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TDEC has collected and analyzed coal ash samples from the release to determine the chemical characteristics. The analytical data produced is being used to determine its potential impact of the coal ash on local public health and the environment, and also to determine options for permanent disposal of the coal ash generated by its removal during clean-up. TDEC had coal ash samples analyzed for Total Metals, Toxicity Leaching Procedure (TCLP) Metals, radioactive materials, polynuclear aromatic hydrocarbons and organic solvents. TCLP is the laboratory procedure recognized by EPA to determine if a waste is a characteristic hazardous waste. The analytical results may be found at:
http://www.state.tn.us/environment/kingston/ash_history.shtml

The TDEC Ash and Soil Sampling Plan for the TVA Kingston Coal Ash Release may be viewed at:
http://www.state.tn.us/environment/kingston/pdf/monitor_plans/soil_ash_sampling_plan.pdf.

Neither polynuclear aromatic hydrocarbons nor volatile organic solvents were found in the coal ash. The levels of the radioactive material found do not pose an environmental or public health threat and were similar in amount to the levels typically found in coal ash across the country. A discussion of the radiation issue is presented by the Tennessee Division of Radiological Health at:
http://www.state.tn.us/environment/kingston/results_rad.shtml.

TCLP analysis of the coal ash samples did not find any metals approaching the levels that would classify the coal ash as a hazardous waste; acknowledging that coal ash is deferred from regulation as a hazardous waste by EPA per the Bevill Amendment. Coal ash samples were analyzed for all 8 TCLP metals and none of the results approached TCLP levels.

Analysis of the coal ash samples for Total Metals revealed that arsenic was present in concentrations great enough to present a threat to the local citizens only in a residential setting. Arsenic levels varied from 20 to 100 parts per million in the coal ash. Following clean-up criteria established by EPA and TDEC, corrective action may be required if the concentration of arsenic in surface soil exceeds 20 parts per million. The arsenic action level was developed assuming the rate ingestion of soil and dermal contact with soil for humans over a 30-year period in a residential setting. Limiting access to the coal ash on the ground surface (fencing, ground cover, etc.) eliminates this exposure hazard for the short-term. Physically removing the coal ash from the ground surface during clean-up eliminates the long-term hazard.

TVA submitted the Corrective Action Plan for the TVA Kingston Plant as required by the Commissioner's Order on March 2, 2009. The plan describes the processes TVA will follow to completely investigate the coal ash release and determine its extent; determine the effect of the coal ash on the local environment; to remove coal ash from the Emory River, the Emory River

Embayment, local tributaries to the Emory River and from the ground surface; permanently close the existing Class II Industrial Landfill; and determine the Root Cause of Failure of the Class II Industrial Landfill; etc. The Corrective Action Plan can be viewed at: http://www.state.tn.us/environment/kingston/pdf/tva/KingstonCorrectiveActionPlan030209.pdf.

TDEC and EPA have approved TVA's plan to treat and temporarily store coal ash dredged from the Emory River. TVA has constructed a Coal Ash Processing facility adjacent to and south of the Class II Industrial Landfill to dewater the coal ash. Once the coal ash has been dewatered, initially TVA will dispose of the coal ash off-site at a Class I Municipal Landfill as a Special Waste. This is a short-term solution. TVA is working with TDEC and EPA to locate a property(ies) that can be developed under TDEC solid waste regulations for disposal of the coal ash for the long-term which may include the disposal of coal ash from current and future operation of the TVA Kingston Fossil Plant. The full Ash Management Plan is available at: http://www.state.tn.us/environment/kingston/pdf/tva/ProposedAshPlanTempStorage022509.pdf.

TDEC and EPA are working with TVA as it completes its analysis of the Root Cause of Failure for the TVA Kingston Coal Ash Landfill. The final report is due in June 2009. Along with TDEC, EPA and TVA, there are three professional geotechnical firms, representatives from the Army Corps of Engineers, the University of Tennessee and Vanderbilt University participating in this effort. A thorough review of the original landfill engineering design, additional soil borings, excavation of the remaining landfill cell from top to bottom, operational history, et al are included in this analysis.

Concurrent to the Root Cause of Failure Analysis effort, TDEC is utilizing the Root Cause of Failure Team to assess the structural stability and integrity of the surface impoundments and landfills at other Tennessee TVA fossil plants. This includes a physical survey of these facilities, and a review of the operational history and coal ash management practices, etc. The results of these analyses will be used to determine any actions needed at the other Tennessee TVA fossil plants to prevent any future coal ash releases.

The coal ash generated by the TVA Kingston plant is regulated as a solid waste under Tennessee statute as is all coal ash in Tennessee. There are four options for coal ash disposal in our state; disposal at a Class I (Municipal Landfill) as a special waste, disposal at a Class II Industrial Landfill approved to accept coal ash, disposal at a Permit-by-Rule Coal Ash Structural Fill or beneficial reuse such as an additive to concrete or cement. The coal ash from the TVA Kingston Plant was disposed of in an on-site Class II Industrial Landfill permitted by TDEC. TDEC is reviewing the regulatory requirements for disposal of coal ash in Tennessee. As a part of TDEC's process, we are discussing the issue with EPA, other states, the Environmental Council of States and the Association of State and Territorial Solid Waste Management Officials.