

**ANNUAL INSPECTION REPORT
ASH SURGE BASIN AND ASH BYPASS BASIN
POWERTON STATION
OCTOBER 2018**

This annual inspection report has been prepared pursuant to Title 40 of the Code of Federal Regulations (40 CFR) Part 257.83(b) for the Ash Surge Basin and Ash Bypass Basin at Powerton Station (Station) in Pekin, Illinois. The purpose of this project is to perform the annual inspection of the Ash Surge Basin and Ash Bypass Basin by a licensed professional engineer to ensure that the design, construction, operation, and maintenance of the coal combustion residuals (CCR) unit is consistent with recognized and generally accepted good engineering standards. Civil & Environmental Consultants, Inc. (CEC) completed the following scope of services in preparing this annual inspection report.

- CEC reviewed the weekly and monthly inspection reports provided by station personnel and the previous annual inspection report.
- CEC performed the annual inspection in accordance with the requirements of 40 CFR 257.83(b) including observations pertaining to the following:
 - Changes in Geometry - §257.83(b)(2)(i): Observations of changes in the geometry of both the Ash Surge Basin and Ash Bypass Basin since the previous annual inspection was documented.
 - Instrumentation - §257.83(b)(2)(ii): Inspection of the location and type of existing instrumentation and documentation of the maximum recorded readings of each instrument since the previous annual inspection from records provided by Station personnel.
 - Capacity and Impounded Volume - §257.83(b)(2)(iii) through (v): Inspection observations for the approximate minimum, maximum, and present depth and elevation of the impounded water and CCR; storage capacity of the impounding structure at the time of the inspection; and the approximate volume of the impounded water and CCR at the time of the inspection.
 - Structural/Operational Observations - §257.83(b)(2)(vi): Estimates the approximate volume of the impounded water and CCR at the time of the inspection.
 - Other Changes - §257.83(b)(2)(vii): Inspection including change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.

The Ash Surge Basin and Ash Bypass Basin are both active surface impoundments. The basins are approximately 7.5 acres and 1 acre in size, respectively. On September 27, 2018, CEC inspected both the Ash Surge Basin and Ash Bypass Basin and our observations showed no signs of distress that would suggest the stability or operation of the impounding structure is compromised.

1.0 CHANGES IN GEOMETRY - §257.83(b)(2)(i)

At the time of inspection, both the Ash Surge Basin and Ash Bypass Basin geometry was observed to be unchanged since the October 2017 inspection.

2.0 INSTRUMENTATION - §257.83(b)(2)(ii)

Instrumentation associated with Ash Surge Basin and Ash Bypass Basin includes a water level monitoring device in outlet structure for the Ash Surge Basin, and a series of groundwater monitoring wells. Our interview of Station personnel and review of weekly and monthly inspection reports, the water level monitor and groundwater monitoring wells are operating properly. The monthly inspections report the pumps, polymer system, and free board measuring device in the Ash Surge Basin are in good condition. Instrumentation associated with the other hydraulic structures, impoundment embankments, and/or slope performance were not observed.

3.0 CAPACITY AND IMPOUNDED VOLUME - §257.83(b)(2)(iii) through (v)

Capacity and impounded volume of the Ash Surge Basin and Ash Bypass Basin and estimated depth of impounded water and CCR are represented in Table 2 and 3, attached. The volume of CCR in the Ash Bypass Basin remains unchanged from the previous investigation. Volumes and depths were determined by reviewing inspection reports, construction drawings, and from modeling using existing topographic data.

4.0 STRUCTURAL/OPERATIONAL OBSERVATIONS - §257.83(b)(2)(vi)

Both the Ash Surge Basin and Ash Bypass Basin were inspected for signs of distress that would have the potential to disrupt operation and safety of each basin. Prior to performing the inspection, the previous annual inspection reports were reviewed, which did not identify conditions that indicate an actual or potential structural weakness. Weekly and monthly inspection reports were also reviewed and did not indicate an actual or potential structural weakness.

During the 2017 inspection, CEC observed the reported liner tear at a location that would be below the normal water surface. CEC confirmed with Station personnel and observed that the tear had been repaired.

5.0 OTHER CHANGES - §257.83(b)(2)(vii)

Both the Ash Surge Basin and Ash Bypass Basin were inspected for signs of other changes or distress that would have the potential to disrupt operation and safety of each basin. Our inspection showed no distresses that would affect the operation and/or stability of the Ash Surge Basin and Ash Bypass Basin.

6.0 LIMITATIONS AND CERTIFICATION

This CCR Annual Inspection Report was prepared to meet the requirements of §257.83(b) and was prepared under the direction of Mr. M. Dean Jones, P.E.

By affixing my seal to this, I do hereby certify to the best of my knowledge, information, and belief that the information contained in this report is true and correct. I further certify I am licensed to practice in the State of Illinois and that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Seal:



Signature: Maurice Dean Jones
Name: M. Dean Jones, P.E.
Date of Certification: October 16, 2018
Illinois Professional Engineer No.: 062-051317
Expiration Date: November 30, 2019

Table 1: Inspection Summary - Ash Surge Basin

Category	Regulation Reference	Evaluation	Recommended Action
Change in Geometry	§257.83(b)(2)(i)	None	None
Instrumentation	§257.83(b)(2)(ii)	None	None
Water Depth	§257.83(b)(2)(iii)	1 to 5 feet	None
CCR Depth	§257.83(b)(2)(iii)	3 to 8 feet	None
Estimated Storage Capacity	§257.83(b)(2)(iv)	92.1 Acre Feet	None
Impounded Water Volume	§257.83(b)(2)(v)	43.4 Acre Feet	None
Impounded CCR Volume	§257.83(b)(2)(v)	18.5 Acre Feet	None
Structural/Operational Observations	§257.83(b)(2)(vi)	None	None
Other Changes	§257.83(b)(2)(vii)	None	None

Table 2: Inspection Summary - Ash Bypass Basin¹

Category	Regulation Reference	Evaluation	Recommended Action
Change in Geometry	§257.83(b)(2)(i)	None	None
Instrumentation	§257.83(b)(2)(ii)	None	None
Water Depth	§257.83(b)(2)(iii)	4 feet	None
CCR Depth	§257.83(b)(2)(iii)	Less than 1 foot	None
Estimated Storage Capacity	§257.83(b)(2)(iv)	5.1 Acre Feet	None
Impounded Water Volume	§257.83(b)(2)(v)	4.0 Acre Feet	None
Impounded CCR Volume	§257.83(b)(2)(v)	.25 Acre Feet	None
Structural/Operational Observations	§257.83(b)(2)(vi)	None	None
Other Changes	§257.83(b)(2)(vii)	None	None

1. The Ash Bypass Basin has not received ash since the 2017 inspection.