

# Assessment of Corrective Measures

## CCR RULE GROUNDWATER MONITORING REQUIREMENTS



Groundwater monitoring of active, inactive and new coal combustion residual (CCR) impoundments, as well as active and new CCR landfills, is required by the U.S. Environmental Protection Agency (EPA) under the federal CCR Rule.\* The CCR Rule sets up numerous phases of protective groundwater monitoring, including baseline sampling, Detection Monitoring and Assessment Monitoring, as well as corrective action if needed.

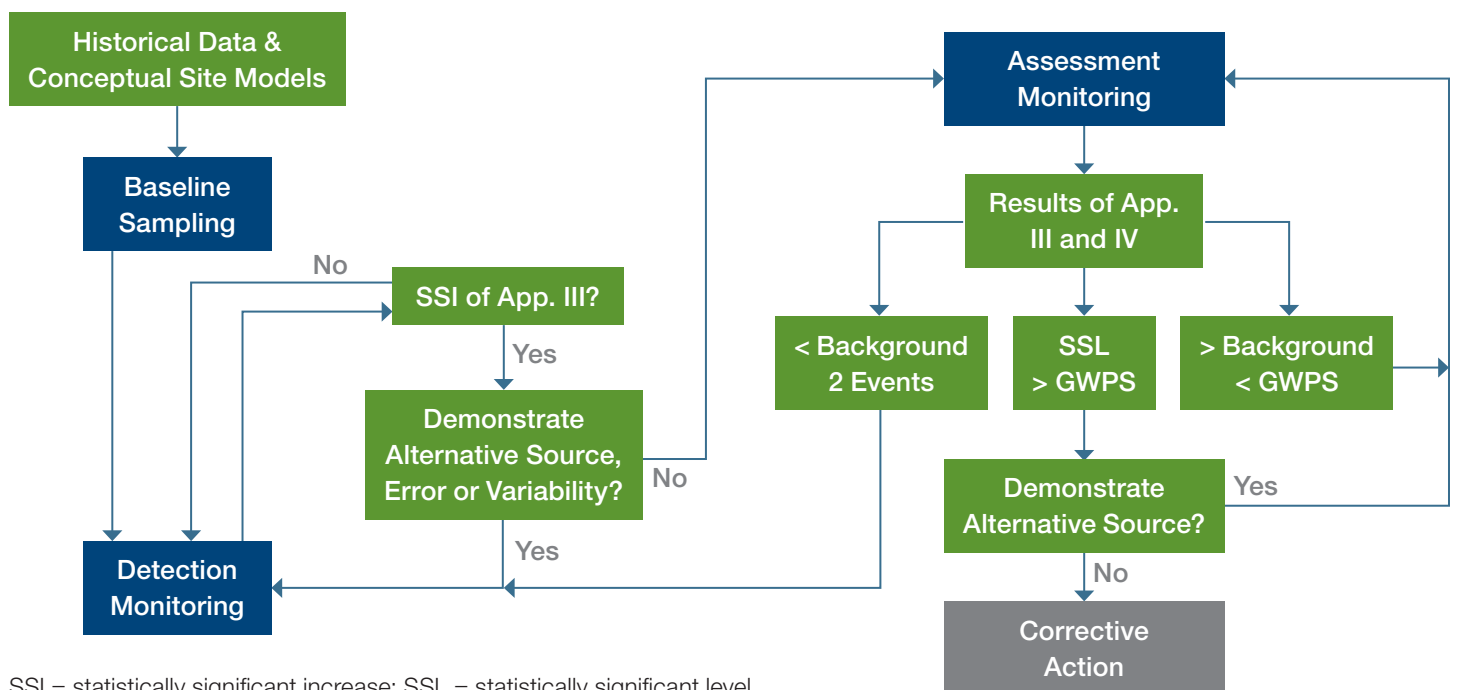
Sampling results are not meant to indicate impacts to groundwater beyond TVA property, nor any impacts to public drinking water sources.

### Background of Groundwater Monitoring Activities Outlined by the CCR Rule

TVA completed its initial baseline sampling and posted the results in its 2017 Annual Groundwater Monitoring reports for required CCR units outlined in the CCR Rule\*\*. In 2018, TVA did additional sampling to classify sites in two categories for continued monitoring under the CCR Rule—Detection Monitoring and Assessment Monitoring. Those results were included in the 2018 Annual Groundwater Monitoring and Corrective Action Reports, also posted on the TVA website.

At the sites that required Assessment Monitoring, TVA has completed its Assessment of Corrective Measures (ACM). These reports include locations of monitoring wells where constituents were found at statistically significant levels (SSL) above site-specific groundwater protection standards (GWPS). They also outline expected closure dates for the CCR units at each site.

### CCR Groundwater Monitoring Phases



SSI = statistically significant increase; SSL = statistically significant level  
 GWPS = groundwater protection standard  
 App. III and IV = lists of CCR constituents to be analyzed

\* EPA Coal Combustion Residuals (CCR) Rule [40 CFR 257, Subpart D] published on April 17, 2015.

\*\* Inactive CCR impoundments follow a different timeline set forth in the CRR Rule. TVA has posted the initial Annual Groundwater Monitoring and Corrective Action Reports for the inactive CCR impoundments to its CCR Rule Compliance Data and Information website.

During Assessment Monitoring, concentrations of materials commonly found in CCR are compared to GWPS at each site to see if any levels are found at a SSL above those standards.

Once a facility enters the Assessment Monitoring Program, there are several possible outcomes (as seen in the graphic on the previous page):

- If any of the constituent concentrations are at or below the background levels (or if the background levels are naturally high as noted on the GWPS for two consecutive sample events, then the CCR unit returns to the Detection Monitoring Program.
- If any of the constituent concentrations are above background levels, but are below all of the GWPS, then the CCR unit remains in the Assessment Monitoring Program.
- If there is a SSL occurrence, utilities can perform additional testing to prove the levels were caused by something other than the CCR unit, known as an Alternative Source Demonstration (ASD), within 90 days. Other causes could include another source unrelated to the CCR unit, an error in sampling, analysis or statistical evaluation, or a natural variation in groundwater quality. A CCR unit can continue under the Assessment Monitoring Program if a successful ASD justification explaining the SSL occurrence is made.

For sites where there has been an SSL occurrence and the sampling result cannot be attributed to an alternative source (including sampling error, natural increase in background levels, etc., as described above), an ACM must begin within 90 days.

The ACM reports have been posted for those CCR units and are provided by going to [www.tva.com/ccr](http://www.tva.com/ccr) and selecting the individual site for the report.

## Next Steps

Following completion of the ACM report, the process for selecting a remedy for the specific GWPS exceedances will commence. A corrective measure remedy must be selected as soon as feasible, and during the evaluation, TVA is required to produce semi-annual reports describing the progress made toward the selection and design of the remedy as well as any new GWPS exceedances from continued semi-annual Assessment Monitoring sampling.

At least 30 days prior to when the final remedy is selected, a public meeting will be held with interested and affected parties to discuss the results of the corrective measures assessment. TVA will continue to review new data as it becomes available and implement changes to the groundwater monitoring and corrective action program as necessary to maintain compliance.