

US EPA ARCHIVE DOCUMENT

MEMORANDUM

SUBJECT: EPA Comments on "Assessment of Dam Safety of Coal Combustion Surface Impoundments: First Energy Corp, Albright Power Station, Albright, West Virginia"

DATE: September 3, 2013

1. In Section 1.1 "Introduction," first paragraph, end of fourth line, replace "a" with "an". Same section, second paragraph, second line, replace "site a assessment" with "a site assessment".
2. In section 2.1.2 "Site Geology," first paragraph, second to last line, replace "United Station" with "United States". Same comment for section 7.1.6.
3. In section 2.2 "Coal Combustion Residue Handling," it would be advantageous to describe specifically what CCR waste streams were generated and managed by the impoundments (boiler slag, bottom ash, fly ash, and flue gas desulphurization gypsum). Additionally, any CCR waste streams that were generated at the facility and their subsequent management should be identified.
4. In Section 5.2.2, the interior wall of the North impoundment has displaced from the original position. Please indicate that this displacement is not of concern and no further action is required.
5. The impoundments in Figures 5-1 and 5-2 are blurry, can this be corrected with still having the ability to see where the photos were taken?
6. In section 7.3 "Assessment of Structural Stability," is the rating provided as poor because of lack of adequate documentation and analyses or would it also be rated poor based on the deficiencies noted in bullets 3 through 6? Please be more clear/accurate in the last paragraph.
7. Sections 8.3.1 and 8.3.2, should indicate that both the operating procedures and the maintenance are considered inadequate based on the lack of written records. Section 8.3.2 does not currently address whether maintenance is actually adequate or not.
8. Section 9.3 indicates that the surveillance and monitoring programs are considered adequate, however it does mention the detrimental conditions of the retaining wall at the North Lagoon and lack of written documentation. Perhaps these programs are in fact inadequate?
9. In Appendix B, a response to the following three questions was not included in the checklist sheets for each of the impoundments, please add to the report:
 - o Concerning the embankment foundation, was the embankment construction built over wet ash, slag, or other unsuitable materials? If there is no information just note that.
 - o Did the dam assessor meet with, or have documentation from, the design Engineer-of-Record concerning the foundation preparation?
 - o From the site visit or from photographic documentation, was there evidence of prior releases, failures, or patchwork on the dikes?

Jana Englander
Office of Resource Conservation and Recovery
Materials Recovery Waste Management Division
Energy Recovery and Waste Disposal Branch
U.S. Environmental Protection Agency

November 4, 2013

Re: FirstEnergy Comments on CDM Smith Report: Assessment of Dam Safety of Coal Combustion Surface Impoundments, October 2012

Statement: Section 1.3.1.2, Page 1-2: The North Lagoon was stated as being 3.5 feet above normal pool elevation during CDM Smith's site assessment. This is reiterated by Section 6.3, Page 6-1 and Section 8.3.1, Page 8-1.

Response: The North Lagoon was elevated due to the sole reason that the South Lagoon was being actively dredged during the inspection.

Statement: "No probable maximum precipitation (PMP) analysis was provided, as required under Federal Emergency Management Agency (FEMA) standards."

Section 6.1.3, Page 6-1, also states: "Due to inadequate information and because the PMP was not provided, the North and South Lagoons are rated as poor for hydrologic/ hydraulic safety."

Response: These lagoons are specifically NOT dams and PMP analysis has NOT been required. The fact that these are NOT dams is subsequently stated in Section 2.3, Page 2-3: "...Both lagoons have a maximum embankment height of 13 feet. Therefore neither lagoon is considered a dam as defined in ER 1110-2-106 and 47CSR34." This is reiterated in Section 7.1.1.

Statement: Section 1.3.2.3, Page 1-3: "Trees and dense vegetation along the exterior slopes of the North and South Lagoon, adjacent to the Cheat River, should be removed and embankment slopes be restored to original contours by placing select structural fill and compacting, as recommended by a qualified professional engineer. After slope restoration, it is recommended to stabilize the exposed surface of the embankment with sod, hydro seeding, or riprap consisting of a heterogeneous mixture of irregular-shaped rocks placed over the compacted fill and a geotextile fabric. Regular maintenance activities should be performed at least twice a year or as conditions warrant from the spring to fall to control and limit growth of vegetation on the embankments."

Section 8.3.2, Page 8-1 states: "Maintenance issues included high vegetation and trees on the exterior slopes of the North and South Lagoons near the Cheat River..."

Response: The vegetated "exterior slopes" discussed are not embankments. They are the banks of the Cheat River. These banks have already been prepared and stabilized with rip-rap. The river bank in the vicinity of the North Lagoon has a rip-rap layer over four feet thick. As stated of the North Lagoon by Section 4.1.1, Page 4-1: "Embankment Construction only required up to 3 feet of fill in limited areas" and "Exterior slopes at the north and east [river side] embankments were kept at the natural grade..."

