

40 CFR Parts 257

2024 Checklist for P.E. Annual Inspection for CCR Surface Impoundments, §257.83(b) Sikeston BMU Sikeston Power Station Bottom Ash Surface Impoundment Annual Inspection

NOTE – THE BOTTOM ASH POND CEASED RECEIVING WASTE ON JUNE 5, 2023

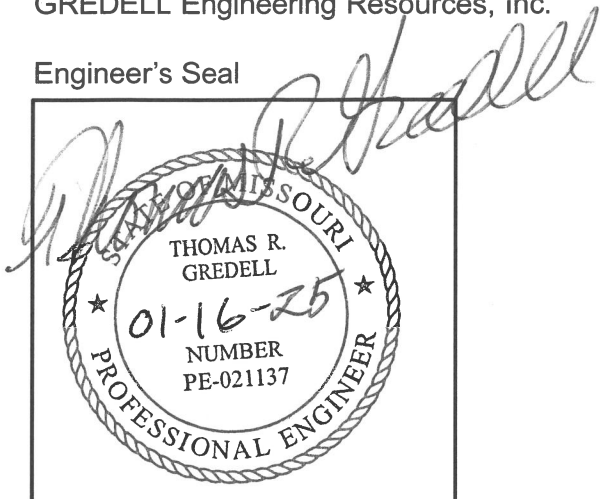
Requirements	Signs of actual or potential structural weakness	Disruptions or potential disruption to the operation and safety of the unit (257.83(b)(vi))
CCR Unit and appurtenant structures 257.83(b)(ii)	None Observed. Continue to monitor.	None Observed. However, potential seepage along northern embankment west of the Fly Ash Pond and on the southwestern embankment. No evidence of erosion or slope instability. Seepage is minor and vegetation is in very good condition. Continue to monitor.
Hydraulic structures underlying the base of the CCR unit 257.83(b)(iii)	None Observed. Continue to monitor.	Visual observation indicates sediment in stormwater box culverts continues to self-clean during heavy rains. The discharge sediment basin was nearing capacity at time of inspection. Cleaning in 2025 is recommended to allow continued self-cleaning of the twin stormwater box culverts, as well as ongoing observation. Separated corrugated metal pipe seams in the south culvert should be observed monthly.

The 2024 Annual Inspection included onsite observations and a review of available weekly and monthly plant inspection reports 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 further investigation and/or corrective action observed during the 2024 Annual Inspection presently do not impact the structural integrity of the embankment. SBMU agrees to monitor and address these items in a timely manner through normal maintenance.

GREDELL Engineering Resources, Inc.

Engineer's Seal



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Date: January 16, 2025

SIKESTON POWER STATION – BOTTOM ASH POND
 2024 ANNUAL INSPECTION CHECK SHEET
NOTE – BAP IS INACTIVE SINCE JUNE 5, 2023

SIKESTON POWER STATION
 Bottom Ash Pond
 Annual Inspection Check Sheet

Date	November 19, 2024
Inspector	Wayne Elliott, E.I.
Pool Level	Approximately el. 314.5
Temperature	Mid 60°s
Weather	Clear; dry

