September 13, 2018

Ms. Ingrid Setzler
Environmental Director
Kansas City Board of Public Utilities
300 N 65th Street, Kansas City, KS, 66102

Re: Update to Statistical Method for Evaluating Groundwater at Kansas City Board of Public Utilities Nearman Creek Power Station Bottom Ash Pond

Dear Ms. Setzler:

On October 17, 2017, Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) prepared a letter presenting which of the statistical methods identified in §257.93 would be used to evaluate groundwater data that was generated for the Bottom Ash Pond located at Kansas City Board of Public Utilities' (KCBPU's) Nearman Creek Power Station (NCPS). While this letter selected the statistical methods described in §257.93 (f)(1), parametric analysis of variance (ANOVA), and §257.93 (f)(2), ANOVA based on ranks as the methods that would be used to evaluate groundwater data, it also stated that, KCBPU and Burns & McDonnell reserve the right to adjust the procedures identified above or select a different statistical approach altogether. In the event statistical methods other than ANOVA are used to assess groundwater monitoring data in accordance with §257.93, a subsequent certification will be prepared pursuant to the Final Rule."

This letter is being prepared to serve as a subsequent certification identifying additional statistical methods that have been selected for use in assessing groundwater data that is generated as part of the groundwater monitoring program being implemented at the Bottom Ash Pond.

Selection of Additional Statistical Method

Burns & McDonnell, in consultation with KCBPU, has selected additional statistical procedures that may be used to compare groundwater data which has or will be generated in accordance with §257.93 through §257.95 to background conditions at the Bottom Ash Pond. The additional statistical methods selected include those described in §257.93 (f)(3), prediction or tolerance interval procedures.

Prediction or tolerance interval procedures were selected due to their ability to calculate a background limit or interval using data generated for upgradient monitoring wells. These methods also allow for the comparison of a singular data point to this calculated background limit. Statistical analysis will be performed using the computer software package Sanitas™ and in general accordance with USEPA's guidance document titled *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities* dated March 2009. The following presents a step-wise narrative of how statistical evaluation will be performed when using these statistical methods:

1. Fully validated groundwater data will be compiled into a database that is compatible with the Sanitas™ software package.
2. Upper background limits will be established using parametric and non-parametric procedures and will be based upon the results of groundwater samples collected from upgradient monitoring wells.
3. The concentrations of Appendix III and IV constituents observed in the downgradient monitoring wells will then be compared to the calculated background limit.
4. In the event the concentrations observed in downgradient wells are above the calculated background limit, it will be considered a statistical exceedance above background conditions present at the Bottom Ash Pond.

KCBPU and Burns & McDonnell reserve the right to further adjust the procedures identified above or select a different statistical approach altogether and to use the statistical methods presented in the original October 17, 2017 letter. In the event statistical methods other than ANOVA or prediction or tolerance interval procedures are used to assess groundwater monitoring data in accordance with §257.93 through 257.95, a subsequent certification will be prepared pursuant to the Final Rule.

Limitations of this Certification

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.

Sincerely,

Mr. Scott A. Martin, PE
Professional Engineer

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