

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Eden NC Coal Ash Spill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region IV

**Subject:** POLREP #7  
Coal Ash Assessments continue on the Dan River  
Eden NC Coal Ash Spill  
B41W  
Eden, NC  
Latitude: 36.4878601 Longitude: -79.7189733

**To:**

**From:** Perry Gaughan, Region 4 OSC, Myles Bartos, Region 3 OSC, Kevin Eichinger OSC Reg 4

**Date:** 4/16/2014

**Reporting Period:** April 7th thru April 13th, 2014

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	B41W	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Emergency
<b>Response Lead:</b>	PRP	<b>Incident Category:</b>	Removal Assessment
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	2/3/2014	<b>Start Date:</b>	2/3/2014
<b>Demob Date:</b>		<b>Completion Date:</b>	
<b>CERCLIS ID:</b>		<b>RCRIS ID:</b>	
<b>ERNS No.:</b>	1073018, 1073040	<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

**NOTE:** Fifteen (15) Situation Reports (SITREPS) were generated for the reporting period beginning February 3, 2014 through February 21, 2014. The SITREPS can be found at [http://epaosoc.org/site/doc\\_list.aspx?site\\_id=9065](http://epaosoc.org/site/doc_list.aspx?site_id=9065). Future response updates will be transmitted via Pollution Reports (POLREPS) using the established POLREP distribution process.

#### 1.1.1 Incident Category

Emergency Response, Inactive Facility

#### 1.1.2 Site Description

The Dan River Steam Station is a decommissioned coal-fired electric generation plant operated by Duke-Energy. The plant is located in Eden, NC adjacent to the Dan River. Duke-Energy began decommissioning the plant in 2012 when a new natural gas-fired electric generation facility was brought on-line. The main powerhouse building and two wet coal ash storage impoundments remain along with ancillary structures. Two dry coal ash storage landfills also remain on-site. The two ash impoundments (primary and secondary) contain a total of approximately 1.2 million tons of coal ash.

##### 1.1.2.1 Background and Description of Threat

While conducting a routine security inspection at approximately 1500 hrs on February 2, 2014, security officials at the Duke Energy Plant located in Eden, North Carolina noticed a drop in the levels of the primary coal ash pond. Duke Energy's Environmental Division conducted a subsequent inspection and identified a coal ash release into the Dan River through a storm sewer management pipe. The pipe runs beneath the coal ash pond and drains rainfall off the facility. The pipe is not part of the ash management system. Initial efforts by Duke Energy to stop the flow were unsuccessful, and the North Carolina Department of Environment and Natural Resources (NCDENR) was notified of the release later in the day on February 2, 2014. Upon responding to the scene, NCDENR notified the United States Environmental Protection Agency (EPA) Region 4 and requested EPA assistance in the oversight of cleanup activities. Following coordination with the EPA Region 4 Telephone Duty Officer, two On-Scene Coordinators (OSC)s were deployed to the scene from Atlanta, Georgia. Due to proximity and the potential for cross-regional impacts, an OSC was deployed from EPA Region 3 to provide additional assessment and oversight support. Region 4 OSC's Eichinger and Negron arrived just after midnight on 02/04/2014. EPA is currently in Unified Command with Duke Energy and NCDENR and Virginia Department of Environmental Quality (VDEQ). EPA Region 4 Science and Ecological Support Division (SESD) personnel are also assisting with the response.

Duke Energy reported that 50,000 – 82,000 tons (60,000 – 100,000 Cubic Yards) of coal ash and 27 million

gallons of coal ash contaminated water was released to the Dan River. This estimate was later updated to 30,000 - 39,000 tons of coal ash after a third party Engineering Firm completed an engineering study and analysis.

There are two ash ponds (primary and secondary) that contain a total of approximately 1.2 million tons of coal ash. The source of the release was a damaged 48" storm sewer line extending under the primary ash pond. The dike wall on the river side of the primary ash pond was undamaged and completely intact. The dike wall on the plant side of the ash pond was eroded and compromised, but did not release material.

On February 6, 2014, a 27' concrete plug was installed in outfall of the 48" storm sewer line that completely ceased the coal ash and coal ash water release to the Dan River.

On February 14, EPA and NCDENR identified a second storm sewer line extending under the primary ash basin as a potential source of an additional release from the ash basin. On February 18, 2014, Duke Energy was ordered to immediately halt unauthorized discharges of groundwater from this second 36-inch concrete storm water pipe after sample results indicated that this line was releasing water that contained elevated levels of arsenic. This line was sealed with a 40-foot section of concrete on February 21, 2014.

A third storm water outfall to the Dan River, up-river from the release locations was sampled and the preliminary results have been received. NC DENR is reviewing the current NPDES Permit and evaluating this discharge.

EPA has been collecting water quality and sediment samples at the spill source and multiple locations upstream and downstream from the spill site. Sampling locations include both raw water intakes and finished potable water at the Danville, South Boston and Clarksville Drinking Water Treatment Plants. To date, none of the finished water samples have shown any detections above Federal Maximum Contaminant Levels. Sample results and sample location maps can be found at <http://epa.gov/region04/duke-energy/>.

