



Your Touchstone Energy® Cooperative 

## **D. B. Wilson Station CCR Landfill**

### **Disposal of Coal Combustion Residuals (CCR) from Electric Utilities Final Rule Run-on and Run-off Control System Plan**

**October 11, 2016  
Revised September 19, 2017**

**Prepared By:**



**Project ID: 160030 & 170137A**

**Big Rivers Electric Corporation**  
**Disposal of Coal Combustion Residuals (CCR) from Electric Utilities Final Rule**  
**Run-on and Run-off Control System Plan**

**CCR Landfill Information**

Name: D.B. Wilson Station CCR Landfill  
Operator: D.B. Wilson Generating Station  
Address: 5663 State Route 85 West  
Centertown, KY 42328

**Qualified Professional Engineer**

Name: David A. Lamb  
Company: Associated Engineers, Inc.  
Kentucky P.E. Number: 17822

**Regulatory Applicability**

As part of the § 257.81 for existing CCR landfill requirements, the owner or operator of an existing or new CCR landfill must design, construct, operate, and maintain a run-on and run-off control system plan as specified below. The owner or operator of the CCR unit must prepare the initial inflow design flood control system plan no later than October 17, 2016.

The owner or operator of an existing CCR landfill must design, construct, operate, and maintain:

- (1) A run-on control system to prevent flow onto the active portion of the CCR unit during the peak discharge from a 24-hour, 25-year storm; and
- (2) A run-off control system from the active portion of the CCR unit to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

Run-off from the active portion of the CCR unit must be handled in accordance with the surface water requirements under § 257.3-3 (Part 257 - Criteria for Classification of Solid Waste Disposal Facilities and Practices Subpart A - Classification of Solid Waste Disposal Facilities and Practices Section 257.3-3 - Surface water):

Run-on and run-off control system plan:

- (1) *Content of the plan.* The owner or operator must prepare initial and periodic run-on and run-off control system plans for the CCR unit. These plans must document how the run-

on and run-off control systems have been designed and constructed to meet the applicable requirements of this section. Each plan must be supported by appropriate engineering calculations. The owner or operator has completed the initial run-on and run-off control system plan when the plan has been placed in the facility's operating record.

- (2) *Amendment of the plan.* The owner or operator may amend the written run-on and run-off control system plan at any time provided the revised plan is placed in the facility's operating record. The owner or operator must amend the written run-on and run-off control system plan whenever there is a change in conditions that would substantially affect the written plan in effect.

### **Description of Landfill**

An aerial photo of the CCR unit is provided as Attachment A and an excerpt from U.S. Geological Survey (USGS) 7.5 minute Equality topographic quadrangle map showing the location of the CCR unit is provided as Attachment B.

The CCR unit is used for the placement of coal combustion residual material; currently fly ash, bottom ash and related material. The approximate total volume of CCR contained in the unit at the time of inspection is 1.8 million cubic yards. This volume was calculated from available flight derived pre-disposal baseline topography compared to December 2015 flight derived topographic contours. The D.B. Wilson CCR landfill is raised above adjacent ground to a maximum elevation of approximately 520 feet AMSL. The original ground surface within the landfill footprint was irregular and the predominant features were the headwaters of Elk Creek and small stream valleys draining south. Other small tributaries drained west towards the Green River and north towards the Rough River.

### **Run-on and Run-off Control System Plan**

The initial run-on and run-off control system plan documents that the run-on control system will prevent flow onto the active portion of the CCR unit during the peak discharge from a 24-hour/25-year storm; and that the run-off control system from the active portion of the CCR unit will collect and control at least the water volume resulting from a 24-hour/25-year storm.

#### **Run-on Control Analysis**

An evaluation of the D.B. Wilson CCR landfill configuration and topography resulted in the determination that because of the elevated position of active portions of the landfill, no significant run-on can occur and the only drainage onto active areas is storm water generated from direct precipitation; thus the CCR unit run-on system will prevent flow onto the active portion of the CCR unit during the peak discharge from the design storm event.

#### **Run-off Control Analysis**

Analysis of the D.B. Wilson CCR landfill drainage and sedimentation basin configurations and designs via SEDCAD modeling demonstrates that the design flood control system

adequately manages flow out of the CCR unit during and following the specified 24-hour/25-year storm event. SEDCAD by Civil Software Design, LLC is a widely recognized comprehensive hydrology and sedimentology package, useful for runoff and sediment control design calculations. The SEDCAD modeling results for the D.B. Wilson CCR landfill are attached to this report.

#### Leachate Control Analysis

Per Part 257.53 of the CCR rule, the definitions for run-on and run-off both include leachate. Big Rivers Electric Corporation manages leachate through several options. In the event of leachate outbreaks, the leachate drainage would be routed to a sedimentation basin and permitted KPDES outfall. In some instances, other processes such as chemical treatment would be utilized to manage the leachate. In all instances, run-on or run-off water containing leachate would meet applicable KPDES effluent limits for permitted outfalls prior to discharge. Therefore, any leachate drainage would comply with all applicable regulations prior to discharge.

The operating facility has verified that discharge from the D.B. Wilson CCR landfill is handled in accordance with the surface water requirements under § 257.3-3 (Part 257 - Criteria for Classification of Solid Waste Disposal Facilities and Practices Subpart A - Classification of Solid Waste Disposal Facilities and Practices Section 257.3-3 - Surface water).

