

April 17, 2019
File No. 25218062.00

Mr. George Kueny
Interstate Power and Light Company
2115 E. Nevada St.
Marshalltown, IA 50158

Subject: Groundwater Monitoring Statistical Method Certification
Sutherland Generating Station, Marshalltown, Iowa 50158

Dear Mr. Kueny:

This letter documents the selection of a statistical method for evaluating data from the groundwater monitoring system at the Sutherland Generating Station (SGS) in accordance with the requirements of 40 CFR 257.93(f). The selected statistical method is appropriate for evaluating the groundwater monitoring data for the coal combustion residuals (CCR) management area.

Groundwater monitoring data for the SGS CCR units will be evaluated in accordance with 40 CFR 257.93(f)(3), using a tolerance or prediction interval procedure, in which an interval for each constituent is established from the distribution of the background data and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

A narrative description of the selected statistical method is provided below.

Groundwater Monitoring System Information

The groundwater monitoring network at SGS is a multi-unit system that includes the following four inactive CCR units:

- SGS North Primary Pond
- SGS South Primary Pond
- SGS Main Pond
- SGS Polishing Pond

The multi-unit system is designed to detect monitored constituents at the waste boundary of the facility as required by 40 CFR 257.91(d).

Narrative Description of Statistical Method

For evaluation of groundwater monitoring results under detection monitoring or assessment monitoring, statistical analysis will be conducted to evaluate whether or not there is a statistically significant increase (SSI) over background values for each required constituent. The statistical analysis will use a prediction interval approach as recommended for detection monitoring in the March 2009 United States Environmental Protection Agency Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities. The approach will meet the statistical method requirements of 40 CFR 257.93(g).



Mr. George Kueny


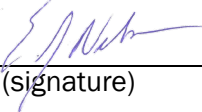
April 17, 2019

Page 2

For the prediction interval evaluation, interwell or intrawell testing will be selected based on the considerations outlined in Chapter 6 of the Unified Guidance. Background data for each parameter will be analyzed to assess whether the data fit a normal distribution, or can be transformed to fit a normal distribution (e.g., lognormal). The calculation of the prediction limit(s) for each parameter will be appropriate for the distribution (parametric, parametric with transformed data, or non-parametric).

Monitoring results from the compliance wells will be compared to the upper prediction limits to evaluate whether an SSI over background has occurred. Assessment monitoring results will also be compared to the site-specific groundwater protection standards developed in accordance with 40 CFR 257.95(h).

PE Certification

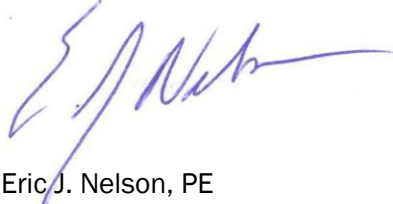
	<p>I, Eric J. Nelson, hereby certify that that the selected statistical method for the Sutherland Generating Station is appropriate for evaluating the groundwater monitoring data for the CCR management area in accordance with the requirements of 40 CFR 257.93(f)(6). I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p>
	<p> (signature) 4/09/2019 (date)</p>
	<p>Eric J. Nelson (printed or typed name)</p>
	<p>License number <u>23136</u></p> <p>My license renewal date is December 31, 2020.</p> <p>Pages or sheets covered by this seal:</p>
	<p>Groundwater Monitoring Statistical Method Certification</p>

Mr. George Kueny

April 17, 2019

Page 3

Sincerely,



Eric J. Nelson, PE
Senior Project Manager
SCS Engineers



Thomas J. Karwoski
Senior Project Manager
SCS Engineers

NDK/AJR_Imh/TK/EJN/SCC

cc: Craig Crawford, Interstate Power and Light Company
Troy Booth, Alliant Energy
Jeff Maxted, Alliant Energy
Jill Stevens, Alliant Energy

I:\25218062.00\Deliverables\190417_Kueny_SGS_STATS_Method_Letter.docx