

Tennessee Valley Authority
Regulatory Submittal for Kingston Fossil Plant

Documents submitted:

Responsiveness Summary – Embayment/ Dredge Cell Action Memorandum

Date Submitted:
07/21/2010

Submitted to whom
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Concurrence

Received Not Applicable

TVA

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Received Not Applicable

Jacobs

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Approvals

TVA

Steve McCracken

Date

7/21/10

EPA

Cogran

Date

8/12/10

cc:

- Anda Ray, TVA
- Barbara Scott, TDEC
- Leo Francendese, EPA
- Craig Zeller, EPA
- Dennis Yankee, TVA
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- Steve McCracken, TVA
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- Steve Richardson, Jacobs
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- Jeff Gary, Jacobs
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**Summation of Comments Received and Response to Comments
Tennessee Valley Authority (TVA), Kingston Ash Recovery Project
Non-Time-Critical Removal Action,
Embayment / Dredge Cell Action Memorandum
Document No. EPA-AO-024
Public Comment Period May 18 – June 18, 2010**

An Action Memorandum was issued by TVA on May 18, 2010, and approved by the U.S. Environmental Protection Agency (EPA). The Action Memorandum describes the proposed non-time-critical removal action to restore the Swan Pond Embayment and close the Dredge Cell for the TVA Kingston Fossil Fuel Plant (KIF) Release Site in Roane County, Tennessee. The proposed action is to remove the remaining ash in the embayment, dispose of the recovered ash onsite in a dry-stack embankment within the former Dredge Cell and Ash Pond, then permanently close the failed Dredge Cell and Ash Pond (including the Lateral Expansion area).

A 30-day public comment period on the Embayment/Dredge Cell Action Memorandum was initiated on May 19, 2010. This Response to Comments lists the comments received from the public by email or mail, and TVA's responses to the comments.

EE/CA COMMENTS RECEIVED BY EMAIL

- 1) For the remainder of the site clean up of the ash spill at the Kingston TVA Plant. I would like to suggest that the TVA continue to utilize all local businesses exclusively when buying supplies or hauling of rock and the purchase of clay and topsoil. It is important for the TVA to support the local economy throughout the clean up process. I also would like to see the TVA purchase everything used at the site local if it is sold locally. And use all services locally if available.

Randy Ellis
randyellis@gmail.com

TVA Response: TVA appreciates receiving your comment recommending that TVA continue to use local businesses for purchase of supplies, materials, and services. TVA will take your recommendation under consideration during purchase of these goods and services in accordance with our purchasing policies.

- 2) I feel that there are several options that could have been considered that were ruled out. I still feel that one would be a liner and leachate collection system. I don't feel that the old permit for the landfill should be considered in this case and that a new permit that would require new standards to be applied should be mandated. I feel that not using the newest standards available sells the community short and leaves them in a situation that would not even be considered anywhere else in the United States. If this ash was to be moved anywhere off site they would not be able to store it in an unlined landfill. Why should our community be forced to accept anything less?

Brenda L. Timm
brentimm15@gmail.com

TVA Response: TVA appreciates receiving your comment that a liner and leachate collection system should have been considered. As described in detail in the Action Memorandum, a liner and leachate collection system were in fact considered during TVA's evaluation of the alternatives. However, because there is no identified groundwater

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contamination or groundwater plume associated with the former Dredge Cell or Ash Pond, metals do not readily leach from the ash, and hydrostratigraphic conditions impede metal migration, no liner or leachate collection system is warranted to protect human health or the environment. It should be noted, that up to 40 ft of ash will remain below grade, beneath the groundwater table, so that ash will remain in contact with the groundwater as it has for the past 50 years. It is unnecessary to install a synthetic liner beneath that ash and it would be ineffective to install a synthetic liner on top of that ash, prior to dry ash stacking. For these reasons, neither a liner nor a leachate collection system are included in the conceptual closure design.

EE/CA COMMENTS FROM THE ROANE COUNTY COMMUNITY ADVISORY GROUP

1. Page 2 - Section 4. Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant or Contaminant: The RCCAG understands the EPA and TDEC believe metal contaminants located in the ash will not leach in the future and as a result have chosen to leave the ash on site at the Kingston Steam Plant Site. The Action Memorandum is very clear that concentration of arsenic in the ash is 166.67 times greater than the EPA's residential Regional Screening Level and 40.625 times greater than EPA's industrial Regional Screening Level. We hope you are right. We look forward to 30 years of continued miraculous events.

TVA Response: As stated in the Action Memorandum, TVA will be conducting additional investigation to confirm geochemical conditions and leaching characteristics for modeling fate and transport of metals and radionuclides to the river. Future sampling and analysis plans for characterization of the river system include additional leaching tests, hydraulic conductivity tests, geochemical and geotechnical tests, additional wells, and sampling of groundwater at the shoreline, sediment porewater and epibenthic water immediately above the bottom of the river. This investigation will be used in quantitative fate and transport modeling to evaluate the flux of constituents to the river and to assess risks to human and ecological receptors.

