November 4, 2021

Closure Completion Notification

Big Sandy Plant

Fly Ash Pond

On October 7, 2021, the Big Sandy Plant Fly Ash Pond was transitioned to closure status in accordance with 40 CFR 257.102. The CCR unit was closed in place and has initiated the written Post Closure Plan. This notice of completion of closure is being placed in the operating record in accordance with 40 CFR 257.102(h).

Effective with the Closure Completion Notification, the following operating record documents, as applicable, are no longer required going forward:

- Hazard Potential Classification
- Emergency Action Plan
- Face to Face Meeting Documentation for EAP
- History of Construction and Revisions for Surface Impoundments
- Structural Stability Assessments
- Safety Factor Assessments
- Fugitive Dust Plan
- Inflow Design Flood System Control Plan

CLOSURE CERTIFICATION BY QUALIFIED PROFESSIONAL ENGINEER

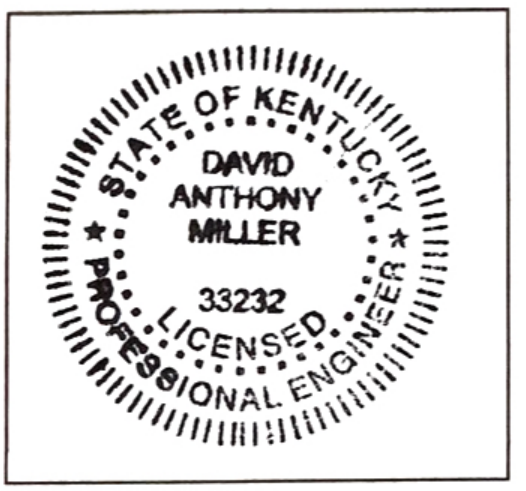
I certify that the Big Sandy Plant Fly Ash Pond (FAP) has been closed in accordance with the closure plan specified by paragraph 257.102(b) and the requirements of section 257.102.

DAVID ANTHONY MILLER

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature



33232	KENTUCKY	11.04.21
License Number	Licensing State	Date

8. ENGINEER'S CERTIFICATION

ENGINEER'S CERTIFICATION

AECOM

KENTUCKY POWER BIG SANDY POWER PLANT

LAWRENCE COUNTY, KENTUCKY

FLY ASH POND PHASE I CLOSURE CONSTRUCTION

I, Thomas A. Kovacic, P.E., being a Registered Professional Engineer in accordance with the Kentucky's Professional Engineer's Registration do hereby certify to the best of my knowledge, information and belief, that the information contained in the accompanying AEP Big Sandy Plant Fly Ash Pond Closure Construction Quality Assurance Certification Report dated November 27, 2018 is true and correct and has been prepared in accordance with the accepted practice of engineering.

PE Thomas A. Kovacic DATE October 4, 2021

ADDRESS AECOM Technical Services, Inc.
1300 East 9th Street, Suite 500
Cleveland, OH 44114

TELEPHONE (216)-622-2300

8. ENGINEER'S CERTIFICATION

ENGINEER'S CERTIFICATION

AECOM

KENTUCKY POWER BIG SANDY POWER PLANT

LAWRENCE COUNTY, KENTUCKY

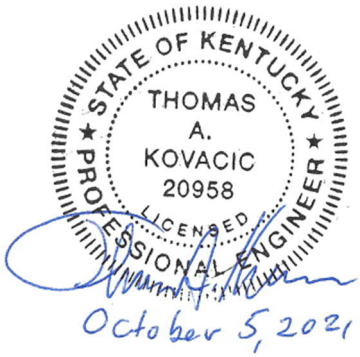
FLY ASH POND PHASE II AND PHASE III 2018 CLOSURE CONSTRUCTION

I, Thomas A. Kovacic, P.E., being a Registered Professional Engineer in accordance with the Kentucky Professional Engineer's Registration do hereby certify to the best of my knowledge, information and belief, that the information contained in the accompanying AEP Big Sandy Plant Fly Ash Pond Phase II and Phase III 2018 Closure Construction Quality Assurance Certification Report dated January, 2020, is true and correct and has been prepared in accordance with the accepted practice of engineering.

SIGNATURE Thomas . Kovacic DATE October 5, 2021

ADDRESS AECOM Technical Services, Inc.
1300 East 9th Street, Suite 500
Cleveland, OH 44114

TELEPHONE (216)-622-2300



9. ENGINEER'S CERTIFICATION

ENGINEER'S CERTIFICATION

AECOM

KENTUCKY POWER BIG SANDY POWER PLANT

LAWRENCE COUNTY, KENTUCKY

FLY ASH POND PHASE III AND PHASE IVA 2019 CLOSURE CONSTRUCTION

I, Thomas A. Kovacic, P.E., being a Registered Professional Engineer in accordance with the Kentucky Professional Engineer's Registration do hereby certify to the best of my knowledge, information and belief, that the information contained in the accompanying report is true and correct and has been prepared in accordance with the accepted practice of engineering.

