

40 CFR Parts 257

Checklist for P.E. Annual Inspection for CCR Surface Impoundments, § 257.83(b)

Sikeston BMU Sikeston Power Station Fly Ash Surface Impoundment

Annual Inspection

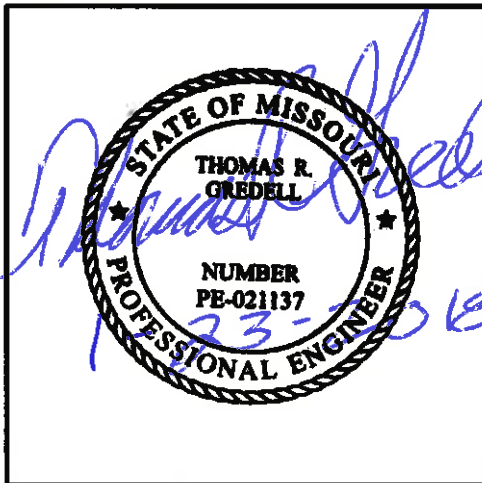
Requirements	Signs of actual or potential structural weakness (257.83(b)(v))	Disruptions or potential disruption to the operation and safety of the unit (257.83(b)(vi))
CCR Unit and appurtenant structures 257.83(b)(ii)	Potential seepage along southeastern embankment of the Fly Ash Pond.	None Observed. Continue to monitor.

The 2017 Initial Annual Inspection included a review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record in general accordance with 257.83(b)(i).

Minor maintenance items associated with routine upkeep and items that require continued observation, further investigation and/or corrective action observed during the 2017 Initial Annual Inspection presently do not impact the structural integrity of the embankment. SBMU plans to address these items in a timely manner through normal maintenance.

GREDELL Engineering Resources, Inc.

Engineer's Seal



Thomas R. Gredell, P.E.
Missouri License: PE-021137
Date: December 1, 2017

ANNUAL INSPECTION CHECK SHEET

SIKESTON POWER STATION
 Fly Ash Pond
 Annual Inspection Check Sheet

Date	September 1, 2017
Inspector	Thomas R. Gredell, P.E.
Pool Level	Estimated el. 319
Temperature	Low 70°s
Weather	Partly Sunny, dry, breezy

Date of Previous Annual Inspection: NONE – Initial Annual Inspection

Date of Previous Periodic Inspection: The date of most recent weekly inspection report prior to the September 1, 2017 Initial Annual Inspection was August 27, 2017.

Description of Emergency (EC) or Immediate Maintenance (IM) conditions observed since the last annual inspection:

None

Describe any action taken to restore or improve safety and integrity of impounding structure:

No instrumentation exists at the outlet of the Fly Ash Pond to track the elevation of water at the outlet structure. It is recommended that a staff gauge be installed at the outlet structure to be read during the weekly inspections or following heavy rainfall events.

Some areas around the inside top of the containment berm lack a 2 foot deep drainage channel to direct stormwater away from the edge of the Fly Ash Pond. It is recommended that a minimum 2 foot deep drainage channel be excavated around the perimeter of the Fly Ash Pond, where needed, to prevent the uncontrolled discharge of stormwater over the top of the berm during or following heavy rainfall events.

Describe any modifications to the geometry of the impounding structure since the previous annual inspection: NONE – Initial Annual Inspection.

Describe any modifications to the operation of the impounding structure since the previous annual inspection: NONE – Initial Annual Inspection.

List the approximate remaining storage capacity (Cubic Yards) of the impounding structure: Estimated available storage is 50,000 CY below el. 320 (allowing 2 feet of freeboard)

List the approximate maximum, minimum and present depth and elevation of the impounded water since the previous annual inspection: The weekly inspection reports do not indicate an elevation of impounded water due to the lack of a staff gauge at the Fly Ash Pond outlet structure. The present depth at the outlet structure is estimated to be elevation 319.

List the approximate maximum, minimum and present depth and elevation of the impounded CCR since the previous annual inspection: Estimated from 2016 aerial survey: CCR occupies approximately 30 acres at an approx. Max. Elev. 320 (Depth 18'). Min. depth is estimated to be 13' or less (approx. Elev. 315 located beneath the surface of the impounded water.

Approximate volume of impounded water and CCR at the time of the inspection: Estimated Volume CCR 790,000 CY (159 MG). Estimated Volume of water 24,000 CY (4.8 MG).

Describe any changes to the downstream watershed since the last annual inspection: NONE – Initial Annual Inspection.

