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# D.B. Wilson Phase II CCR Landfill

Disposal of Coal Combustion Residuals (CCR) from Electric  
Utilities Final Rule  
CCR Phase II Landfill 2020 Annual Inspection Report

Big Rivers Electric Corporation

201 3rd Street  
Henderson, KY 42420

Project number: 60636728

January 8, 2021

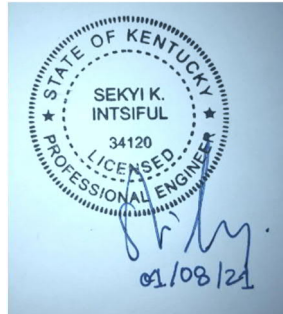
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# 1. Project Background

Per United States Environmental Protection Agency (USEPA) Final Coal Combustion Residual (CCR) Rule §257.84, an annual inspection by a qualified professional engineer is required for each CCR unit. AECOM completed the annual inspection in accordance with the CCR Rule requirements and prepared this D.B. Wilson Phase II CCR Landfill Annual Inspection report for the D.B. Wilson Station, located in Ohio County, Kentucky.

The CCR Rule requires a visual inspection by a licensed professional engineer of each CCR unit to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. This inspection was performed in accordance with the scope of work presented in our proposal number OPP-1027061, dated July 23, 2020, executed under purchase order 260411, per the terms and conditions in the general services agreement with Big Rivers Electric Corporation (BREC) dated November 16, 2017.

# 2. Regulatory Requirements

The annual inspection criteria are specified in CCR Rule Section 257.84(b) (1), which at a minimum includes:

- (i) 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 (e.g., the results of inspections by a qualified person, and results of the previous annual inspections); and
- (ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

In addition to the annual inspections, 7-day inspections per CCR Rule Section 257.84 (a) are completed by BREC and are documented in the facility operating record.

Once the annual inspection has been completed, the CCR Rule Section 257.84(b) (2) requires a report following each inspection that addresses the following:

- (i) Any changes in geometry of the structure since the previous annual inspection;
- (ii) The approximate volume of CCR contained in the unit at the time of the inspection;
- (iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and
- (iv) Any other change(s) which may have affected the stability of operation of the CCR unit since the previous annual inspection.

# 3. Review of Available Information

Prior to completing the visual inspection of the CCR unit, AECOM reviewed the 2019 Annual Inspection Report for the CCR unit, prepared by AECOM, Inc. dated January 10, 2020. Areas in need of repair had been addressed prior to the issuance of the 2019 Annual Inspection Report. The 2019 inspection report concluded “no deficiencies or disrupting conditions that would require immediate measures to remedy were identified in the inspection. The inspection findings consisted of maintenance items that were not observed to be signs or potential signs of significant structural weakness.” In summary, no significant deficiencies were identified, and any previously noted observations were being addressed as part of landfill operations and maintenance.

## 4. Inspection Procedures & Observations

Per CCR Rule Section 257.84 (b) (3) the owner or operator of the CCR unit (BREC) must complete an initial inspection no later than January 18, 2016. This report summarizes the fifth annual inspection performed by BREC since the final CCR Rule took effect October 14, 2015. This inspection was completed on September 15, 2020 by AECOM personnel, Mark Keown, P.E. and Sekyi Intsiful P.E.

The inspection consisted of visual assessment of the landfill and associated protective cover soil, vegetation, and storm water management structures. The inspection began on the west side along the toe of the lowest slope, moving from north to south across each berm on each side of the landfill.

The west side of the landfill was well covered with protective soil and vegetation. Some observations on the west side of the landfill include erosion rills, ruts, and lack of vegetation along the toe on northwest. Following the inspection, BREC seeded and laid straw on the west side of the landfill. The north face of the landfill was well vegetated, and the drainage controls were well maintained. Some observations on the north face include lack of vegetation, erosion, and partial vegetation on third berm. The east face was generally well vegetated, however, some maintenance items observed on the east side of the landfill include lack of vegetation on the uphill slope on first berm on southeast; slight sloughing on uphill slope on first berm on southeast; and erosion near and around manhole on third berm on northeast. In addition, sparse vegetation was observed along the toe of the east slope. BREC has been conditioning the cover soil in order to sustain vegetation. The area did not have significant erosion rills, however, should continue to be monitored for development of erosion rills and repaired if necessary.

