



Kingston Monthly Update

October 16, 2009

The Tennessee Department of Environment and Conservation (TDEC) is compiling a monthly update as an additional tool to provide the community with information related to TDEC's role in the ongoing monitoring and cleanup at the TVA Kingston site. We welcome feedback from the community regarding this report and its usefulness so we may evolve it to meet the community's needs. The newsletter will be available the middle of each month on TDEC's TVA Kingston Update Web site at www.tn.gov/environment/Kingston. Interested parties may also request an email copy by contacting Ask.TDEC@tn.gov and including "TVA Kingston Monthly Newsletter" in the subject line.

SEPTEMBER 18 DEPOSITION INVESTIGATION

New since Oct. 1 Community Meeting:

- TDEC received the Executive Summary to the Root Cause Analysis required of TVA and posted it on the TDEC Web site. The department has not yet received the supporting data and documentation from TVA and will post it upon receipt. Once the department receives the full Root Cause Analysis, it will be carefully reviewed to determine whether there were violations to be cited.
- In addition, TVA has until the end of October to submit in-stack opacity monitoring data. These data must be reviewed in relation to the entire third quarter of the year, July – September, to determine whether there are any violations to be cited.
- The department updated the Air Pollution Control Board about the situation and the current status of the investigation at the Board's meeting on Oct. 14. The Board understood the explanation and asked to be kept informed of the progress in the investigation, including the ultimate determination of whether or not there was a violation of the air pollution control regulations. The department advised the Board there had been media coverage of the incident, and explained there was citizen concern about the event. The department said both TVA and TDEC learned lessons about start-ups of boilers where multiple boilers are routed to a common stack and units are restarted after a protracted period of cooler than normal stack temperatures. These conditions can result in a build-up of sulfate-based ash on the stack liner that can later be released in an episodic manner when the stack conditions increase in temperature and flue gas velocity as additional units come on line. The department advised the Board that this new knowledge would become an additional requirement in the TVA permit as part of the start-up, shutdown, malfunction (SSM) plan required under the Utility Boiler MACT provisions. TVA told the Board that the full report would be submitted to the Department very soon.

Background:

The Department of Environment and Conservation responded immediately to the Swan Pond community on Sept. 18, 2009 when a process problem at the plant resulted in ash deposition in the surrounding area. A sample collected at a local residence indicated the material consisted mostly of fly ash. Environment and Conservation visited the plant and directed TVA to perform a root cause analysis of the event and to submit it to TDEC, along with all supporting data and documentation. As of Oct. 15, the department has received the Executive Summary from TVA, but has not yet received the supporting data and documentation. The Executive Summary is available at http://www.state.tn.us/environment/kingston/ash_deposition_event.shtml and the department will post the full report upon receipt.

TVA has suspended test burns and at the request of TDEC, voluntarily surrendered the variance in opacity standards (visible emissions from the stack) issued by the Air Pollution Control Board. It is important to note, the variance did not give permission for deposition, but rather allowed TVA to perform experiments with different types of coal in anticipation of the startup of its new scrubbers. The scrubbers will remove gaseous sulfur dioxide that can form ultra fine particulate matter that can be especially detrimental to public health.

Similar testing at other TVA facilities never resulted in this type of problem. The department updated the Air Pollution Control Board on Oct. 14 about the incident and status of the investigation, and TVA had a representative at the Board meeting to answer questions.

LONG TERM RECOVERY PHASE

In September, The Department of Environment and Conservation met several times with the U.S. Environmental Protection Agency (EPA) and TVA to discuss the next phase of the cleanup once the ash is removed from the Emory River, which is expected in Spring 2010. The Emory River ash removal is referred to as a "time critical" action under EPA's Administrative Order. The next, or "non-time critical," phase will focus on removing the remaining ash from embayments, sloughs, tributaries and ground surface and also closing the failed landfill. TDEC has communicated to TVA the department's expectation that ash removal and restoration of the waters of the state will continue without interruption during the transition from time critical to non-time critical actions.

TDEC and EPA have agreed that the failed landfill will be closed as a part of EPA's ongoing cleanup under the federal Superfund law, and the closure will meet the requirements of TDEC's Commissioner's Order and Tennessee's solid waste regulations. Once closure of the landfill has been completed, TDEC will assume regulatory oversight of the landfill during post closure care including landfill maintenance and repair, groundwater sampling, inspections for erosion, etc.