**SIKESTON POWER STATION – FLY ASH POND
ANNUAL INSPECTION CHECK SHEET**

Inlet and Outlet Works		
Item	Condition Code	Comments
Outlet Condition	NE	The outlet structure has a concrete intake with stop logs. No stop logs were in place. The outlet structure discharges into one of two buried estimated 10-inch pipes: one that discharges north and offsite the property; and one that discharges west and then follows an open channel swale to Process Waste Pond.
Gate Condition/ Operability	NE	Stop logs originally controlled water level, but were present next to the structure, but not in place and no longer used. Two control valves provide flow control. Both discharges are controlled by gate valves and are reported to be closed.
Leakage	NE	No leakage from the outlet structure was observed.
Outfall Condition	GC	The pond system outfall structure discharge pipe is at Process Wastewater Pond. Approximately 1.5' of the discharge pipe is damaged along the east side of the pipe at the outfall, but does not compromise the operation of the discharge pipe.
Discharge (color and/or sediment)	NE	No discharge was occurring from the Fly Ash Pond.
Obstructions	NE	The Surface Impoundment is nearing full capacity with CCR solids. Some ponded water occurs within the pond with no direct drainage to the outlet structure. There was no evidence of obstructions that would prevent the outlet structure from functioning.
Instrumentation	MM	No instrumentation exists at the outlet of the Fly Ash Pond to track the elevation of water at the outlet structure. It is recommended that a staff gauge be installed at the outlet structure to be read during the weekly inspections or following heavy rainfall events.
Inlet Piping Condition	Not Operational	A buried 30-inch pipe was designed to convey excess water from the Bottom Ash Pond to the Fly Ash Pond as needed. This is reportedly not in use. The discharge in the Fly Ash Pond is blocked by CCR and vegetation. The discharge in the Fly Ash Pond was not located due to excessive CCR. Swing gate on Bottom Ash Pond inlet is closed. Limited inflow water negates the significance of the emergency discharge.
Emergency Spillway	NI	The emergency spillway was not located and, therefore, not observed. Inflow to the Fly Ash Surface Impoundment is only from rainfall. Process water is no longer discharged into the Surface Impoundment. Therefore, limited inflow water negates the significance of the emergency discharge.
Other:		NONE

SIKESTON POWER STATION – FLY ASH POND
ANNUAL INSPECTION CHECK SHEET

Earth Embankment		
Item	Condition Code	Comments
Vertical & Horizontal Alignment of Crest	GC	No visible evidence of deformation of embankment.
Seepage/Wetness / Ponding Areas	OB (Seepage)	An area along the exterior of the southeastern berm of the Fly Ash Pond was identified as an area of potential seepage from the Fly Ash Pond. The wet area was identified as an area of potential seepage from the Fly Ash Pond based on the presence of a small number of cattails a few feet up the slope from the perimeter stormwater ditch inside of the railroad loop. No visual signs of erosion of the outer berm soils were observed. The area was able to be maintained (the vegetation had been recently cut). It is recommended that this area continue to be visually monitored and that further investigation of the wet area be considered.
Erosion/Rutting	NE	No evidence.
Fencing	GC	Fencing is only adjacent to the Fly Ash Surface Impoundment on the north perimeter.
Vegetation	GC	Vegetation on exterior slopes was cut and maintained. However, the portion of the rule that requires vegetation to be kept at 6 inches or less has been remanded.
Sloughs/Slides/ Cracks	NE	No evidence.
Animal Control	NE	No evidence of animal burrows or holes.
Other		

- Condition Codes:**
- EC Emergency Condition – a serious safety condition exists that requires immediate action.
 - IM Immediate Maintenance – an item that requires maintenance within about 30 days to ensure safety or operation.
 - MM Minor Maintenance – item needing minor maintenance or repair within 6 months.
 - OB Observation – condition requires regular observation to ensure that the condition does not become worse.
 - GC Good Condition.
 - NE No Evidence of a problem.
 - NI Not Inspected. State reason in comments.

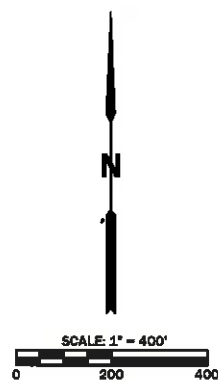
Additional Notes:

1. The location of observations on attached plan sheet (Figure 1).



NOTES

1. MINOR MAINTENANCE ITEMS INCLUDE:
 - a. CLEAN SEDIMENT AND VEGETATION FROM DISCHARGE STRUCTURE.
 - b. EXCAVATE STORMWATER CHANNEL 2 FEET DEEP ALONG POND PERIMETER (WHERE REQUIRED).
2. REQUIRING FURTHER OBSERVATION INCLUDE:
 - a. SATURATED BERM SOIL ALONG SOUTHEAST BERM.
3. ITEMS IDENTIFIED DURING THE INITIAL INSPECTION WHICH DO NOT REQUIRE MAINTENANCE INCLUDE:
 - a. THE IMPEDED OVERFLOW STRUCTURE BETWEEN THE BOTTOM ASH POND AND THE INACTIVE FLY ASH POND.



**2017 INITIAL ANNUAL P.E. INSPECTION
FLY ASH POND
SIKESTON POWER STATION**

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FIGURE 1

DATE	SCALE	PROJECT NAME	REVISION
01/2018	AS NOTED	SIKESTON	
DRAWN AJK	APPROVED TG	FILE NAME 2017 PE INSPECTION	SHEET # 1 OF 1