

Kingston Fossil Plant

KINGSTON, TENNESSEE



QUICK FACTS



EPA CCR Rule Groundwater Monitoring

This fact sheet summarizes groundwater monitoring conducted by TVA for the Kingston Fossil Plant, as required by the U.S. Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) Rule. 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, go to www.tva.com/ccr.

Kingston Plant CCR Rule Groundwater Monitoring Network

In addition to ongoing groundwater monitoring required under State regulations, TVA installed additional wells around the CCR management unit, as needed, and implemented a baseline sampling program. After completion of the baseline sampling, TVA began Detection Monitoring. The constituents specified by the CCR Rule for Detection Monitoring are boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS). These seven constituents occur naturally in soils, rock, groundwater and surface water, and can also be present in coal and in CCR. They were selected by EPA because they can indicate groundwater conditions that may require further evaluation.

Commissioning Date: 1955

Output: 1,398 Megawatts (10 Billion kilowatt-hours per year)

Number of homes powered:
Approximately 700,000 homes

Wet to Dry / Dewatered Conversion Program: Complete for fly ash, bottom ash, and gypsum

CCR Units Closed: 351 acres

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

TVA installed “background”, or upgradient, wells in locations that are not expected to be affected by the management of CCR. Other wells were drilled around the edge of the areas where CCR is managed or already existed and were being monitored. These wells are sometimes referred to as “downgradient wells” and placed in locations to monitor for releases to groundwater. The locations of the wells are shown below.



CCR Rule Detection Monitoring Results for Kingston Fossil Plant

TVA prepared its initial **2017 Annual Groundwater Monitoring and Corrective Action Report** for the Kingston Fossil Plant, which analyzed the detection monitoring results to determine if there were statistically significant increases (SSIs) over background levels. The report can be found by clicking on the following hyperlink www.tva.com/ccr. The initial comparison of downgradient wells to upgradient wells shows that concentrations of boron, calcium, chloride, fluoride, pH, sulfate and TDS around the CCR management unit may be greater than naturally occurring levels. Data does not reflect the quality of public drinking water supplies, which are regularly tested to confirm they are meeting safe drinking water standards.

2018 Groundwater Monitoring Activities

Since the initial groundwater monitoring results identified SSIs, TVA conducted an alternate source demonstration to determine if the exceedances were the result of another source or the result of an error in the sampling or analytical method, or natural variability in groundwater quality. The demonstration determined the SSIs were due to sources other than the Peninsula Disposal Area CCR unit. The demonstration is contained in the **2018 Annual Groundwater Monitoring and Corrective Action Report**. The report can be found at www.tva.com/ccr.

Next Steps for Kingston Fossil Plant CCR Rule Groundwater Monitoring

TVA will continue detection monitoring for the Peninsula Disposal Area CCR Unit. In addition, the Kingston Plant has two CCR units that did not require detection monitoring under the original CCR Rule. However, these units are now included under the revised CCR Rule on a different schedule and the initial results of Detection Monitoring are included in the Initial Annual Groundwater Monitoring and Corrective Action Report which will be posted to the CCR website on September 3, 2019.