

**ANNUAL INSPECTION REPORT
ASH SURGE BASIN AND ASH BYPASS BASIN
POWERTON STATION
OCTOBER 2021**

This annual inspection report has been prepared pursuant to both Title 35 IAC Part 845 Subpart E, Section 845.540(b) and Title 40 of the Code of Federal Regulations Part 257.83(b) for the Ash Surge Basin (ASB) and Ash Bypass Basin (ABB) at Powerton Station (Station) in Pekin, Illinois. The purpose of this project is to perform the annual inspection of the ASB and ABB 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 completed by qualified station personnel and the previous annual inspection report.
- CEC performed the annual inspection in accordance with the requirements of Part 845.540 and 40 CFR 257.83(b) including observations pertaining to the following:
 - Changes in Geometry: Observations of changes in the geometry of the ASB and ABB since the previous annual inspection.
 - Instrumentation: 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 the Station.
 - Capacity and Impounded Volume: 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: Inspection for actual or potential structural weakness of the CCR surface impoundment, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR surface impoundment and appurtenant structures.

- Other Changes: Inspection including change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.

The ASB and ABB are both active surface impoundments. The basins are approximately 7.5 acres and 1 acre in size, respectively. On October 13, 2021, CEC inspected both the ASB and ABB and our observations showed no signs of distress that would suggest the stability or operation of the impounding structure is compromised. At the time of the inspection, the ASB was partially drained.

1.0 CHANGES IN GEOMETRY

At the time of inspection, both the ASB and ABB geometry was observed to be unchanged since the October 2020 inspection. The ABB was modified by plugging both the concrete discharge and inlet structures and the reinforced concrete pipe overflow between the ABB and ASB.

2.0 INSTRUMENTATION

Instrumentation associated with ASB and ABB includes a water level monitoring device in the outlet structure for the ASB. Our interview of Station personnel and review of weekly and monthly inspection reports indicates that the water level monitor is operating properly. The monthly inspections report the pumps, polymer system, and free board measuring device in the ASB 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

Capacity and impounded volume of the ASB and ABB and estimated depth of impounded water and CCR are represented in Table 1 and 2, attached. The volume of CCR in the ABB remained unchanged from the previous inspection. Volumes and depths were determined through direction by station personnel and by reviewing inspection reports, construction drawings, and from modeling using existing topographic data.

4.0 STRUCTURAL/OPERATIONAL OBSERVATIONS

Both the ASB and ABB 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.

5.0 OTHER CHANGES

Both the ASB and ABB 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 ASB and ABB.

6.0 LIMITATIONS AND CERTIFICATION

This CCR Annual Inspection Report was prepared to meet the requirements of Section 845.540(b) and Part 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: _____

Name: M. Dean Jones, P.E.

Date of Certification: October 13, 2021

Illinois Professional Engineer No.: 062-051317

Expiration Date: November 30, 2021

Table 1: Inspection Summary - Ash Surge Basin

Category	Regulation Reference	Evaluation	Recommended Action
Change in Geometry	§845.450(b)(2)(A) §257.83(b)(2)(i)	None	None
Instrumentation	§845.450(b)(2)(B) §257.83(b)(2)(ii)	None	None
Water Depth	§845.450(b)(2)(C) §257.83(b)(2)(iii)	4 feet	None
CCR Depth	§845.450(b)(2)(C) §257.83(b)(2)(iii)	Less than 1 foot	None
Estimated Storage Capacity	§845.450(b)(2)(D) §257.83(b)(2)(iv)	92.1 Acre Feet	None
Impounded Water Volume	§845.450(b)(2)(E) §257.83(b)(2)(v)	13.8 Acre Feet	None
Impounded CCR Volume	§845.450(b)(2)(E) §257.83(b)(2)(v)	9.2 Acre Feet	None
Structural/Operational Observations	§845.450(b)(2)(F) §257.83(b)(2)(vi)	None	None
Other Changes	§845.450(b)(2)(G) §257.83(b)(2)(vii)	None	None

Table 2: Inspection Summary - Ash Bypass Basin

Category	Regulation Reference	Evaluation	Recommended Action
Change in Geometry	§845.450(b)(2)(A) §257.83(b)(2)(i)	None	None
Instrumentation	§845.450(b)(2)(B) §257.83(b)(2)(ii)	None	None
Water Depth	§845.450(b)(2)(C) §257.83(b)(2)(iii)	6.5 feet	None
CCR Depth	§845.450(b)(2)(C) §257.83(b)(2)(iii)	Less than 1 foot	None
Estimated Storage Capacity	§845.450(b)(2)(D) §257.83(b)(2)(iv)	5.1 Acre Feet	None
Impounded Water Volume	§845.450(b)(2)(E) §257.83(b)(2)(v)	4.85 Acre Feet	None
Impounded CCR Volume	§845.450(b)(2)(E) §257.83(b)(2)(v)	0.25 Acre Feet	None
Structural/Operational Observations	§845.450(b)(2)(F) §257.83(b)(2)(vi)	None	None
Other Changes	§845.450(b)(2)(G) §257.83(b)(2)(vii)	None	None