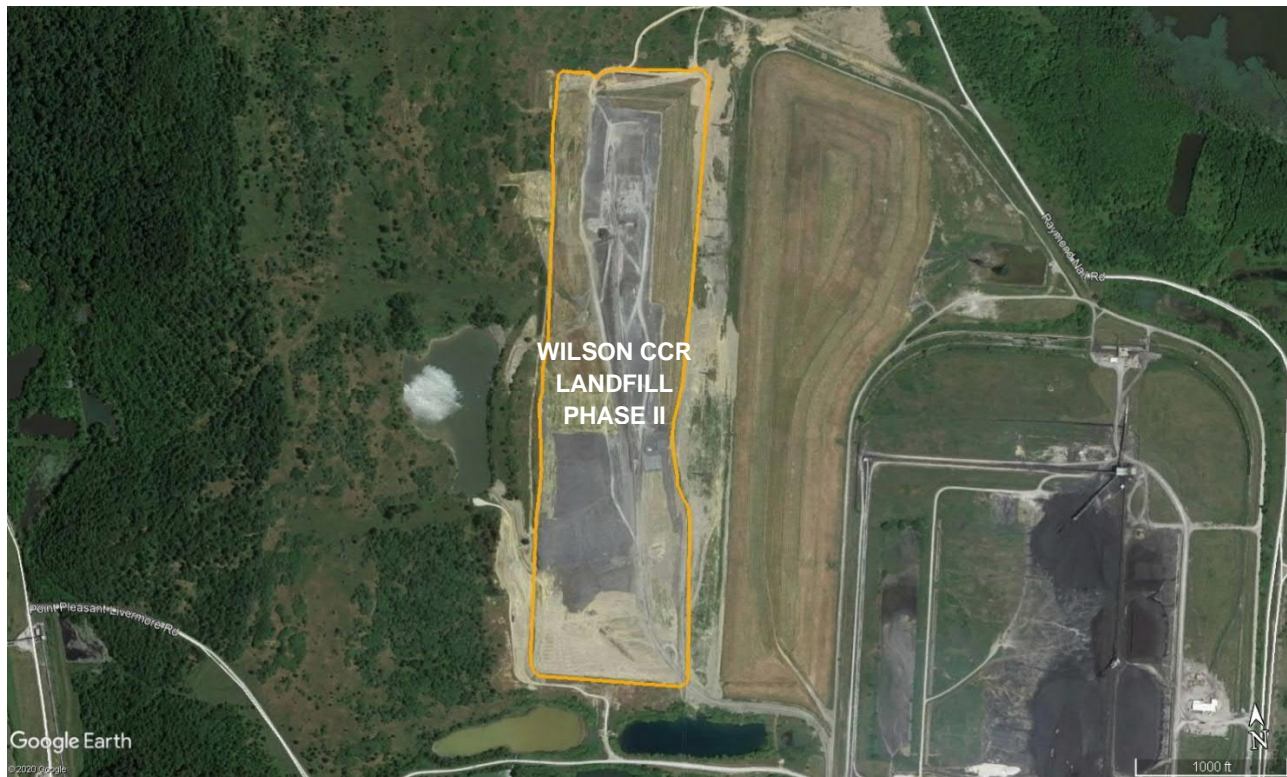
The inspection was limited to the portions of the landfill that had protective cover soils placed and were not part of the working face of the landfill. The working face and protective cover of the landfill is maintained by BREC.

## 5. Inspection Findings

Per CCR Rule Section 257.84(b) (2) the following observations were made.

### 5.1 CCR Landfill Geometry

The D.B. Wilson Phase II CCR Landfill is used for the placement of coal combustion residual (CCR) material including fly ash, bottom ash, Poz-O-Tec, and related materials. The landfill has a maximum elevation of approximately 530 feet above mean sea level (ft. AMSL). The original topography within the landfill footprint was irregular with a ridge to the west near the Green River. Elk Creek and small stream valleys drain to the south, as well as other small tributaries draining west, towards the Green River, and north, towards the Rough River. An aerial photograph of the D.B. Wilson Phase II CCR Landfill is presented on the next page in Figure 1.



**Figure 1: D.B. Wilson Phase II CCR Landfill Aerial Photograph**

Changes to the landfill geometry since the 2019 annual inspection includes placement of additional CCR, protective cover soils and establishing vegetation on the landfill.

## 5.2 CCR Landfill Volume

The total volume of CCR material contained in the D.B Wilson Phase II CCR Landfill was estimated to be 3.3 million cubic yards, by comparing the available baseline topography to the October 14, 2020 flight-derived topographic contours presented in the D.B. Wilson CCR Landfill 2020 CCR Volume and Geometry Information, prepared by Associated Engineers, Inc. dated October 19, 2020.

## 5.3 CCR Landfill Structural, Operational, and Safety Items

No significant deficiencies were identified in the inspection. The inspection findings consisted of mainly maintenance items discussed previously in Section 4. These maintenance items were not observed to be potential signs of significant structural weakness. These maintenance items were addressed prior to the time this report was written .

## 5.4 CCR Landfill Changes

There have been no changes to Phase II of the D.B. Wilson CCR Landfill since the previous 2019 annual inspection that may have the potential to affect the stability or operation of the CCR unit. Changes include typical operations activities such as placement of additional CCR material and protective cover soil to meet the closure design grades of the landfill.

## 6. Recommendations – General Maintenance and Monitoring Conditions

### Overall

1. Continue regular mowing of all berms with vegetation control to prevent the growth of excessive woody plants and brushes.
2. Continue monitoring and regular maintenance of minor erosion rills in timely manner.
3. Continue weekly inspection as required by the CCR mandated roles and submit Inspection Reports to the facility operating record in a timely manner.
4. Continue to improve soil conditions on the east side at the toe of slope to establish vegetation.

### Active Areas

1. Continue current maintenance practices.

### Closed Areas

1. Continue current maintenance practices.

## 7. Recommendations – Remedial Actions/Repairs

### Active Areas

1. No deficiencies were observed during the site inspection that would require remedial action or repairs.

### Closed Areas

1. Continue to complete seasonal repairs such as reseeding where sparse vegetation and filling in ruts caused by tractor and mowing operations.
2. Continue to check catch basins for obstructions and clear as needed.
3. Consider options to improve the outlet pipe erosion control features on the east side of the landfill.