

Shawnee Fossil Plant



MCCRACKEN COUNTY, KENTUCKY



EPA CCR Rule Groundwater Monitoring for 2019

This fact sheet summarizes groundwater monitoring conducted by TVA for the Shawnee Fossil Plant, as required by the U.S. Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) Rule for the 2019 calendar year. The EPA published the CCR Rule on April 17, 2015. It requires companies operating coal-fired power plants to study whether constituents in CCR have been released to groundwater from active, inactive and new CCR impoundments, as well as active and new CCR landfills.

The CCR Rule establishes multiple phases of protective groundwater monitoring including baseline sampling, Detection Monitoring and Assessment Monitoring. Corrective action may be necessary at the completion of this process. For more information on the CCR Rule Groundwater Monitoring requirements, refer to the Executive Summary that can be found by clicking on the following hyperlink www.tva.com/ccr.

Shawnee Plant CCR Rule Groundwater Monitoring Network

In addition to ongoing groundwater monitoring required under State regulations, TVA established a monitoring well network for the Ash Pond 2 (Main Ash Pond/Stilling Pond) and the Consolidated Waste Dry Stack consisting of “background,” or upgradient, wells in locations that were not expected to be affected by the management of CCR and wells around the edge of the areas where CCR is managed. These wells are sometimes referred to as “downgradient wells” and placed in locations to monitor for releases to groundwater. This CCR Rule groundwater monitoring well network is monitored in accordance with the CCR Rule during the baseline, Detection Monitoring, and Assessment Monitoring phases. The locations of the wells are shown on the figure on the next page.

Commissioning Date: 1957

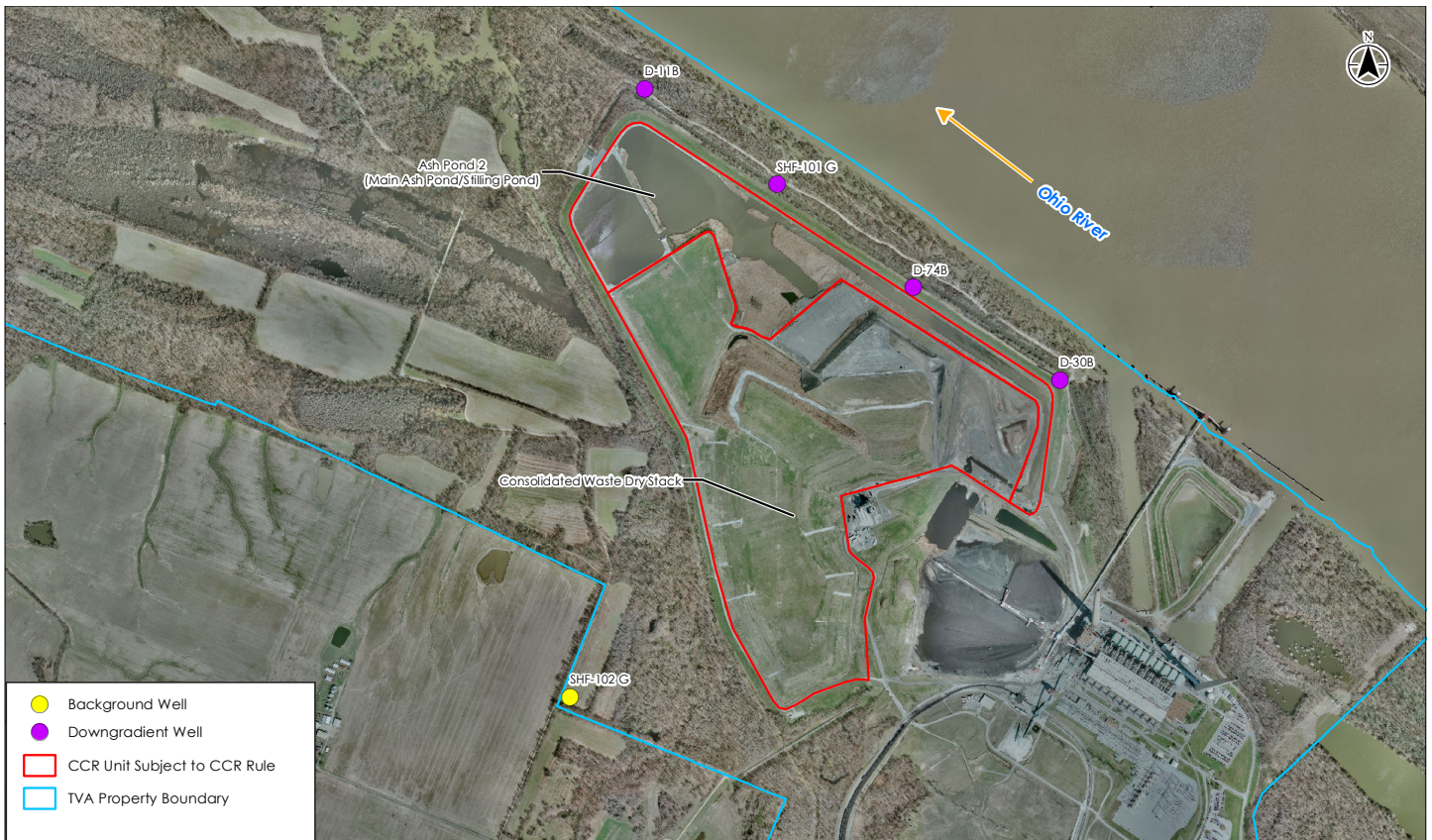
Output: 1,206 Megawatts
(8 Billion kilowatt-hours per year)