EPA will publish the Engineering Evaluation and Cost Analysis (EE/CA) work plan that describes the remedy alternatives this month for public comment. Please refer to EPA's Web site, www.epakingstontva.com, for a copy the EE/CA work plan and instructions to make a formal comment to the plan.

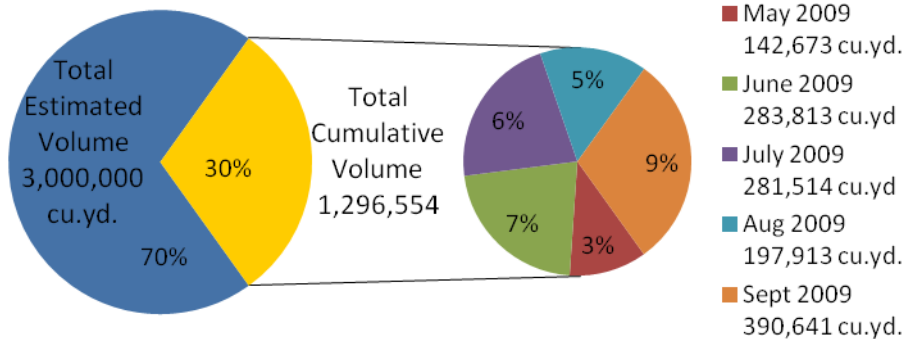
SITE STATISTICS UPDATE

More than one million cubic yards of the estimated three million cubic yards of the ash released into the Emory River and Swan Pond Embayment has been recovered and removed from the water. River dredging operations and excavating from dry areas continues on-site. In September, removal operations consistently met or exceeded the daily goal of 15,000 cubic yards per day. Approximately, 600,000 cubic yards has been shipped off-site by rail for disposal in an approved landfill in Alabama.

Time Critical Ash Removal

Goal	= 3 million cubic yards by Spring 2010 at 15,000 cubic yards/day removal rate
9/30/09 (YTD)	= 1,296,554 cubic yards (872,859 from river and 423,695 from embayment)
9/1-30/09	= 390,641 cubic yards removed in 26 workdays = 15,025 cubic yards daily average

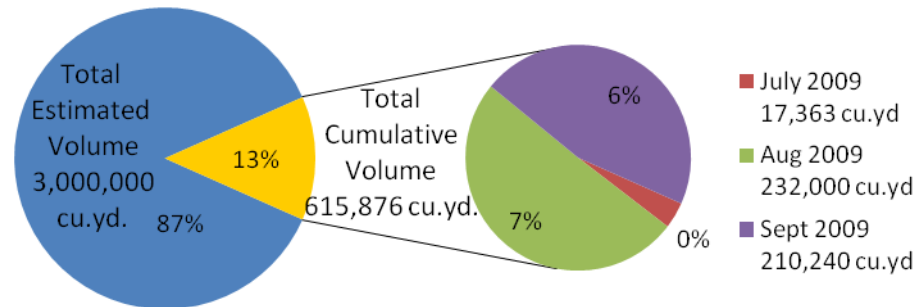
Ash Removal East of Dike 2



Time Critical Ash Disposal

Goal = 3 million cubic yards disposed off-site by Fall 2010 at 10,000 cubic yards/day shipping rate
9/30/09 (YTD) = Shipped 615,876 cubic yards
9/1-30/09 = Shipped 210,240 cubic yards in 26 work days = 8,086 cubic yards daily average (below goal due to wet weather)

Monthly Ash Disposal



Recovered Ash Disposal

TVA continues to ship the ash recovered from the spill and plant process ash to an off-site disposal site in Perry County, Alabama. Currently, there are no plans to ship this material to any landfills in Tennessee. While TDEC has granted permission for TVA to conduct disposal tests at several landfills in the area that meet the construction and control criteria for this type of waste, no tests are being considered at this time.

ONGOING ENVIRONMENTAL MONITORING

TDEC is conducting and overseeing extensive environmental monitoring in the area surrounding the TVA Kingston facility. Regular testing of the Rockwood and Harriman drinking water facilities has not indicated any exceedances of drinking water standards to date. Sampling of more than 100 private wells has not indicated any exceedances of water quality criteria for metals. Regular testing of river water in the Emory and Clinch Rivers has indicated some exceedances to Tennessee's Water Quality Criteria. In general, metals levels in the river were highest immediately following the spill and whenever ash has been re-suspended in the water column. Fish tissue testing has not, to date, necessitated a change in the current fish consumption advisory for the area, which predates the ash spill. The department also operates air monitoring equipment and provides quality assurance and oversight for TVA's air monitoring equipment. To date, particulate levels have not exceeded National Ambient Air Quality Standards.