SIGNATURE Thomas A. Kovacic DATE October 5, 2021

ADDRESS AECOM Technical Services, Inc.
1300 East 9th Street, Suite 500
Cleveland, OH 44114
TELEPHONE (216)-622-2300

9. ENGINEER'S CERTIFICATION

ENGINEER'S CERTIFICATION

AECOM

KENTUCKY POWER BIG SANDY POWER PLANT

LAWRENCE COUNTY, KENTUCKY

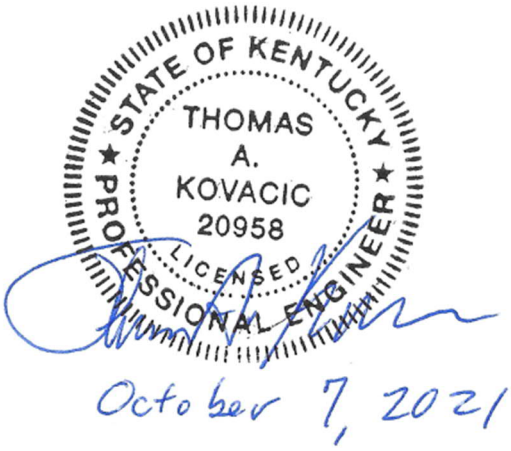
FLY ASH POND PHASE IV 2020 and 2021 AND FINAL CLOSURE CONSTRUCTION

I, Thomas A. Kovacic, P.E., being a Registered Professional Engineer in accordance with the Kentucky Professional Engineer's Registration do hereby certify to the best of my knowledge, information and belief, that the information contained in the accompanying AEP Big Sandy Plant Fly Ash Pond Phase IV 2020-2021 and Final Closure CQA Certification Report is true and correct and has been prepared in accordance with the accepted practice of engineering.

SIGNATURE Thomas A. Kovacic DATE October 7, 2021

ADDRESS AECOM Technical Services, Inc.
1300 East 9th Street, Suite 500
Cleveland, OH 44114

TELEPHONE (216)-622-2300



STRUCTURAL STABILITY ASSESSMENT

CFR 257.73(d)

Fly Ash Pond

Big Sandy Plant
Louisa, Kentucky

October, 2016

Prepared for: Kentucky Power – Big Sandy Plant

Louisa, Kentucky

Prepared by: American Electric Power Service Corporation

1 Riverside Plaza

Columbus, OH 43215

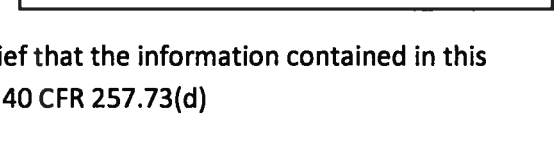
GERS-16-113

STRUCTURAL STABILITY ASSESSMENT
CFR 257.73(D)
BIG SANDY POWER STATION
FLY ASH POND

PREPARED BY _____ DATE 9-28-16
Brian G. Palmer, P.E.

REVIEWED BY _____ DATE 9/29/2016
Brett A. Dreger, P.E.

APPROVED BY _____ DATE 9/29/2016
Gary F. Zych, P.E.
Manager – AEP Geotechnical Engineering



I certify to the best of my knowledge, information and belief that the information contained in this structural stability assessment meets the requirements of 40 CFR 257.73(d)

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1.0 OBJECTIVE 257.73(d)

This report was prepared by AEP- Geotechnical Engineering Services (GES) section to fulfill requirements of CFR 257.73(d) – document whether the design, construction, operations, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices.

2.0 NAME AND DESCRIPTION OF CCR SURFACE IMPOUNDMENT

The Big Sandy Power Plant is located north of the City of Louisa, Lawrence County, Kentucky. It is owned and operated by Kentucky Power. The facility operates two surface impoundments for storing CCRs called the Fly Ash Pond and the Bottom Ash Pond. This report deals with the Structural Stability Assessment for the Fly Ash Pond.

The Fly Ash Pond is a valley impoundment with a main dam and a saddle dam. The Big Sandy Fly Ash Pond received sluiced fly ash and waste water from the plant via the bottom ash pond. Bottom Ash excavated from the Big Sandy Bottom Ash Pond is also placed within the Fly Ash Pond.

The Big Sandy Power Plant has ceased burning coal and has been refueled for natural gas. The Fly Ash Pond currently receives waste water from the plant for discharge through the permitted outfall.

3.0 STABLE FOUNDATION AND ABUTMENTS 257.73(d)(1)(i)

[Was the facility designed for and constructed on stable foundations and abutments? Describe any foundation improvements required as part of construction.]

Based on the design drawings, a foundation key was constructed along the centerline of the Main Dam Stage I. The key was to be excavated to the top of rock and be 20-ft wide at the bottom. The drawing indicate that organic and "unsuitable" materials were to be removed from the foundation surface. As a result of movement during construction rock buttress were placed on both the upstream and downstream toe of the dam for stabilization.