Number of homes powered:
Approximately 540,000 homes

Wet to Dry / Dewatered Conversion Program: Complete for fly ash and scrubber waste.

CCR Units Closed: 9 acres

TVA Wide CCR Conversion Program Total Spend:
Approximately \$1.3 Billion



2019 Shawnee Fossil Plant CCR Rule Assessment Monitoring Results

The Assessment Monitoring results are contained in the **2019 Annual Groundwater Monitoring and Corrective Action Reports***. The reports can be found on the CCR Rule website at www.tva.com/ccr.

For the 2019 assessment monitoring events, the previously observed molybdenum-related statistically significant level (SSL) above the groundwater protection standard in 2018 was not recorded at well D-74B.

*The results in these reports reflect quality of groundwater beneath the CCR units and are not necessarily an indication of impacts beyond TVA property. Local utilities are required to test public drinking water supplies to ensure that they are safe for consumption. Monitoring data consistently shows that surface water quality is not being adversely impacted by TVA's operations of its coal plants, including ash management practices.

The following table shows there are no reported exceedances of GWPS for 2019, as reflected by lack of red dots. Out of the five wells sampled, none of the wells contain an SSL in 2019. Refer to Appendix A – Statistical Analysis Report of the 2019 Annual Groundwater Monitoring and Corrective Action Reports for more information.

2019		GROUNDWATER QUALITY MONITORING WELL LOCATIONS				
		Background Wells	Ash Pond 2 (Main Ash Pond/Stilling Pond) & Consolidated Waste Dry Stack			
Constituent	GWPS mg/L	SHF-102G	D-11B	SHF-101G	D-74B	D-30B
Antimony	0.006	●	●	●	●	●
Arsenic	0.01	●	●	●	●	●
Barium	2	●	●	●	●	●
Beryllium	0.004	●	●	●	●	●
Cadmium	0.005	●	●	●	●	●
Chromium	0.1	●	●	●	●	●
Cobalt	0.006	●	●	●	●	●
Fluoride	4	●	●	●	●	●
Lead	0.015	●	●	●	●	●
Lithium	0.04	●	●	●	●	●
Mercury	0.002	●	●	●	●	●
Molybdenum	0.1	●	●	●	●	●
Rad226+228	5 pCi/L	●	●	●	●	●
Selenium	0.05	●	●	●	●	●
Thallium	0.002	●	●	●	●	●

Color Coding Key

- Monitoring data results are below groundwater protection standards (GWPS)
- Monitoring data results are below GWPS, but results are 65% or more of the GWPS
- Monitoring data results exceed GWPS (TVA has initiated and completed assessment of corrective measures report)

Next Steps for Shawnee Fossil Plant CCR Rule Groundwater Monitoring

TVA will continue to monitor and evaluate the groundwater at the Shawnee Fossil Plant site. TVA has completed an Assessment of Corrective Measures Report to analyze the potential effectiveness of potential corrective measures. This report was posted on the CCR Rule website on August 14, 2019.

Despite the absence of an SSL in the 2019 data set, TVA is continuing to evaluate potential groundwater remedies in the event future monitoring demonstrates the necessity. As a result, a Semiannual Report on the Progress of Remedy Selection was prepared and posted on the CCR Rule website on February 14, 2020.