Section 5.2.3, Page 5-2 further states that the North Lagoon north and east (river side) slopes are "...covered in large stone riprap and vegetation."

"The South Lagoon was constructed by regrading and excavating into clayey silt, silty sand and gravel. Construction of the embankment exterior slope is natural terrain that slopes downward towards the Cheat River."

Section 5.3.3, Page 5-3 states of the South Lagoon: "The exterior slopes of the south and east [river side] embankments are generally covered in dense vegetation."

Also, Section 2.1, Page 2-1 states: The lagoons were created by excavation and the majority of the embankments are within three feet of original grade." Also, Table 2-1 places the average crest width of both lagoons at 25 feet.

The river bank in the vicinity of the South Lagoon was in no way impacted by the construction of that lagoon. The South Lagoon was incised. While it is true that the width of the embankment is approximately 25 feet, there is no woody vegetation east of that embankment until the natural bank of the Cheat River. See Photo 43, Page D-11.

The circumstances at the North Lagoon are similar as shown by Photo 1, Page D-1.

The riverbank in the vicinity of both of these lagoons has been naturally vegetated by volunteer species, the presence of which should be considered far more advantageous than detrimental in that it provides stabilization and protection for the river bank.

Statement: Section 2.4, Page 2-3: States that "CDM Smith was not provided information on the amounts of residuals currently stored in the units."

Response: As stated elsewhere within the report, the Albright station had been decommissioned prior to the inspection. The North Lagoon had recently been dredged. For all reasonable purposes the amount of residuals in that basin should have been considered de minimus. The South Lagoon was actively being dredged. If a quantity had been reported it would have been invalid within minutes. This fact is acknowledged in Section 5.3, Page 5-3, by the statement: "...the station has been out of service since August 2012 and the lagoon has not received any CCW since that time."

Statement: Section 4.1.3, Page 4-2 states: "Evidence of repair/rehabilitation included the concrete crib retaining walls near the southwest corner of the North Lagoon that may have been installed as part of remedial measures..." and in Section 7.3, Page 7-3, Assessment of Structural Stability: Bulging of the retaining wall at the interior slope near the southwest corner of the North Lagoon was observed during the site assessment."

Section 9.3.2, Page 9-1 states: "Detrimental conditions or indications for potential failure of embankments included lateral displacement of a retaining wall at the North Lagoon."

Response: The retaining walls discussed are located on the upslope side of this side-slope lagoon and were installed to maintain the ability to access the entire lagoon perimeter with excavating equipment. Note photos on Page D-5. The removal of either or both of these retaining walls would not impact the structural integrity of the lagoon as they are not components of the lagoon's physical structure but rather adjacent appurtenances.

Statement: Section 4.2.3, Page 4-3: The statement is made that the lagoons receive only liquids from plant drain waste, coal pile runoff and stormwater.

Response: Since the inspection all coal has been removed from the coal pile area.

Statement: “Liquids are discharged from the [South Lagoon] sump to the Cheat River through a 24-inch-diameter concrete pipe with a 36-inch-diameter corrugated metal pipe extension at the outfall.”

Response: The south lagoon discharges to a pipeline that transfers to the clarifier-based wastewater treatment system. It is true that the pipes described exist. However, these are emergency overflows intended only for conditions in excess of the 25-year 24-hour storm and are recognized as such within the NPDES system.

Similarly, Section 5.2.4, Page 5-2 states of the North Lagoon: “The 36-inch concrete pipe discharges into a sump structure that directs liquids to the on-site wastewater treatment plant or discharges to the outfall at the Cheat River.” This concept is reiterated in Section 8.1, Page 8-1.

Response: As designed and permitted, all flow goes to the wastewater plant up to a minimum 25-year 24-hour storm event. Discharge directly to the Cheat River is limited to emergency bypasses for flows in excess of that amount. The presence of these emergency overflow capabilities are recognized by the implementing NPDES authority.

Summary: CDM Smith’s completion of the Coal Combustion Dam Inspection Checklist Form(s) for the lagoons state that no cracks or scarps were present at crests or slopes, that no significant settlement was observed at crests nor were slope erosion or seepage noted. What’s more, they also note that an outright failure of these lagoons would result in but minimal economic and environmental impact. The report does not adequately represent these facilities. These are not permitted dams. These are not coal combustion waste impoundments. They have been dredged of combustion residues since the station was closed. Presently they exist to manage stormwater and water that seeps into the station’s basement.

Should you have questions or require additional information regarding these comments, please contact me at (724) 838-6018.

Sincerely,

A handwritten signature in black ink, appearing to read 'William E. Cannon', with a stylized flourish at the end.

William E. Cannon
Sr. Scientist

C: Master File