

June 13, 2018

Tennessee Valley Authority  
1101 Market Street  
Chattanooga, Tennessee 37402

**Groundwater Monitoring System, Revision 1  
Peninsula Disposal Area  
TVA Kingston Fossil Plant  
Roane County, Tennessee**

**1.0 Introduction**

This letter documents AECOM's updated certification of the groundwater monitoring system for the Tennessee Valley Authority (TVA) Kingston Fossil Plant Peninsula Disposal Area. The monitoring system was initially certified on October 16, 2017; this update reflects corrected well survey coordinates. Based on information evaluated by AECOM, the groundwater monitoring system, first year baseline monitoring phase of TVA's Coal Combustion Residuals (CCR)-Rule Groundwater Quality Monitoring Program, meets the performance standard specified in the Final CCR Rule at 40 CFR § 257.91.

**2.0 Summary of Findings**

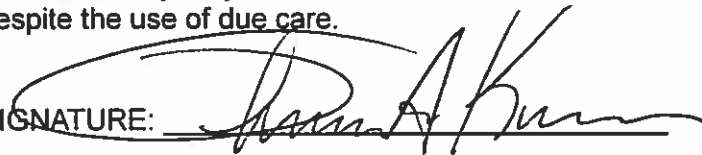
In establishing the groundwater monitoring system for the Peninsula Disposal Area at the Kingston Fossil Plant in Roane County, Tennessee, AECOM developed a hydrogeologic characterization of the site, designed and reviewed the installation of the monitoring wells, and evaluated available groundwater data. Based upon review of the available information, the groundwater monitoring system at the Peninsula Disposal Area meets the performance standard specified in 40 CFR § 257.91, based on the following criteria:

- There are a sufficient number of wells installed at appropriate locations and depths to yield groundwater samples that accurately represent the quality of background groundwater unaffected by CCR and the quality of groundwater at the downgradient waste boundary (257.91(a)(1) and (2)).
- The wells provide samples from the uppermost aquifer (257.91(a) and 257.53).
- The groundwater monitoring system contains two background and six downgradient monitoring wells, thus the number of wells in the system exceeds the minimum specified in 257.91(c)(1).
- The system contains two background wells (G-1B, KIF-101) representing conditions unaffected by CCR (257.91(a)(1) and (c)(1)).

- The system contains six downgradient wells (G-3A, G-3B, G-5A, G-5B, G-7A, G-7B) monitoring groundwater near the waste boundary (257.91(a)(2) and (c)(1)).
- The system also contains three wells (G-8B, G-9B, G-10B) which will be located downgradient from a future landfill expansion. Until that expansion, data from these wells represents background conditions unaffected by CCR.
- The system includes additional wells beyond the minimum requirements as needed to meet the performance standard (257.91(c)(2)).
- Wells are constructed appropriately (257.91(e)).

### 3.0 Qualified Professional Engineer Certification

I, Thomas A. Kovacic, being a Registered Professional Engineer in good standing in the State of Tennessee do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification is prepared in accordance with the accepted practice of engineering; that the information contained herein is accurate as of the date of my signature below; and that the design and construction of the groundwater monitoring system as described above meets the requirements of 40 CFR § 257.91. Opinions relating to environmental, geologic, and hydrogeologic conditions or other estimates are based on available data; actual conditions may vary from those encountered at the times and locations where data are obtained, despite the use of due care.

SIGNATURE: 

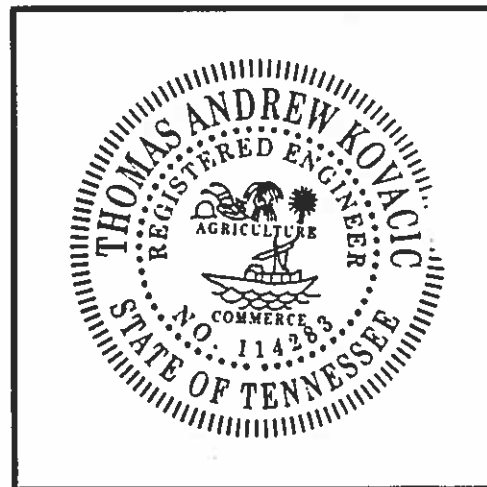
DATE: June 13, 2018

PRINTED NAME: Thomas A. Kovacic, PE

ADDRESS: AECOM  
1300 East 9th Street 5th Floor  
Cleveland, OH 44114

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Attachments:  
CCR Rule Monitoring System Plan  
Table 1 – Well Construction Information







