BURNS McDONNELL

June 15, 2016

Mr. Michael E. Selm, P.E.
Unit Chief, Solid Waste Landfills Unit
Kansas Department of Health and Environment
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

Re: Groundwater Monitoring System Certification for Kansas City Board of Public Utilities
Nearman Creek Power Station Bottom Ash Pond

Dear Mr. Selm:

The Kansas Department of Health and Environment (KDHE) has requested the Kansas City Board of Public Utilities (BPU) review the existing groundwater monitoring system at Nearman Creek Power Station's Bottom Ash Pond, and prepare a written assessment of compliance with 40 CFR §257.91 - Groundwater Monitoring Systems, which is contained in the United States Environmental Protection Agency's (EPA's) *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule* (Final Rule, 40 CFR Parts 257 and 261). The Nearman Creek Power Station Bottom Ash Pond meets the definition of a Surface Impoundment as presented in the Final Rule, and is therefore subject to groundwater monitoring requirements identified in 40 CFR §257.91.

On behalf of BPU, Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) is hereby submitting certification that the groundwater monitoring system at the Bottom Ash Pond located at BPU's Nearman Creek Power Station has been designed and constructed to meet the requirements of section 40 CFR §257.91. This certification is intended to fulfill the requirements presented in 40 CFR §257.91 (f).

In October 2015, BPU made improvements to the existing groundwater monitoring system in accordance with the plans presented by Burns & McDonnell in September to KDHE's Bureau of Waste Management (letter dated September 3, 2015, to Juan Sexton, Hydrogeologic Unit Chief). The September 3, 2015, letter presented BPU's plans to make modifications to the existing groundwater monitoring system for the Bottom Ash Pond as necessary to meet the requirements presented in 40 CFR §257.91. KDHE issued a letter approving the proposed modifications on October 2, 2015. While site conditions prevented the installation of one of the proposed monitoring wells included in Burns & McDonnell's initial proposal, the resulting groundwater monitoring system is compliant with the requirements presented in 40 CFR §257.91(c)(1), as the system includes two upgradient and three downgradient monitoring wells. A summary of the existing groundwater monitoring system is presented below. Well construction diagrams and a figure providing the location of groundwater monitoring wells are enclosed with this letter.

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Historical Direction of Groundwater Flow

Burns & McDonnell assessed monitoring well placement as part of the preparation of the September 2015 Groundwater Monitoring System Improvement Plan submittal to KDHE. When assessing groundwater monitoring well placement, we reviewed historical fluctuations in groundwater flow observed below the Bottom Ash Pond. As presented in Attachment C of the letter dated September 3, 2015, the direction of groundwater flow beneath the Bottom Ash Pond has varied from west northwest to north northwest though the course of historical groundwater monitoring activities. Given the historical direction of groundwater flow, the following wells have been selected for use in the groundwater monitoring system and have been identified as either upgradient or downgradient monitoring wells.

Upgradient Monitoring Wells

Two monitoring wells, MW-3 and MW-4, are located east/southeast of the Bottom Ash Pond, immediately adjacent to the surface impoundment, and were installed prior to the issuance of the Final Rule. These wells are screened within the upper alluvial aquifer as presented on the attached WWC-5 forms, and are being utilized as upgradient monitoring wells in the groundwater monitoring system for the Bottom Ash Pond. The groundwater monitoring system satisfies the requirement [specified in 40 CFR §257.91(c)(1)] of having a minimum of one upgradient monitoring well.

Downgradient Monitoring Wells

Three monitoring wells, MW-2A, MW-8A, and MW-10 were installed in October 2015, to serve as downgradient monitoring wells at the Bottom Ash Pond. These wells were screened within the upper alluvial aquifer to provide continuity between the units screened by the upgradient and downgradient wells, as presented on the attached WWC-5 forms and drilling logs. MW-8A and MW-10 were installed to the west and northwest of the surface impoundment, respectively. MW-2A was installed along the northern boundary of the surface impoundment. The location of MW-2A was selected to capture groundwater flowing beneath the impoundment when groundwater flow is to the north or north northwest, as has been observed during the course of historical groundwater monitoring. These wells provide the minimum of three downgradient monitoring locations as specified in 40 CFR §257.91(c)(1).

Limitations

This letter has been prepared in accordance with generally accepted environmental engineering practices for groundwater quality assessment and reporting. Conclusions contained herein are Burns & McDonnell's interpretation of readily available data and constitute a professional opinion based on said data. No other warranty, expressed or implied, is made as to the information included in this document. In the event that others make conclusions and

recommendations based on data contained herein, such conclusions and recommendations are the responsibility of others.

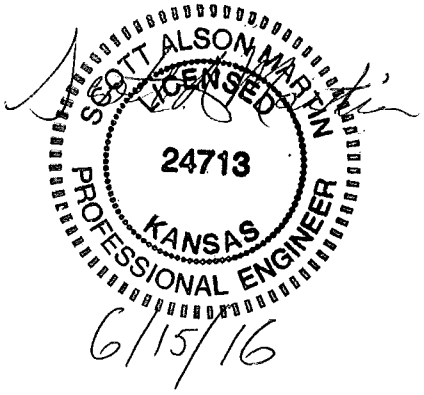
Burns & McDonnell has exercised reasonable skill, care, and diligence in preparation of this letter in accordance with customarily accepted standards of good professional practice in effect at the time this report was prepared.

Special risks are inherently associated with the characterization and description of groundwater, including, but not limited to groundwater occurrence, site geology, and site hydrogeology. Even a comprehensive groundwater assessment and/or monitoring program using appropriate equipment, implemented by experienced personnel under the direction of trained professionals, may fail to detect certain conditions.

Changes in subsurface conditions can be influenced by many factors. These factors include but are not limited to management of surrounding areas, seasonal rainfall fluctuations, changes in drainage conditions in and around the site, and groundwater occurrence. Over time, actual conditions discovered are subject to variation because of natural occurrences and/or man-made intervention on or near the site.

If you have questions regarding the information presented herein please contact me at 816-822-3069 or Mr. Brian R. Hoye, PG at 816-823-6257.

Sincerely,



Mr. Scott A. Martin, PE
Professional Engineer

Mr. Brian R. Hoye, PG
Project Manager

BRH/sam

Attachments
cc: Ingrid Setzler (BPU)
Juan Sexton (KDHE)