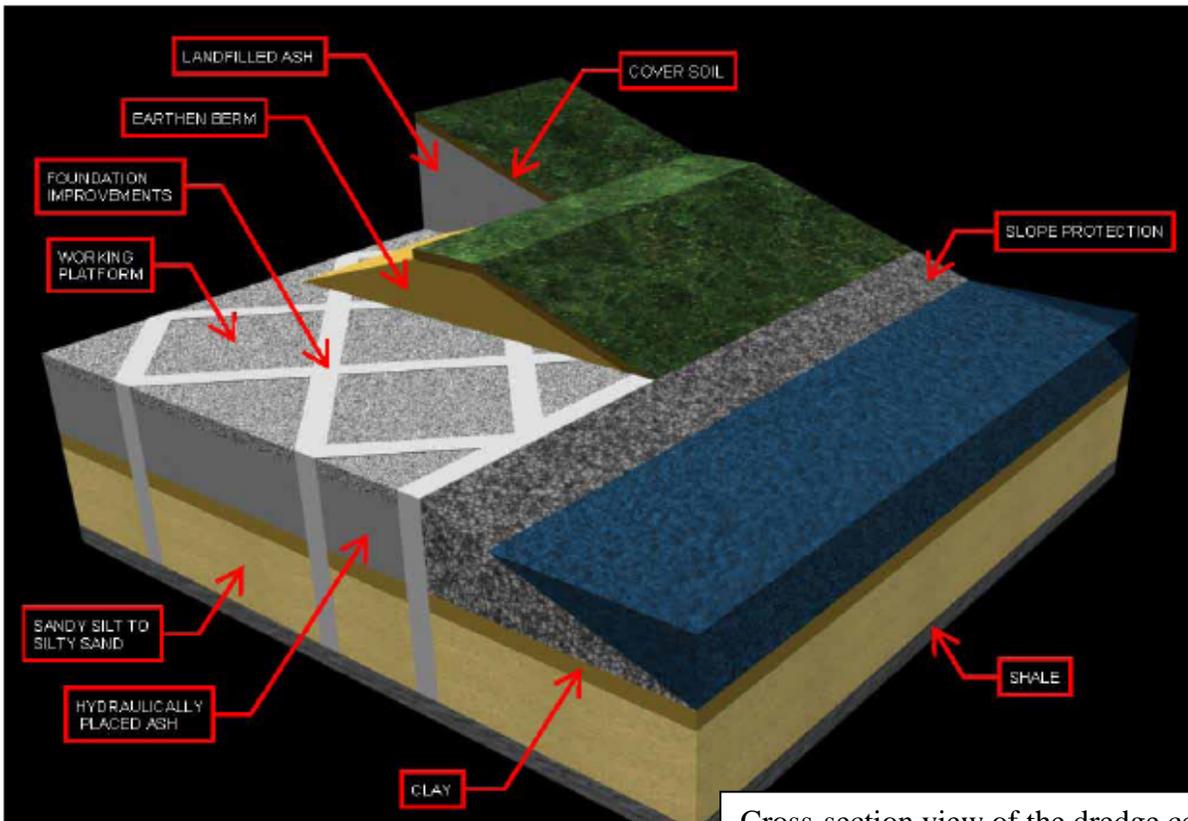
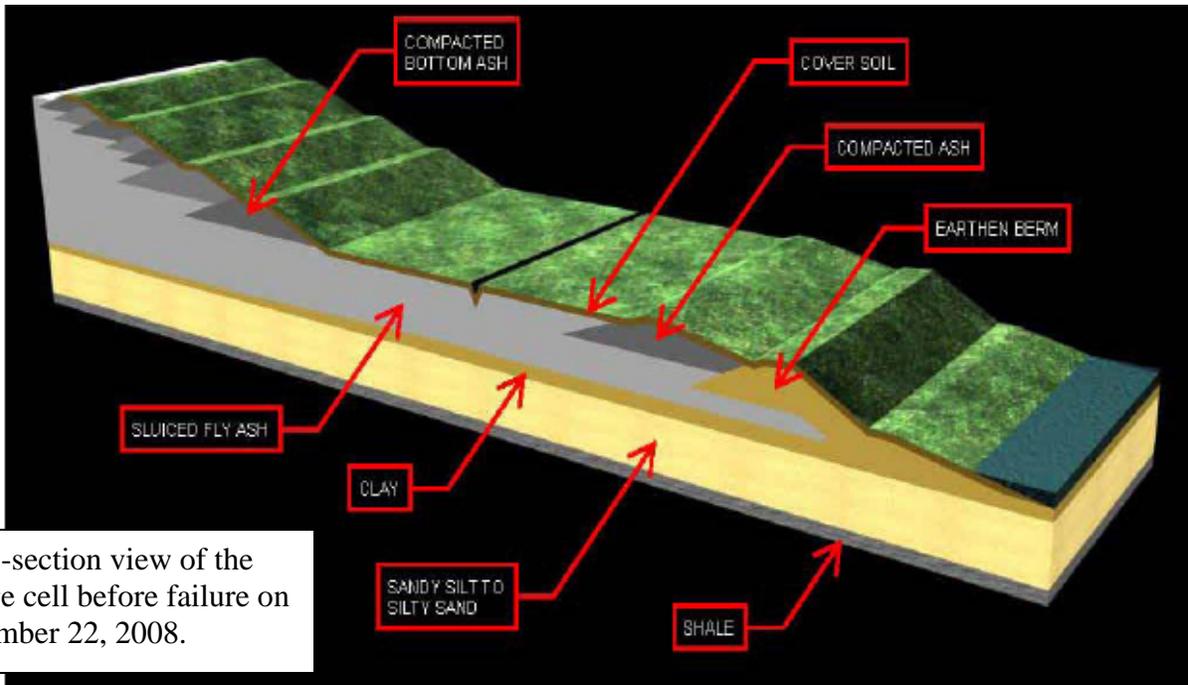
Please provide comments by email or mail to the addresses below.

**Email AM Public Comments to:**  
[kingstoncomm@tva.gov](mailto:kingstoncomm@tva.gov)

**Mail AM Public Comments to:**  
Tennessee Valley Authority  
P.O. Box 40  
Kingston, TN 37763-0400

## DREDGE CELL WALL MODELS

Cross-section model of the dredge cell before the failure and after non-time critical actions are complete.



**TVA Kingston Cleanup Website: [www.epakingstontva.com](http://www.epakingstontva.com)**

**EPA Project Team Contacts**

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**Tennessee Department of Environment and Conservation Contact**

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**Information Repositories**

TVA Outreach Center

509 N. Kentucky St.  
Kingston, TN 37763  
865-632-1700

Harriman Public Library

601 Walden St.  
Harriman, TN 37748  
865-882-3195

Kingston Public Library

1004 Bradford Way  
Kingston, TN 37763  
865-376-9905

U.S. EPA Region 4

Sam Nunn Atlanta  
Federal Center  
61 Forsyth Street, SW  
Atlanta, GA 30303



Region 4  
Attn: Stephanie Y. Brown  
U.S. EPA Region 4  
Office of Superfund  
61 Forsyth Street, SW  
Atlanta, GA 30303-8960

RETURN ADDRESS REQUESTED

FIRST CLASS

**TVA Kingston Fossil Fuel Plant Release Site:  
Action Memorandum Signed; Cleanup Plan Selected**

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