1. Date of Previous Annual Inspection:
 - a. October 13, 2023
2. Date of Previous Periodic Inspection:
 - a. The date of the most recent monthly inspection report reviewed for this Annual Inspection report was December 29, 2024. Weekly and monthly inspection reports by plant personnel were reviewed for this Annual report. The last of four weekly reports for the month of April is not available at this time. Some report data that could not be verified were not utilized in preparing this annual report.
3. Description of Emergency (EC), Immediate Maintenance (IM) conditions observed since the last annual inspection:
 - a. No EC conditions were noted for of the Bottom Ash Pond during the 2024 Annual Inspection on November 19, 2024. One IM condition was noted during the annual site visit for collapsed animal burrows on the southwest corner of the perimeter berm.
4. Describe any action taken to restore or improve safety and integrity of impounding structure:
 - a. The rutting of the East ramp was corrected by grading the road and adding gravel on one or more occasions in 2024. The East ramp requires periodic maintenance due to short, steep slopes. Potholes and depressions located in the perimeter roads on top of the berms should also be corrected by grading and adding gravel, as required throughout the year.
 - b. In response to the observations of potential berm seepage, a field investigation and office evaluation of the north berm was completed in mid-2018 by Reitz & Jens, Inc. as a subconsultant to GREDELL Engineering Resources, Inc. (GER). The conclusion of that evaluation is that the possible seepage did not have a negative impact on the stability of the embankment. Field conditions on the north berm have not changed in 2024. Potential seepage on the west and southwest berms is less prominent with no evidence of slumping, flow, or erosion. No investigations or office evaluations have been made for these areas. Continued monitoring is recommended.
5. Describe any modifications to the geometry of the impounding structure since the previous annual inspection:
 - a. The bottom ash reclamation stockpile in northwest corner of the Bottom Ash Pond no longer exists. It is noted that the Bottom Ash Pond ceased accepting CCR materials on June 5, 2023. The overall volume of the material in the Bottom Ash Pond was observed to remain the same in 2024 due to inactivity the entire year.
6. Describe any modifications to the operation of the impounding structure since the previous annual inspection:
 - a. As noted above, the Bottom Ash Pond ceased accepting CCR materials on June 5, 2023, and the bottom ash reclamation stockpile in the northwest corner had been removed, resulting in a net zero change, or slight decrease, in CCR volume stored in the pond. Process water and rainwater storage volume was not impacted. Actual volume increases or decreases in the Bottom Ash Pond were visually quantified.
7. List the approximate remaining storage capacity (Cubic Yards) of the impounding structure:

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- a. Estimated available storage is ~ 380,000 CY below el. 320 (allowing 2+ feet of freeboard). This has not changed in 2024.
8. List the approximate maximum, minimum and present depth, and elevation of the impounded water since the previous annual inspection:
 - a. Estimated from inspection reports, survey data, and site visits for 2024: Max. Elev. 314.5 (Depth ~ 12.5); Min. Elev. 313.8 (Depth ~ 11.8); Depth on 11-19-24 = Elev. 314.5 (Depth ~ 12.5).
9. List the approximate maximum, minimum and present depth, and elevation of the impounded CCR since the previous annual inspection:
 - a. Estimated from 2016 aerial survey: CCR occupies approximately 60 acres at an approximate Max. Elev. 318.8 (Depth 16.8'). Min. depth is estimated to be less than 5' or Elev. 307 located beneath the surface of the impounded water. Elevation and Depth of impounded CCR did not change in 2024 because the pond is inactive since June 2023.
10. Approximate volume of impounded water and CCR at the time of the inspection:
 - a. The Bottom Ash Pond ceased receiving waste on June 5, 2023. Estimated Volume of water 75,000 CY (15 Million Gallons, or MG). The estimated CCR volume was 1,164,000 CY (235 MG). The volume of water has remained substantially the same in 2024 due to inactivity. The volume of CCR has not changed in 2024 because the pond has been inactive since June 2023.
11. Describe any changes to the downstream watershed since the last annual inspection:
 - a. No changes to the downstream watershed occurred in 2024.

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Inlet and Outlet Works - NOTE – BAP IS INACTIVE SINCE JUNE 5, 2023		
Item	Condition Code	Comments
Outlet Condition	GC	The BAP is inactive. Concrete intake with stop logs, discharges into buried 10-inch carbon fiber pipe that runs north and then west to Process Waste Pond. (The Water Recirculation Structure is no longer operational and the emergency overflow to the Fly Ash Pond has been blocked since inspections began in 2016.
Gate Condition/ Operability	GC	BAP Stop logs originally controlled water level but are not present at the structure and are no longer used. A control valve north of the discharge is utilized for flow control if needed. No change since 2016.
Leakage	NI	According to the weekly inspection reports, no leakage was observed in 2024. No Change since 2016. The water level elevation in the BAP during 2024 remained below all outfall structures.
Outfall Condition	NI	Discharge pipe is at Process Waste 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. No change since 2016. The water level elevation in the BAP during 2024 remained well below all outfall structures.
Discharge (color and/or sediment)	NI	No discharge was observed at the time of inspection. The water level elevation in the BAP during 2024 remained well below all outfall structures.
Obstructions	MM	The flow line to outlet structure would be obstructed by weeds and dead vegetation. However, the water level in the pond on November 19, 2024, was well below the flow line of the discharge structure/pipe.
Instrumentation	GC	<p>Water level is measured by staff gauge at the inactive Recycle Water Recirculation Structure. Staff gauge markings were repainted in 2019 and remain clear. The written elevation on the concrete structure adjacent to the staff gauge was not legible during the 2024 site visit, but this elevation is known. No recorded reading of the staff gauge were included in the 2024 weekly inspection reports because the water level in the pond remained well below the bottom of the staff gauge throughout the year.</p> <p>There are two (2) piezometers (installed ~ 2011) constructed within the Bottom Ash Pond perimeter berms that serve to monitor water or saturation within the pond berms. These are identified as P-8 and P-10. Total depths are approximately 25 feet and 19 feet, respectively. P-8 water levels ranged from 23.4 to 24.8 feet below the top of casing in 2024. P-10 water levels fluctuated between 10.0 and 13.8 feet below top of casing in 2024.</p>
Inlet Piping Condition	NI	Inlet pipe for bottom ash (estimated 8 to 10-inch iron pipe) is inactive as of June 5, 2023. In addition, the pipe trench sump discharge pipe (4-inch PVC pipe) and plant operations wastewater inlet (12-inch iron pipe) have been inactive since June 2023. Therefore, the piping was not inspected during the 2024 site visit.

