

US EPA ARCHIVE DOCUMENT

SITE: TVA Kingston
BREAK: 2.2
OTHER: _____

Tennessee Dept. of Environment and Conservation/EPA
Air Monitoring Results at Kingston TVA Fossil Ash Spill Site
Status Report 02/02/2009

Previous air monitoring in Roane County was performed by the Tennessee Department of Environment and Conservation Division of Air Pollution Control (APC) in the Rockwood and Harriman areas from the early 1990's through 2005. Industrial air monitors also currently operate in Rockwood.

The department operates an existing PM2.5 monitoring site at the Harriman High School about two and a half miles North-Northwest of the Kingston ash spill area. This site includes a continuous PM2.5 TEOM and a PM2.5 FRM sampler both currently demonstrating attainment with the PM2.5 National Ambient Air Quality Standard. (PM 2.5 is particle matter 2.5 microns and smaller in size.)

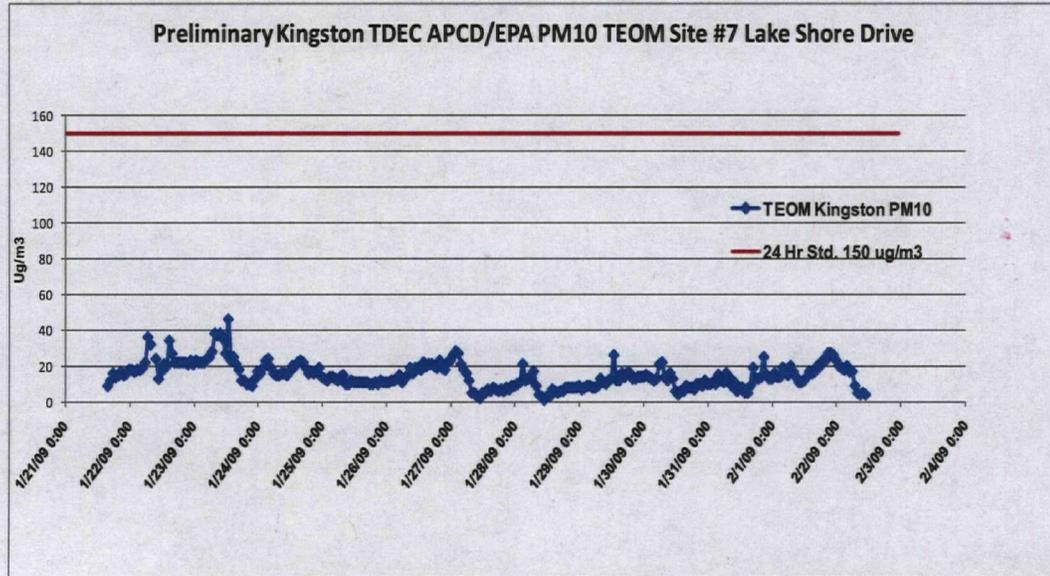
The Department of Environment and Conservation has received support and assistance from the U.S. Environmental Protection Agency - Region 4 in establishing an air monitoring station operated by TDEC North-Northeast of the ash spill site.

- The monitoring site is located in the vicinity of Lake Shore Drive.
- TDEC APC/EPA monitors currently operational include:
 - PM10 TEOM (continuous particulate monitor)
 - HiVol (high volume TSP sampler) for metals analysis.
- Monitors were transported to the site and installed on site 01/16/2009.
- Power was made available to the equipment on 01/16/2009.
- The HiVol sampler collected a sample for metals analysis on 01/20/2009 with the state lab to provide analysis support.
- The metals and other elements to be analyzed for from the HiVol filters will include:
 - Aluminum
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Chromium
 - Lead
 - Manganese
 - Mercury
 - Selenium
 - Thallium
 - Vanadium
- The TEOM began reporting data 01/21/2009 after operational testing and shakedown in the field.



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- Preliminary results for the TEOM indicate PM10 (particulate matter 10 microns and smaller in size) are below the PM10 standard of 150 ug/m3. The following graphic contain the most recent air monitoring results from the Lakeshore Drive monitoring site (Site #7).



- The department is continually evaluating the monitoring results to determine whether additional monitoring locations, types of monitors and/or monitoring frequency should be utilized.



TDEC Evaluation of Fugitive Dust Mitigation Activities at Kingston TVA Fossil Ash Spill Site

The department's Division of Air Pollution Control has implemented procedures to help ensure that the generation of fugitive dust from the spilled ash as it dries and becomes windborne does not impact air quality. Additional measures are also being evaluated and implemented to minimize the generation of fugitive dust from clean-up and remediation activities currently underway on site. The following activities are currently underway:

- The Department of Environment and Conservation has required TVA to take immediate and decisive actions to mitigate any fugitive dust that arises from the onsite remediation and containment of the spilled fly ash during the time necessary to complete the spill cleanup activities.
- Staff from Environment and Conservation's Knoxville Field Office are visiting the site to perform inspections to confirm that excessive fugitive dust emissions are not crossing property lines in the vicinity of the ash spill area and on the roads used for transport and removal of spilled ash material.
- TVA has implemented a number of dust control measures including:
 - Helicopter dispersal of straw to cover exposed ash.
 - Application of grass seed and fertilizer to exposed ash to induce a winter and spring ground cover to help prevent winds from directly blowing on to exposed ash surfaces.
 - Application of spray applied approved synthetic and organic based sealants to help cover exposed ash surfaces on the remaining ash pile that was not involved in the spill.
 - Restrictions on the speed of trucks and haul vehicles on site to minimize road dust.
 - Utilizing road sweepers and vacuum trucks to help clean roadways.
 - Watering roads on site to insure that any dust that may be present is kept moist or washed from the roadway surfaces to minimize re-entrainment of the dust.
 - Training of all TVA site personnel and TVA contractor staff to be aware of the concern for fugitive dust generation and implementation of a notification mechanism to allow for immediate actions to be taken if dust or fugitive emissions are observed by site staff.

- Installation of wheel washing and cleaning stations at several locations on the TVA plant site to help prevent track-out of ash containing materials onto roadways.
- Reconstruction of destroyed or damaged roadway beds using clean rock and gravel instead of bottom ash or fly ash materials to help reduce emissions from those materials in the finished roadbeds.