NCDNER and VADEQ has also been conducting water quality samples at the spill source and multiple locations upstream and downstream from the spill site. Both organizations are also collection fish tissue samples.

- NCDENR Dan River Site Information can be found at <http://portal.ncdenr.org/web/guest/dan-river-spill>
- VADEQ Dan River Site Information can be found at <http://deq.virginia.gov/ConnectWithDEQ/EnvironmentalInformation/NorthCarolinaCoalAshSpill.aspx>

#### 1.1.2.1 Removal Site Inspection

Duke Energy reported that 50,000 – 82,000 tons (60,000 – 100,000 Cubic Yards) of coal ash and 27 million gallons of coal ash contaminated water was released to the Dan River. This estimate was later updated to 30,000 - 39,000 tons of coal ash. Coal ash deposits in the river vary from up to 6 feet at the storm drain outfall to a few inches down-river. The majority of the coal ash appears to have deposited between the release location and the City of Danville Dam, approximately 20 river miles for the release site. Initial water quality monitoring and sampling indicated elevated metals concentrations that exceeded State water quality standards and EPA Removal Screening Levels.

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

The following activities occurred during this reporting period:

**Coal Ash Assessments along the Dan River:** Heavy rains on Sunday/Monday April 6/7th elevated river levels to 12 feet in Danville and increased river flows to 20,000 cubic feet per second limiting river sampling throughout the week (average flows are 3000-5000 cuft/sec). Sediment sampling was limited to Kerr Lake and samples were collected at seven locations by EPA Start and USCG Gulf Strike Team. Ten Dan River transect locations are planned for the week of April 14th depending on weather conditions and river levels. A total of 30 transects have been designated for assessment every two weeks along the 70 mile stretch of the Dan River.

**Coal Ash Removal Planning:** Duke's clean up contractor, Phillips and Jordan (P&J) continued to make minor changes to the proposed ash removal work plan. The plan calls for the removal of ash from three locations on the Dan River; approximately 3000 cubic yards from an area upstream of the Schoolfield Dam in Danville, Va, approx 50 cubic yards from the confluence of Town Creek two miles from the initial release point, and ash from the water treatment plant intakes in Danville and South Boston, Va.

Plans to set up the dewatering and sediment treatment system continues at Abreu Grogan Park in Danville, Va. The treatment plant will process 1000 to 1500 gallons of water from vacuum dredging operations per minute. This treatment system will take approximately three weeks to set up and Duke currently plans to begin dredging the Schoolfield Dam area during the 4th week in April.

On Thursday and Friday, April 10th/11th, P&J continued removing ash and sediment from South Boston's wet well. 25,000 gallons of well wash water were collected and treated with ash and sediment from the Danville Water Treatment plant intake. P&J's dewatering and solidification process has generated 150 cubic yards of ash and sediment waste to date.

**Public Availability Session, Danville, Virginia:** EPA Region 3 and Region 4 continued planning for the public availability session in Danville on Monday, April 14th to discuss the dredging operations with Danville residents. All federal, state and local agencies involved in the assessment and clean up operations have

been invited to participate.

**General Notice Letter and Administrative Order Issued:** USEPA Reg 3 and Reg 4 issued a General Notice Letter and Administrative Order to Duke Energy on Tuesday, April 8th.

**Weekly Stakeholders/Technical Working Group Meeting:** On Wednesday April 9th, the weekly meeting of all federal, state and local stakeholders was held. The purpose of this meeting is to discuss short term goals and operations, water sampling and sediment data to date and long term ecological assessments and goals. The short term Ash Assessment Plan of the Dan River was briefly reviewed again. OSC Bartos hopes to reduce the 30 transect locations to a more manageable number once all of the data from the current transects are reviewed. NC DNR representatives stated they will submit their long term objectives to the group soon. River safety during ash assessment activities with emphasis on float plans and communication plans were again discussed by Duke, EPA and USCG Strike Team representatives.

**Surface Water Sampling:** Surface water split sampling continued on Thursday, April 10th with Duke-Energy and START. START continues to validate, manage and post EPA sample data as it is received from the laboratory.

**Pipe Retrieval from Dan River:** On Sunday, April 13th, a four foot section of 48" pipe thought to be the storm water pipe elbow was removed from the river approximately 250 yards below the spill site. Duke's Root Cause Team will analyze the pipe to determine if it is the original missing elbow section.

**Removal of Primary and Secondary Ash Ponds from Duke Facility in Eden:** Duke submitted plans to remove all coal ash from the primary and secondary ash basins to the Governor of North Carolina and NC Dept of Natural Resources on March 15, 2014. State officials continue to review the plan.

### 2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Duke Energy is the Potentially Responsible Party

### 2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>
Coal Ash	Solid/Liquid	~22 cu yds	N/A	N/A	Returned to the Coal Ash Basin
Ash and sediment	Solid	150 cu yds	NA	solidification	TBD

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

Continue to develop, refine and implement river ash removal plans.