2. Page 5 - III. Threats to Public Health or Welfare or the Environment, and Statutory and Regulatory Authorities: Results of the screening-level ecological risk assessment (Jacobs 2010) indicate that based on the available evidence, the possibility of adverse risks for terrestrial and aquatic ecological receptors potentially exposed to inorganic constituents in ash as soil or as sediment cannot be excluded. Please ensure Phase 3 studies address this concern.

TVA Response: Agreed. The purpose of the non-time-critical removal action for the Embayment/ Dredge Cell is to remediate this threat so as to address this concern.

3. Page 5 - III. Threats to Public Health or Welfare or the Environment, and Statutory and Regulatory Authorities: Please ensure Phase 3 studies address groundwater plume and groundwater contamination continue to not exist.

TVA Response: As stated in the Action Memorandum, TVA will monitor the groundwater underneath the cell and surface water flowing from the cell quarterly for at least one year or until the results indicate stable conditions. Once stable conditions are confirmed for four quarters, the monitoring will be reduced to semi-annually for the 30-year post-closure monitoring. A permanent network of groundwater wells will be installed and monitored for metals and radionuclides. Monitoring and inspection results will be documented in a five-

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year review report to ensure the remedy remains effective and adequately protective of human health and the environment over the long-term. .

4. Page 6 – Section 1. Proposed Action Description: It has been stated numerous times that the primary hazard presented by the ash is an inhalation hazard. The RCCAG requests every reasonable action be taken to eliminate the potential for local residents to have uptakes of ash.

TVA Response: As stated in the Action Memorandum, TVA will revise the existing Site Dust Control and Air Monitoring Plan to make it applicable to non-time-critical removal activities and will conduct air monitoring accordingly for protection of local residents as well as onsite workers.

5. Page 9 – Section 1. Proposed Action Description: Please provide a paper copy of the final version of the Site Dust Control and Air Monitoring Plan for Phase 2.

TVA Response: TVA will include the revised Site Dust Control and Air Monitoring Plan in the Administrative Record. The Administrative Record for the site is available online at www.tva.com/kingston and www.epakingstontva.com. The Administrative Record is also available at the TVA Outreach Center, the Kingston Public Library, and the Harriman Public Library (computer disks). A paper copy will also be provided to the RCCAG, as requested.

6. Page 9 – Section 1. Proposed Action Description: Please provide a paper copy of the final version of the Surface Water Monitoring Plan for the Emory, Clinch, and Tennessee Rivers.

TVA Response: Please see response to Comment #5. A paper copy will also be provided to the RCCAG, as requested.

7. Page 9 – Section 2. Rationale for Selection of the Proposed Action: The RCCAG contends the Dredge Cell is a new landfill because its final state will not be as originally permitted. The Dredge Cell should be constructed and closed as a new landfill permitted under existing EPA guidelines.

TVA Response: As clarification, please note that the Dredge Cell is an existing permitted solid waste disposal facility, not a new landfill. The proposed action includes closure of both the Dredge Cell and adjacent Ash Pond in accordance with TDEC solid waste regulations.

8. Page 10 – Section 2. Rationale for Selection of the Proposed Action: The Action Memorandum states that there is no groundwater plume, but that arsenic has exceeded the MCL on occasion. See Comment 1.

TVA Response: Please see response to Comment #1. Please note that TVA will continue groundwater monitoring at the site.

9. Pages 10-11 – Section 2. Rationale for Selection of the Proposed Action: The Action Memorandum states that metals in the ash do not leach readily under site-specific conditions, and offers several lines of evidence. See Comment 1.

TVA Response: Please see response to Comment #1 from the RCCAG. Please note that TVA will be conducting additional investigation to confirm geochemical conditions and

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leaching characteristics for modeling fate and transport of metals and radionuclides to the river.

10. Pages 14 – Section 2. Rationale for Selection of the Proposed Action: The RCCAG believes the analysis should have been more responsive to the local residents and their future, not just using potential “environmental justice” issues that currently contain permitted facilities.....unless EPA is stating the permitted disposal facilities should have never been permitted.

TVA Response: As stated in the Action Memorandum, TVA has in fact considered the health and welfare of the local residents. TVA’s proposed action using onsite disposal will protect the health of local residents and persons that use the river and avoid significant offsite transportation and disposal risks. TVA’s decision does not make any assertion, expressed or implied, that existing permitted disposal facilities should never have been permitted.

11. Pages 14 – Section 2. Rationale for Selection of the Proposed Action: The RCCAG believes cost was emphasized too much in the choice of an alternative. The long-term effect to Roane County is much larger than any alternative priced and investigated in any possible clean-up scenario.

TVA Response: As stated in the Action Memorandum, TVA has based the selection of the proposed action on the following factors: (a) The proposed action is effective in meeting each of the removal action objectives (RAOs); (b) the proposed action is effective in safely containing the ash; (c) the proposed action minimizes offsite transportation and disposal impacts; (d) the proposed action results in comparable time to achieve RAOs; and (e) the proposed action is the most cost-effective. TVA’s evaluation has been in accordance with EPA guidance for conducting EE/CA evaluations under CERCLA, considering effectiveness, implementability, and cost. Cost was not emphasized more than other factors under consideration.