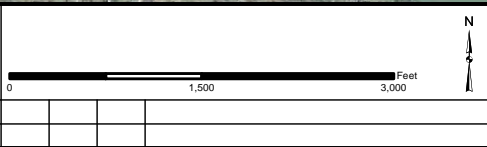
Service Credits: Google Earth

Wells surveyed by Stantec March 31, 2016.

**FIGURE:**  
**1**

**CCR Rule Monitoring System Plan  
Peninsula Disposal Area  
Kingston Fossil Plant  
Tennessee Valley Authority**

DATE: 5/17/2018	DRAWN BY: TEG	PROJECT NUMBER: 60439352
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**Legend**

- CCR Rule Monitoring Well Location
- Property Boundary

AECOM ENVIRONMENT  
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**AECOM**

**Table 1**  
**WELL CONSTRUCTION INFORMATION**  
**CCR RULE GROUNDWATER MONITORING SYSTEM**  
**PENINSULA DISPOSAL AREA**  
**TVA KINGSTON FOSSIL PLANT**

Well ID	UNID #	Position Relative to CCR Unit	Top of Casing Elevation (ft)	Ground Elevation (ft)	Screened Interval (ft btoc)	Screened Formation	Total Well Depth (ft btoc)	Pump Intake Depth (ft btoc)	Well Diameter (in) / Material	Well Co-ordinates	
										TN State Plane NAD27 Northing (ft)	TN State Plane NAD27 Easting (ft)
G-1B	KIF-00-GW-43-009	Background	861.07	857.6	Open Rock 107.2-131.1	Knox Group	131.1	123	6-in steel casing/ 6-in open rock	550853.47	2441832.72
G-3A	KIF-00-GW-43-012	Downgradient	749.60	745.1	21.5 - 31.4	Residuum	32.2	27	2-in PVC	549354.88	2441015.84
G-3B	KIF-00-GW-43-013	Downgradient	750.59	745.5	42.7 - 62.7	Knox Group	63.6	52	2-in PVC	549349.47	2441003.51
G-5A	KIF-00-GW-43-015	Downgradient	759.52	757.4	18.3 - 27.6	Residuum	27.7	28	2-in PVC	549252.25	2442286.48
G-5B	KIF-00-GW-43-016	Downgradient	759.50	755.2	40.8 - 60.8	Knox Group	61.3	51	2-in PVC	549251.84	2442272.81
G-7A	KIF-00-GW-43-018	Downgradient	767.24	762.6	37.0 - 46.8	Residuum	47.7	42	2-in PVC	549534.10	2443378.90
G-7B	KIF-00-GW-43-019	Downgradient	766.99	762.4	41.8 - 51.7	Knox Group	52.2	47	2-in PVC	549533.35	2443367.84
G-8B	KIF-00-GW-43-021	Background (a)	771.20	767.3	70.1 - 80.1	Knox Group	80.8	75	2-in PVC	549715.34	2443655.64
G-9B	KIF-00-GW-43-023	Background (a)	752.40	749.3	63.4 - 73.4	Knox Group	74.2	70	2-in PVC	550262.82	2444418.18
G-10B	KIF-00-GW-43-025	Background (a)	769.19	765.1	91.5 - 102.5	Knox Group	102.6	98	2-in PVC	550635.31	2444606.82
KIF-101	KIF-00-GW-43-029	Background	757.19	753.5	18.0 - 28.1	Residuum	28.8	26	4-in PVC	550047.51	2439530.45

Well construction information based on data provided by TVA Well Inventory, October 1, 2017; screened formation based on information provided in boring logs.

Survey data collected by Stantec on March 31, 2016

ft btoc - feet below top of casing

Elevation in National Geodetic Vertical Datum 1929

(a) Well located downgradient from future expansion of landfill; until that time, data represents background conditions.