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Inlet and Outlet Works - NOTE – BAP IS INACTIVE SINCE JUNE 5, 2023		
Item	Condition Code	Comments
Emergency Spillway	Other (Not Operational)	<p>A buried 30-inch pipe was designed to convey excess water from the Bottom Ash Pond to the Fly Ash Pond, as needed. The discharge end of the structure in the Fly Ash Pond is blocked by impounded CCR. The swing gate on the Bottom Ash Pond inlet side of the structure is closed (bolted shut). As a result of earlier hydraulic reports completed by GER related to CCR compliance, it was recommended that SBMU construct an emergency spillway. However, the emergency spillway was never constructed. Due to the current INACTIVE operating status, the planned closure of the Bottom Ash Pond, the net zero CCR quantity increase and the approximate 5+ feet of freeboard in the Bottom Ash Pond, the construction of an emergency discharge structure is not considered necessary at this time.</p>
Other: Buried Storm Water Box Culvert	OB (overall)	<p>Dual buried box culverts convey offsite stormwater from the east side of the Bottom Ash Pond (west end of Compress Road) to the west side of the Pond. The inlet was observed to be dry and in good condition. The culverts discharge through corrugated metal culverts into an open channel on the west side. In 2017, a sediment basin was dug out below the pipe discharges, increasing the sediment capacity below discharges. This apparently has increased the flow velocity and flushed out the sediment build up in the culverts during heavy rainfall events.</p> <p>In 2024, the sediment basin was observed to be partially filled with sediment. Therefore, it is recommended to continue to monitor the sediment basin and to clean out solids/debris before it has the potential to restrict discharge flow.</p> <p>It has been previously noted that the southern corrugated metal culvert has two small areas where the seams were damaged and separated. The bituminous lining in both culverts is degraded in the area of the damage. Ongoing observation has indicated that the damaged areas are currently stable and do not impact the stability of the Bottom Ash Pond. In addition, the damaged areas are not located beneath the Bottom Ash Pond or the pond berm. Therefore, it is recommended that these two damaged areas continue to be observed and scheduled for repair in the future.</p>

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Earth Embankment - NOTE – BAP IS INACTIVE SINCE JUNE 5, 2023

Item	Condition Code	Comments
Vertical & Horizontal Alignment of Crest	MM	<p>Five low spots of 1 foot or less in depth were observed in the roadway surface on top of the perimeter berms during the November 19, 2024, site visit for the 2024 Annual Inspection. Three low spots were located on the north berm near the southwest corner of the Fly Ash Pond and two additional low spots were located near the northeast corner of the Bottom Ash Pond just south of the perimeter road intersection.</p> <p>Repair by filling with gravel and grading to restore the minimum vertical elevation and berm alignment is recommended along with continued monitoring.</p>
Seepage/Wetness / Ponding Areas	OB (Ponding) OB (Berm Seepage)	<p>Past inspections have noted ponding in the perimeter flat bottom ditch inside rail loop. This appears to be caused by the flat grade of the railroad bed and does not appear to be seepage. The ponding restricts mowing of the ditch during wet periods but otherwise is not a concern. Ponding observed in 2024 is attributed to recent rainfall.</p> <p>An area along the northern berm of the Bottom Ash Pond, west of the Fly Ash Pond has previously been identified as an area of potential seepage from the Bottom Ash Pond. In mid-2018, GER subcontracted to Reitz & Jens, Inc. (St. Louis) to complete an evaluation of the area of the northern embankment of the Bottom Ash Pond. The report stated that the possible seepage did not have a negative impact on the stability of the embankments. Future remediation of the wet area may be appropriate at a future date based on regulatory or other considerations.</p> <p>A separate saturated area along the southwestern berm of the Bottom Ash Pond was previously observed during the 2021 annual inspection. Green vegetation was observed at this location in 2022 during a regional drought condition.</p> <p>No visual signs of erosion of the outer berm soils were observed during prior inspections between 2016 and 2024. The outer slopes of the berms have been routinely maintained (i.e., mowed) and there was no evidence of rutting or other distress from mowing equipment observed in the area. Therefore, it is recommended that these areas continue to be visually monitored to note any change in conditions. Investigation of wet areas may be appropriate at a future date based on regulatory or other considerations.</p>