The Stage II construction of the Main Dam is primarily founded on the Stage I dam. Construction drawing show that the Main Dam Stage II impervious core was keyed into the Stage I embankment. The Stage II drawings indicate that the downstream and abutment areas were to be cleared and grubbed as necessary. The construction drawings show a 10-ft impervious blanket along the upstream abutment. A granular blanket has historically been documented on the downstream abutment. The Saddle Dam was constructed as part of Stage II and included an impervious key and clearing and grubbing of soils.

The Stage III raising of the Main Dam is founded on Stage II construction. The abutments were over-excavated to rock and a treatment placed where the upstream clay shell was installed. The abutment treatment included a bitumen coating over exposed shale and a morter/grout treatment of fractures of other exposed rock. No treatment was done to the rock surface in the area of the downstream shell. The Saddle dam was reconstructed with Stage III construction and included reconstruction of the soil key in bedrock and similar rock treatments for the abutments as described for the Main Dam.

Based on recent subsurface investigations, the foundation soils under the embankment consist of various layers of silt, sands and clay. Based on the findings of the subsurface investigations the foundations materials are suitable for this CCR unit.

Operation of the impoundment is performed so as to not adversely affect the foundation and abutments. As required by the CCR rules the Fly Ash Pond is inspected at least every 7 days by a qualified person. Also as a requirement of the CCR rules, the impoundment is also inspected annually by a professional engineer. Maintenance items are addressed as they are discovered as a part of those inspections.

4.0 SLOPE PROTECTION 257.73(d)(1)(ii)

[Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown.]

The downstream slopes of both the Main Dam and the Saddle Dam have Riprap protection from erosion. The upstream slope of the Main Dam is riprap to approx. elevation 675 with grass slope to the crest. The upstream slope of the Saddle Dam is grass. The operation level of water in the pond never exceeded 675 due to the operational changes at the Big Sandy Plant. The current condition of the riprap and grassed slopes is adequate.

Operation and maintenance of the riprap primarily includes periodic spraying for vegetation control. Grassed slopes are mowed regularly. Any erosion or slips that may occur is repaired within a timely period.

5.0 EMBANKMENT CONSTRUCTION 257.73 (d)(1)(iii)

[Describe the specifications for compaction and/or recent boring to give a relative comparison of density.]

The construction specifications required for the embankment materials and inner core for the Stage I or Stage II construction are not available. Construction documents from Stage III construction indicate that the bottom ash used in the downstream shell was to be in uniform lifts and achieve a relative density of 75% and that the clayey soil used in the upstream clay core/shell was compacted to 98% maximum dry unit weight (Standard Proctor) with a water content of -1% to +2% of optimum moisture content. Recent borings through the embankment indicate that embankment materials are sufficiently compacted for use in an earthen embankment.

6.0 VEGETATION CONTROL 257.73 (d)(1)(iv)

[Describe the maintenance plan for vegetative cover.]

The vegetative areas are mowed to facilitate inspections and promote the growth of the vegetative layer and prevent the growth of woody vegetation. Surfaces protected with riprap are periodically sprayed to control vegetative growth.

7.0 SPILLWAY SYSTEM 257.73(d)(1)(v)

[Describe the spillway system and its capacity to pass the Inflow Design Flood as per its Hazard Classification.]

Primary Spillway

As part of Stage II a new Primary (or Service) Spillway structure was constructed near the left abutment. The structure consists of a vertical, reinforced concrete, drop inlet. The Primary Spillway incorporates a twin shaft weir design with slide gates at the bottom of each shaft. Concrete stoplogs are added to to the weirs to control the water elevations in the pond. As part of the Stage II construction the spillway structure was built to approx. elev. 700. A floating skimmer system surrounds the structure to control the discharge of fly ash and debris. Water discharging over the spillway flows through a 30-in. dia. concrete pipe which was installed on a concrete cradle

Emergency Spillway

With the reconstruction of the Saddle Dam a new emergency spillway was excavated as part of Stage III construction. The Stage III emergency spillway was also excavated into bedrock on the left abutment of the saddle dam and had an overflow elevation of 706.25

The pond and spillway system are designed and operated to store and safely discharge the probable maximum precipitation (PMP) event.

Maintenance of the concrete spillway structure is performed as needed based on periodic 7-day and annual inspections.

8.0 BURIED HYDRAULIC STRUCTURES 257.73 (d)(1)(vi)

[Describe the condition of the sections of any hydraulic structure that in buried beneath and/or in the embankment.]

There is no evidence of deterioration of the outlet discharge pipe based on a limited visual inspection of the downstream end of the discharge pipe.

9.0 SUDDEN DRAWDOWN 257.73 (d)(1)(vii)

[If the downstream slope is susceptible to inundation, discuss the stability due to a sudden drawdown.]

While the downstream toe of the Fly Ash Pond may be impacted by a 100-yr flood it is not anticipated to create an unstable condition due to a sudden drawdown.