

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



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: POLREP #2
Coal Ash Removal completed near 48" Outfall
Eden NC Coal Ash Spill
B41W
Eden, NC
Latitude: 36.4878601 Longitude: -79.7189733

To:

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

Date: 3/10/2014

Reporting Period: March 1st through March 8th, 2014

1. Introduction

1.1 Background

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

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://epaos.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:

River Ash Recovery Near 48" Outfall - On Sunday, March 2nd through Wednesday, March 5th - Duke contractors continued coal ash removal outside the 48" outfall using divers and vacuum trucks. This operation was conducted along a 100 foot stretch along the left descending bank. Wednesday afternoon, START contractors found additional locations along the bank that needed further removal and the final ash removal was completed at 1700 hours. Duke estimates that removed 22 cubic yards of ash from the outfall area.

48" Storm Water Pipe - On Saturday, March 1st, Duke successfully grouted a 234' linear section of the 48" from the inlet end of the pipe to the new bulkhead/platform at the trench box. On Wednesday, March 5th, Duke contractors brick and mortared the 48" outfall.

Future Grouting plans for 48" and 36" storm water pipes - Approximately a 400 foot section of the 48" pipe and a 500 foot section of the 36" pipe remains un-grouted under the primary ash basin. Currently, Duke engineers are evaluating the safety risks of grouting those sections vs the benefit of grouting. If plans to remove all ash from the primary and secondary basins can be expedited quickly and approved, then those sections would simply be removed after the ash basins are removed.

Storm Water Management - With the closure of two major storm water pipes which divert rain event water around the ash basins, a large quantity of storm water is being diverted to the primary ash basin tower which flows to the secondary ash basin. Dukes NPDES permit at the secondary ash basin continues to handle a large quantity of storm water from the site.

Coal Ash Sediment Assessments of Dan River Near Danville - Duke plans to continue coal ash deposit assessments of the Dan River near Danville on Saturday, March 8th. These assessments will likely continue for the next few weeks to map out areas for possible coal ash removal. Future operations will center on Dan River assessments and removal operations over the near future and be centered in Danville because of ease of access to the river.

Surface Water, Sediment and Drinking Water Sampling - START continues sampling support which was scaled back to one day a week and episodic sampling based on high turbidity events. VaDEQ and NCDNR have also scaled back to once per week on surface and drinking water samples. VaDEQ and NCDNR have collected fish tissue samples over the previous two weeks. Duke has also collected fish tissue samples and is running XRF analysis at their own lab. START is currently validating, managing and posting EPA sample data as it is received from the laboratory.

Wednesday, March 5th - Duke's Director of Water Quality and Environmental Services conducted the weekly meeting of all federal, state and local stakeholders to discuss short term goals and operations, water sampling and sediment data to date and long term ecological assessments and goals.

On Thursday and Friday, March 6 and 7th, Eden, NC received 5-6 inches of snow and river operations and assessments were canceled. On Friday, March 7th, NCDENR completed their review of effluent and surface water sampling results for Outfall 009. This Outfall is commonly associated with iron oxide and iron bacteria staining. NCDENR issued a press release stated that Outfall 009 does not impact surface water and are evaluating the situation.

Drinking Water Treatment Plants Status and Sampling

Both the Danville and South Boston WTPs will continue to monitor the situation and report any problems. No impacts to drinking water have been reported by either the Danville or South Boston water treatment facilities. The EPA Region 3 OSCs continue to communicate with downstream WTPs, Virginia Department of Health, and Virginia Department of Emergency Management. START is currently validating, managing and posting sample data as it is received from the laboratory.

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. FT.	N/A	N/A	Returned to the Coal Ash Basin

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

Evaluate the ash accumulated at the Schoofield Dam in Danville and determine if removal operations are practical.

2.3 Logistics Section

Data management personnel resources being evaluated.

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.

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

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

City of South Boston, VA

Virginia Halifax County

4. Personnel On Site

2 Region 4 On-Scene Coordinators

1 Region 3 On-Scene Coordinators

0 Region 4 SESD Personnel

4 Superfund Technical Assistance Response Team Member

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. VADEQ - 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. ACOE - Army Corp of Engineers

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://epaossc.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.