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Erosion/Rutting	MM/OB	Four cases of erosion or rutting of the ramps were documented in the 2024 weekly inspection reports. Rutting was identified in the October 20 weekly report with Condition Code MM and in the May 27, October 13, and November 10 weekly reports with Condition Code OB. This condition was corrected and was not observed during the November 19, 2024, visual inspection. Continued monitoring of the BAP ramps for rutting and erosion is recommended.
Fencing	GC	No fencing is adjacent to the Bottom Ash Pond. Plant fencing is intact.
Vegetation	NI	This federal CCR rule criteria has been remanded and, therefore, is not currently applicable.
Sloughs/Slides/ Cracks	GC	No evidence was observed in 2024. Two small 'humps' have been noted at the top of the outer berm slope since 2016 and have not been considered structural problems.
Animal Control	IM	Evidence of animal burrows or holes was observed in 2024 along the southwest corner of the pond berm. Repair of the burrows is recommended with continued monitoring of animal activity.
Other	NA	No other items were observed that are applicable to the federal CCR rules.

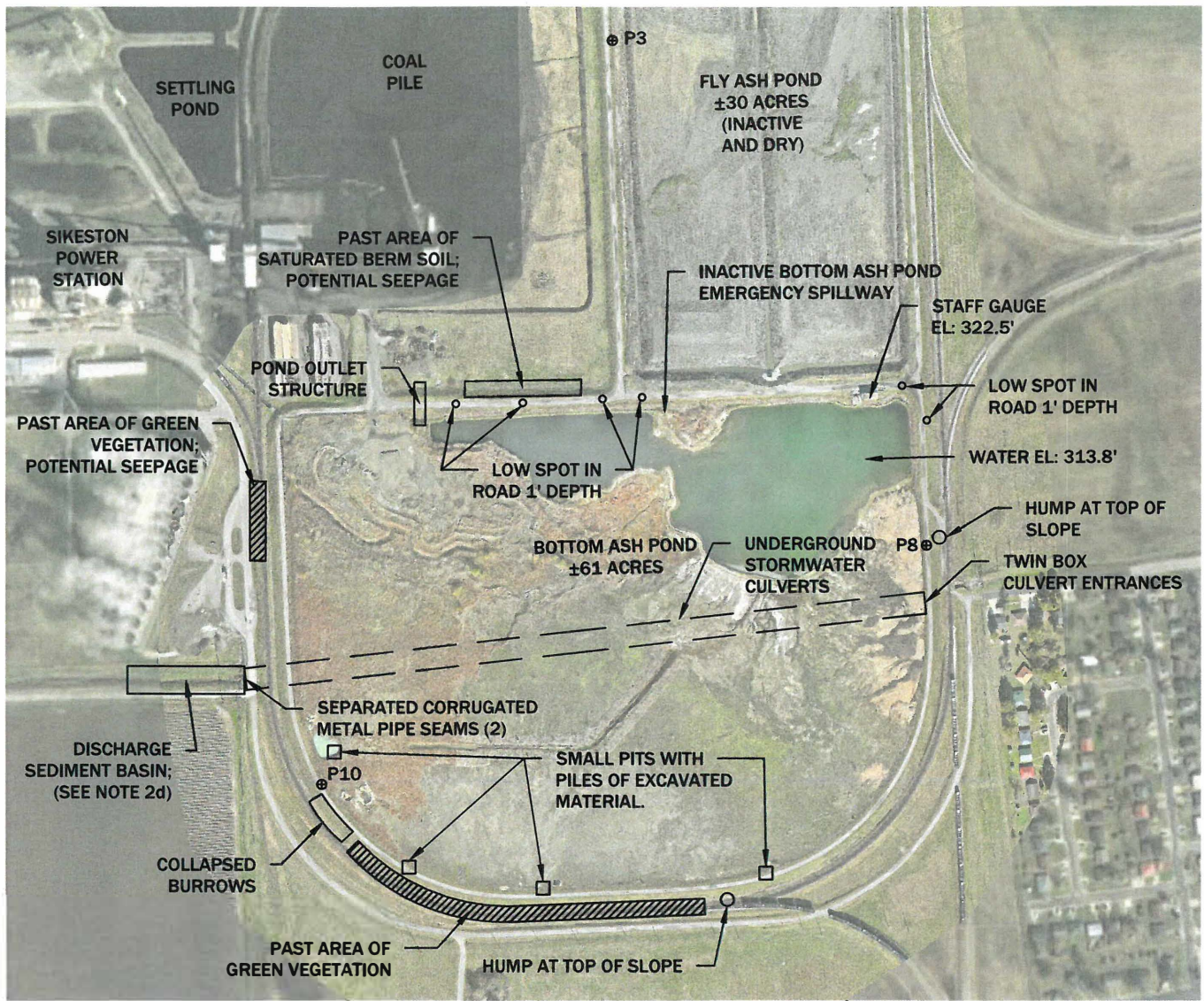
Condition Codes:

- 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.

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

Additional Notes:

1. **NOTE – BAP IS INACTIVE SINCE JUNE 5, 2023**



NOTES

1. IMMEDIATE MAINTENANCE ITEMS INCLUDE:
 - a. COLLAPSED BURROWS ALONG THE SOUTHEAST CORNER OF BERM.
2. MINOR MAINTENANCE ITEMS INCLUDE:
 - a. APPROXIMATELY FIVE LOW SPOTS IN THE GRAVEL ROAD ON THE NORTH PERIMETER BERM OF THE BOTTOM ASH POND.
3. ITEMS REQUIRING FURTHER OBSERVATION INCLUDE:
 - a. PAST AREA OF SATURATED BERM SOIL ALONG NORTHERN BERM, WEST OF THE FLY ASH POND. (CONDITIONS ARE UNCHANGED SINCE 2016)
 - b. PAST AREA OF GREEN VEGETATION ON WESTERN AND SOUTHWESTERN BERM SLOPES INDICATE POSSIBLE SEEPAGE. CONTINUED OBSERVATION AND MONITORING RECOMMENDED.
 - c. SEPARATED CORRUGATED METAL PIPE SEAMS AT THE DISCHARGE END OF THE SOUTHERN STORMWATER CULVERT PASSING BENEATH THE BOTTOM ASH POND. (CONDITIONS ARE UNCHANGED SINCE 2016)
 - d. GRASS LINED CHANNEL AT THE OUTLET OF THE STORMWATER CULVERTS PASSING BENEATH THE BOTTOM ASH POND FROM EAST TO WEST REMAINS CLEAR OF BRUSH. THE SEDIMENT BASIN IS PARTLY FILLED WITH SEDIMENT AND DEBRIS. RE-EXCAVATION OF THE SEDIMENT BASIN IS RECOMMENDED IN 2024.
 - e. TWIN BOX CULVERT VIDEO INSPECTION WAS COMPLETED IN 2021 TO VERIFY STRUCTURAL STABILITY.
4. ITEMS IDENTIFIED DURING THE ANNUAL INSPECTION WHICH DO NOT REQUIRE MAINTENANCE:
 - a. THE HISTORICALLY IMPEDED OVERFLOW STRUCTURE BETWEEN THE BOTTOM ASH POND AND THE FLY ASH POND.

LEGEND:

- PIEZOMETER P8
- GREEN VEGETATION



**FIGURE 1
BOTTOM ASH POND
2024 ANNUAL INSPECTION**

SIKESTON POWER STATION



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DATE 01/2025	SCALE 1" = 500'	PROJECT NAME SIKESTON - ANNUAL INSPECTION	REVISION N/A
DRAWN CM	APPROVED TG	FILE NAME 2024 ANNUAL INSPECTION BAP	SHEET # 1 OF 1