DAN RIVER COAL ASH SPILL

VA Roanoke River Basin Advisory Committee

April 21, 2014

John Kennedy, Office of Ecology & Infrastructure
Feb. 2, 2014: coal ash and contaminated water spilled into Dan River from Duke Energy site near Eden, NC.

Estimated 39,000 tons of coal ash entered river.

Site Map:

Secondary Ash Basin

Primary Ash Basin

Stormwater management area

Legend:
- Approximate location of pipe breach
- Stormwater Outfall
- Discharge Line
- Excavation Area
- Ash Basin

Map Source: ESI Aerial Imagery, 2012-2013

FIGURE 2
Site Layout
TDD Name: Eden North Carolina Coal Ash Spill
TDD No.: TTEM-05-001-0211
City: Eden
County: Rockingham
State: North Carolina
Date: 3/10/2014
File: C:\TETRA\65-001-0211\Black_North_Carolina_Coal_Ash_Spill\Site_Layout\Site_layout_020314.pdf
What is Coal Ash:

- Residue generated from burning coal; generally stored at power plants or placed in landfills.

- Ash has large variety of constituents – mostly silicon oxide, iron oxide, and aluminum oxide, with trace amounts of arsenic, selenium, mercury, boron, thallium, cadmium, chlorides, bromine, magnesium, chromium, copper, nickel, and other metals.
Emergency Response Actions:

- Immediately began river water monitoring at drinking water intakes.
- All drinking water has met standards; monitoring continues.

- Saturday, 2/8 – Duke plugged damaged 48” storm water pipe.

- Friday, 2/21 - second, 36” pipe discharging arsenic-contaminated groundwater was plugged.

- Water quality, sediment and fish monitoring ongoing by DEQ, North Carolina, and EPA contractor.
Emergency Response Actions (cont):

- Crews recovered coal ash deposit just below discharge.
- Ash recovery at two additional sites planned:
  - west of Schoolfield Dam
  - near Towns Creek, downstream of Eden, NC
- VA Health Dept. posted signs along Dan River advising limited contact with coal ash; adverse health effects not likely.
Fish Consumption Advisory:

- VA Health Dept. fish consumption advisory exists for Dan River, due to PCBs and mercury from historical activities.
Environmental Assessments:

- 2/11 – VADEQ collected water and sediment samples at 4 sites from state line to halfway between Danville and South Boston.
- Samples analyzed for metals:
  - Water sample concentrations did not exceed VA Water Quality Standards.
  - No sediment levels above freshwater screening values.
- Preliminary review of all other Virginia water quality data collected by EPA contractor shows no exceedances of VA Water Quality Standards.
Environmental Assessments (cont.):

- 2/20 – fish collected upstream of Schoolfield Dam.
- 25 fish tissue samples analyzed for 23 metals:
  - Arsenic level not elevated; per VA Health Dept., no reason found to change current advisory.
  - Mercury concentration below VA Health Dept. level of concern.
  - Levels of other 21 metals either:
    - Below detection limit, or
    - Screening value not available
- Too soon for fish to take up recently spilled coal ash metals.
Looking Ahead:

- Summarize all existing DEQ water quality data for area.
- Await NC DENR fish tissue results.
- Technical Workgroup has drafted coal ash survey plan; under review.
- Duke Energy secured permits to allow ash removal from the river.
- Long-Term Environmental Impact Assessment:
  - Develop cooperative state/federal monitoring plan; assess any long-term impacts to fish and metals bioaccumulation.
  - Will require several years monitoring to detect changes and trends.
  - Also assess any impacts to habitat, especially river bottom where sediment can affect living resources.
  - Consider need to monitor in lakes/reservoirs.
Holding Duke Energy Fully Accountable:

- Enforcement action and civil damage claims being evaluated.
- DEQ working with Duke Energy on cost reimbursements for emergency response:
  - Include interested VA agencies and localities
  - DEQ “clearing house” for documentation with direct payment to localities
  - Localities and agencies retain option to take independent action
  - Separate from any enforcement or damage claims
Assessment of Virginia’s Impoundments:

- Coal ash managed/regulated in VA as both a waste and a resource. Material can be beneficially reused or recycled, disposed as dry waste in nonhazardous industrial landfills, or impounded as wet waste.
- In 2013, EPA reviewed structural integrity of Virginia’s coal ash impoundments; none received an unsatisfactory rating.
- EPA noted deficiencies needing attention; all have been corrected except 2:
  - Corrections scheduled to be completed next month at one.
  - Other will be closed by the end of the year.
Questions?