The department posts sampling results and analysis on the TVA Kingston Update Web page and provides overviews in handouts at public meetings. Should sample results indicate a need to notify the public more aggressively for the protection of public health, additional resources would be utilized including media announcements, door-to-door contact, working with local emergency management officials, etc.

A more detailed overview of recent sample results can be found on the handout from the Oct. 1, 2009 public meeting at http://www.state.tn.us/environment/kingston/pdf/comm_guid/factsheet100109.pdf.

EMORY RIVER METALS STUDY

The department has now received the Final Draft of a study by Environmental chemistry experts from the U.S. Army Engineer Research and Development Center (ERDC), located in Vicksburg, Mississippi. The study was conducted to determine whether continued cleanup of the ash by dredging the Emory River would promote the release of metals within the ash and pose additional risks to the environment. In addition to extensive work to determine the presence and types of metals in the coal fly ash and waters, ERDC researchers constructed experiments designed to test the very extremes of environmental and operational conditions, including dredging, that would cause the ash to destabilize and release its contaminants. It was under these extreme conditions that biological tests were performed to measure the potential effects on native fish and mussels.

ERDC's results indicate the ash material possesses high stability and is largely resistant to high releases of toxic metals under extreme environmental conditions. Of the metals released from the ash during this study, none exceeded EPA regulatory values, with the exception of selenium. Extensive characterizations revealed that this behavior was attributed to the metals being present in relatively stable, less toxic forms, in the river. Metals released from the ash were found mainly in their less toxic forms. The only major exception to this was from the stilling pond, not the river, where the more toxic form of selenium (selenate) was measured in one water sample. The study provides the basis for continued dredging of the Emory River for removal of the spilled fly ash.

Additional information and a link to the Final Draft Report and supporting appendices can be found on TDEC's Web site at http://www.state.tn.us/environment/kingston/emory_metals.shtml.

SITE EMERGENCY PLAN

TVA assembled a team of personnel from Kingston plant operations and recovery operations to develop an Emergency Action Plan (EAP) that encompasses all the activities at the site. The first component of the plan that the team addressed was the Medical Emergency Procedures. Emergency access to all areas of the site is defined in this plan, as well as communication procedures to notify 911, the site safety officer and site security. The team reviewed

the draft Medical Emergency Procedures with local Emergency Management Services and published the revisions in the Recovery Site Health and Safety Plan and the Kingston plant operating procedures. The next component the team will address is integrating the dike inspection process and any other potential failure conditions with notification of local Emergency Management Services. The final step will be scheduling and performing site exercises to identify any weaknesses in the EAP or employee training program.

GYPSUM POND PERMIT ISSUANCE

Unrelated to the ash spill, TDEC's Division of Water Pollution Control issued a discharge permit in late September for the TVA Kingston Plant's new gypsum holding pond. The permit sets effluent limits for wastewater created by TVA's new air pollution control equipment, and was the subject of a public hearing held in Kingston on June 8, 2009.

When the new air pollution controls, known as Flue Gas Desulfurization or FGD, go online, they will generate gypsum, a byproduct of using limestone slurry to remove sulfur pollutants. Construction of the air pollution controls is nearing completion and the first unit is expected to go online in November. In addition to water quality protections, the discharge permit includes specific requirements regarding dike stability, inspections and inspector qualifications.

The permit is posted on TDEC's TVA Kingston Update Web site at http://www.state.tn.us/environment/kingston/community_guidance.shtml.

COMMUNITY ACTIVITIES

TDEC continues to attend and participate in the Long Term Recovery Committee and the Community Action Group meetings along with EPA and TVA. A schedule of community outreach events for the Kingston Ash Recovery Site in which TDEC participate is as follows:

October 15 – Community Advisory Group – 6:30 at Roane County Courthouse

October 21 – Long Term Recovery Committee Meeting – 4:30 at the Roane County Courthouse

November 5 – Community Advisory Group – 6:30 location TBD

CONTACT INFORMATION

If you have any questions or need additional information, please feel free to call TDEC's On-scene Coordinator at the Kingston Recovery Site, Barbara Scott. You can reach her at 865-230-1211, or by email Barbara.scott@tn.gov.

TDEC has additional information and monitoring data on the department's TVA Kingston Update Web page at www.tn.gov/environment/kingston.