

## Ash Pond Assessment Needs

1. An assessment of groundwater constituents detected at or beyond the compliance boundary that are above the groundwater standards found in 15A NCAC 2L .0202, is needed to determine whether any of those exceedances are naturally occurring. This assessment shall include:
  - o a statistical evaluation of analytical results in support of assessment determinations;
  - o a comparison of constituents of concern to naturally occurring constituents;
  - o development and refinement of a groundwater conceptual model that describes groundwater chemistry and flow system including incorporation of seeps related to groundwater discharge; and,
  - o continued evaluation of well location, construction, and development.

If unable to determine whether exceedances are attributed to the Ash Pond or are naturally occurring based on evaluation of available data and resources, additional investigation, including but not limited to construction and sampling of new monitoring wells, shall be performed to such level to support accurate conclusions.

2. For those groundwater constituents detected at or beyond the compliance boundary that are above the groundwater standards found in 15A NCAC 2L .0202, and that are determined not to be naturally occurring, a report which assesses the cause, significance and extent of each groundwater exceedance shall be provided. This shall include:
  - o The source and cause of exceedances;

- Any imminent hazards to public health and safety and actions taken to mitigate them in accordance with Paragraph (f) of 15A NCAC 2L .0106;
  - All receptors and significant exposure pathways;
  - The horizontal and vertical extent of soil and groundwater exceedances and all significant factors affecting contaminant transport; and
  - Geological and hydrogeological features influencing the movement, chemical, and physical character of the compounds showing exceedances.
3. Water quality sampling of the discharges from any toe drains of the Ash Ponds, overtopping or breaches of berms or dikes surrounding the Ash Ponds, and any other discharges that may be credited to the Ash Ponds; characterize these discharges, including volume; and determine whether there are water quality or groundwater quality violations or concerns.
  4. Water quality sampling of any public or private water supply wells that have the potential to be impacted by coal ash constituents as selected by DWQ.
  5. For all groundwater sampling, the most sensitive of the methods or procedures from sources listed in 15A NCAC 2L.0112 must be used to determine compliance with the groundwater standards in 15A NCAC 2L .0202 for substances where the standard is at or above the method detection limit.
  6. Submit to the Division a 1:24,000 scale topological map that indicates the locations of all toe drain outfalls associated with each Ash Pond. For each toe drain outfall:
    - Specify its latitude and longitude.
    - Specify whether the discharge is continuous or intermittent.

- Provide a monthly average flow measurement, including a description of the method used to measure flow.
  - Conduct and submit to the Division an analysis of the discharge for all parameters listed in EPA NPDES Application Form 2C (EPA Form 3510-2C) using the chemical analysis methods in 40 CFR Part 136 with detection levels appropriate to determine compliance with NC water quality standards.
7. Submit to the Division a 1:24,000 scale topological map that indicates the locations of all seeps on the dam walls or at the bottom of the dams for each Ash Pond. For each seep:
- Specify its latitude and longitude.
  - Specify whether the discharge is continuous or intermittent.
  - Provide a monthly average flow measurement, including a description of the method used to measure flow.
  - Specify whether the discharge from the seep reaches surface waters or connects to the existing outfall.
  - If the discharge from the seep reaches surface water, identify the location of the outfall on the map (to include latitude and longitude) and conduct and submit to the Division an analysis of the discharge for all parameters listed in EPA NPDES Application Form 2C (EPA Form 3510-2C) using the chemical analysis methods in 40 CFR Part 136 with detection levels appropriate to determine compliance with NC water quality standards.
8. For any areas where the Groundwater compliance boundary extends to, into or beyond a surface water feature such as a stream or lake, collect water samples of those features sufficient to determine compliance with applicable Water Quality standards.