Review surface and drinking water sample data provided by NCDENR, VADEQ and Duke-Energy.

Continue to engage and include all response partners.

Continue to review, validate and post EPA sample data to the Site Website.

Continue to develop and release site fact sheets.

Keep the community informed through fact sheets and State/Local contacts.

#### 2.2.1.1 Planned Response Activities

Implement coal ash removal plans at the Schoolfield Dam and the WTPs

Attend Danville's "Coal Ash Advisory Group" meeting to provide an update on response actions.

## 2.3 Logistics Section

Secure access to the Town of Danville Park near the Schoolfield Dam.

Secure temporary office space in the City of Danville.

## 2.4 Finance Section

No information available at this time.

## 2.5 Other Command Staff

### 2.5.1 Safety Officer

Duke-Energy, with EPA oversight, is providing safety officers and assistant safety officers.

### **2.5.2 Liaison Officer**

The EPA Region 4 Office of External Affairs continues to be actively engaged in fulfilling information requests in coordination with external affairs programs in EPA Region 3 and EPA Headquarters.

### **2.5.3 Information Officer**

#### **Public Information and Community Involvement**

The EPA Region 3 and 4 Community Involvement Coordinators (CIC) are engaged with Duke Energy developing site-specific information updates to inform the community of on-going activities. Community briefing were held in Danville, VA, Eden, NC and the South Boston, VA. While public outcry over the spill is understandably high, the sessions were generally well-received, and EPA collected questions from the public to generate an FAQ sheet. EPA Region 4 continues to share validated sampling results with our response partners. Validated data is prepared for public release in coordination with the Region 4 Regional Emergency Operations Center, Region 4 Office of External Affairs, and EPA Headquarters on the incident-specific website. Duke and NCDENR analytical results are posted on their websites.

Virginia Department of Environmental Quality (VDEQ) hosted a public meeting with Virginia Department of Health (VDH) and VDGIF in Danville to discuss VA involvement in the response and to answer questions from the public. on Tuesday, March 18th. EPA was in attendance.

The Governor of Virginia tour the Danville WTP and spoke with officials from the Town of Danville on Tuesday, March 18th. The Director of VDEQ also toured the release site and met with the On-Scene Coordinators (OSC).

## **3. Participating Entities**

### **3.1 Unified Command**

EPA Region 3 and 4

North Carolina Department of Environment and Natural Resources

Virginia Department of Environmental Quality

Duke Energy

### **3.2 Cooperating Agencies**

US Fish and Wildlife  
US Army Corp of Engineers  
US Coast Guard  
North Carolina Health and Human Services  
North Carolina Wildlife Resources Commission  
North Carolina Office of Emergency Management  
North Carolina, Rockingham County Department of Health and Human Services  
City of Eden, NC  
Dan River Basin Association  
Virginia Department of Environmental Quality  
Virginia Department of Health  
Virginia Department of Game and Inland Fisheries  
City of Danville, VA  
Town of South Boston, VA  
Town of Clarksville, VA  
Virginia Halifax County

## **4. Personnel On Site**

1 Region 4 On-Scene Coordinators

1 Region 3 On-Scene Coordinators

4 Superfund Technical Assistance Response Team Members

3 US Coast Guard Gulf Strike Team Members

2 Community Involvement Coordinators (CIC) - providing support from the Regional Offices

## **5. Definition of Terms**

1. OSC - On-Scene Coordinator
2. CIC - Community Involvement Coordinator
3. SESD - Science and Ecological Support Division
4. PRP - Potential Responsible Party
5. VDEQ - Virginia Department of Environmental Quality
6. NCDENR - North Carolina Department of Environmental and Natural Resources
7. EPA - Environmental Protection Agency
8. WTP - Water (drinking) Treatment Plant
9. USACE - United States Army Corp of Engineers
10. USCG - United States Coast Guard
11. NPDES - National Pollution Discharge Elimination System Permit Program

12. USFWS - United States Fish and Wildlife Services
13. VDGIF - Virginia Department of Game and Inland Fisheries

## **6. Additional sources of information**

### **6.1 Internet location of additional information/report**

- EPA sample results and sample location maps can be found at <http://epa.gov/region04/duke-energy/>
- EPA Operational Information can be found at <http://epaosr.org/edencoalash>
- NCDENR Dan River Site Information can be found at <http://portal.ncdenr.org/web/guest/dan-river-spill>
- VDEQ Dan River Site Information can be found at <http://deq.virginia.gov/ConnectWithDEQ/EnvironmentalInformation/NorthCarolinaCoalAshSpill.aspx>

### **6.2 Reporting Schedule**

Pollution Reports (POLREPS) will be transmitted using the established distribution process. The distribution frequency of POLREPS will vary based on the operational needs of the emergency response.

## **7. Situational Reference Materials**

No information available at this time.