#### **Sources of Information**

Geotechnical and other information provided by Associated Engineers, Inc.

Engineering design drawings and other information provided by Big Rivers Electric Corporation

United States Geological Survey U.S. Geological Survey (USGS) 7.5 minute Equality topographic quadrangle map

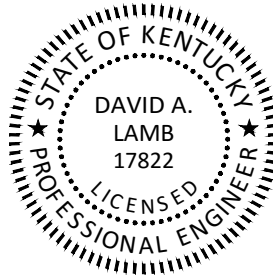
**Professional Engineer Certification [Per 40 CFR § 257.81]  
D.B. Wilson CCR Landfill Run-on and Run-off Control System Plan**

I hereby certify that myself or an agent under my review has prepared this Run-on and Run-off Control System Plan (Plan), and being familiar with the provisions of the final rule to regulate the disposal of coal combustion residuals (CCR) as solid waste under subtitle D of the Resource Conservation and Recovery Act (RCRA), attest that this Plan has been prepared in accordance with good engineering practices and meets the intent of 40 CFR Part 257.81. To the best of my knowledge and belief, the information contained in this Plan is true, complete, and accurate.



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David A. Lamb P.E.

State of Kentucky License No. 17822

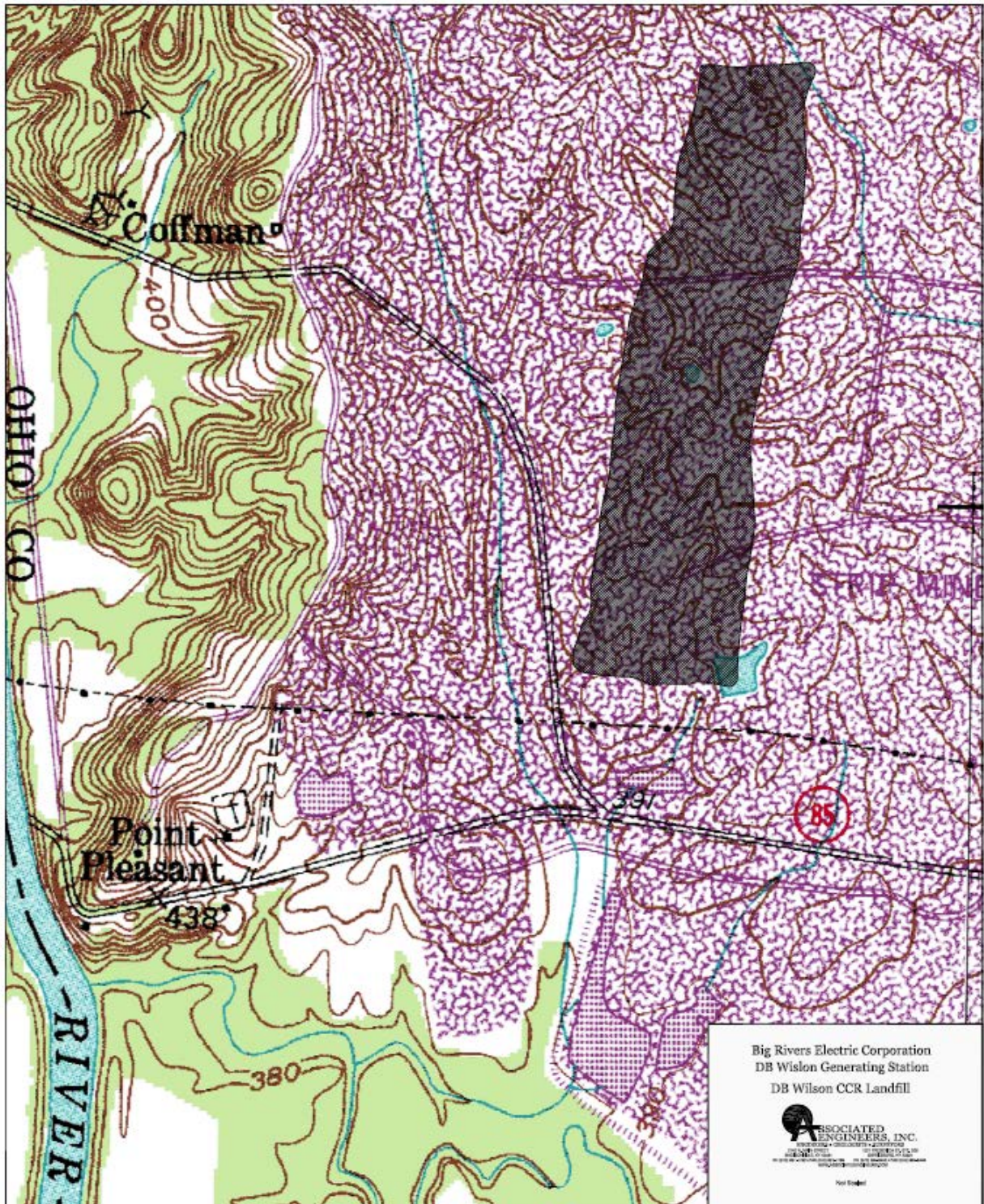


Date: 09/25/2017



Attachment A. Aerial Photo of the D.B. Wilson CCR Landfill





Attachment B. Topographic Map showing the D.B. Wislon CCR Landfill