STATISTICAL ANALYSIS METHOD CERTIFICATION
40 CFR §257.93(f)
PLANT BOWEN LANDFILL CELLS 3 & 4
GEORGIA POWER COMPANY

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 CFR Part 257 and Part 261), §257.93, requires the owner or operator of an existing CCR unit to identify a statistical method to be used in evaluating groundwater monitoring data for each specified constituent. The owner or operator must obtain a certification from a qualified professional engineer stating that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR management area meeting the requirements of 40 CFR §257.93.

Statistical Methodology

The selected statistical method for Plant Bowen Landfill Cells 3 & 4 was developed in accordance with 40 CFR §257.93(f) using methodology presented in *Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance*, March 2009, EPA 530/R-09-007 (Unified Guidance).

For the detection monitoring program, the statistical test used to evaluate the groundwater monitoring data will be both the interwell and intrawell prediction limit (PL) method combined with a 1-of-2 or 1-of-3 resample plan, respectively. The interwell PLs pool background data from the network of upgradient wells to calculate a PL, while the intrawell PLs utilize historical data from within a given well to establish a statistical limit for comparison of compliance data at the same well. An "initial exceedance" occurs when any downgradient well data exceed the PL.

If data from a sampling event initially exceed the PL, the resampling strategy will be used to verify the result. In 1-of-2 resampling, one independent resample will be collected and evaluated within 90 days to determine whether the initial exceedance is verified. In the 1-of-3 resampling, up to two independent resamples will be collected. If both resamples exceed the PL, the initial exceedance is verified. When the resample result does not verify the initial result, the initial exceedance is considered an erroneous result and the resample values will replace the initial result. When the resample confirms the initial

finding, a statistically significant increase (SSI) is determined. An SSI is determined only if the resample verifies the initial exceedance (i.e. the resample also exceeds the PL).

In the event a confirmed SSI over background is identified, assessment monitoring will be initiated within 90 days unless a demonstration is made within that same timeframe that the SSI resulted from a source other than the CCR Unit.

CERTIFICATION

I hereby certify that the groundwater statistical method for the CCR Unit located at Georgia Power's Plant Bowen located at 317 Covered Bridge Road, Cartersville, GA 30120, and designated as Landfill Cells 3 & 4 has been designed and constructed to meet the requirements of 40 CFR §257.93.

Gregory J. Wrenn, P.E.
Georgia Registered Professional Engineer No. 025565
10/17/2017

STATISTICAL ANALYSIS METHOD CERTIFICATION
40 CFR §257.93(f)
PLANT BOWEN LANDFILL CELLS 9 & 10
GEORGIA POWER COMPANY

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 CFR Part 257 and Part 261), §257.93, requires the owner or operator of an existing CCR unit to identify a statistical method to be used in evaluating groundwater monitoring data for each specified constituent. The owner or operator must obtain a certification from a qualified professional engineer stating that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR management area meeting the requirements of 40 CFR §257.93.

Statistical Methodology

The selected statistical method for Plant Bowen Landfill Cells 9 & 10 was developed in accordance with 40 CFR §257.93(f) using methodology presented in *Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance*, March 2009, EPA 530/R-09-007 (Unified Guidance).

For the detection monitoring program, the statistical test used to evaluate the groundwater monitoring data will be both the interwell and intrawell prediction limit (PL) method combined with a 1-of-2 or 1-of-3 resample plan, respectively. The interwell PLs pool background data from the network of upgradient wells to calculate a PL, while the intrawell PLs utilize historical data from within a given well to establish a statistical limit for comparison of compliance data at the same well. An "initial exceedance" occurs when any downgradient well data exceed the PL.

If data from a sampling event initially exceed the PL, the resampling strategy will be used to verify the result. In 1-of-2 resampling, one independent resample will be collected and evaluated within 90 days to determine whether the initial exceedance is verified. In the 1-of-3 resampling, up to two independent resamples will be collected. If both resamples exceed the PL, the initial exceedance is verified. When the resample result does not verify the initial result, the initial exceedance is considered an erroneous result and the resample values will replace the initial result. When the resample confirms the initial

finding, a statistically significant increase (SSI) is determined. An SSI is determined only if the resample verifies the initial exceedance (i.e. the resample also exceeds the PL).

In the event a confirmed SSI over background is identified, assessment monitoring will be initiated within 90 days unless a demonstration is made within that same timeframe that the SSI resulted from a source other than the CCR Unit.

CERTIFICATION

I hereby certify that the groundwater statistical method for the CCR Unit located at Georgia Power's Plant Bowen located at 317 Covered Bridge Road, Cartersville, GA 30120, and designated as Landfill Cells 9 & 10 has been designed and constructed to meet the requirements of 40 CFR §257.93.

Gregory J. Wrenn, P.E.
Georgia Registered Professional Engineer No. 025565
10/17/2017

STATISTICAL ANALYSIS METHOD CERTIFICATION
40 CFR §257.93(f)
PLANT BOWEN LANDFILL CELLS 1 & 2
GEORGIA POWER COMPANY

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 CFR Part 257 and Part 261), §257.93, requires the owner or operator of an existing CCR unit to identify a statistical method to be used in evaluating groundwater monitoring data for each specified constituent. The owner or operator must obtain a certification from a qualified professional engineer stating that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR management area meeting the requirements of 40 CFR §257.93.

Statistical Methodology

The selected statistical method for Plant Bowen Landfill Cells 1 & 2 was developed in accordance with 40 CFR §257.93(f) using methodology presented in *Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance*, March 2009, EPA 530/R-09-007 (Unified Guidance).

For the detection monitoring program, the statistical test used to evaluate the groundwater monitoring data will be both the interwell and intrawell prediction limit (PL) method combined with a 1-of-2 or 1-of-3 resample plan, respectively. The interwell PLs pool background data from the network of upgradient wells to calculate a PL, while the intrawell PLs utilize historical data from within a given well to establish a statistical limit for comparison of compliance data at the same well. An "initial exceedance" occurs when any downgradient well data exceed the PL.

If data from a sampling event initially exceed the PL, the resampling strategy will be used to verify the result. In 1-of-2 resampling, one independent resample will be collected and evaluated within 90 days to determine whether the initial exceedance is verified. In the 1-of-3 resampling, up to two independent resamples will be collected. If both resamples exceed the PL, the initial exceedance is verified. When the resample result does not verify the initial result, the initial exceedance is considered an erroneous result and the resample values will replace the initial result. When the resample confirms the initial

STATISTICAL ANALYSIS METHOD CERTIFICATION
40 CFR §257.93(f)
PLANT BOWEN LANDFILL CELLS 1 & 2
GEORGIA POWER COMPANY

finding, a statistically significant increase (SSI) is determined. An SSI is determined only if the resample verifies the initial exceedance (i.e. the resample also exceeds the PL).

In the event a confirmed SSI over background is identified, assessment monitoring will be initiated within 90 days unless a demonstration is made within that same timeframe that the SSI resulted from a source other than the CCR Unit.

CERTIFICATION

I hereby certify that the groundwater statistical method for the CCR Unit located at Georgia Power's Plant Bowen located at 317 Covered Bridge Road, Cartersville, GA 30120, and designated as Landfill Cells 1 & 2 has been designed and constructed to meet the requirements of 40 CFR §257.93.

Gregory J. Wrenn, P.E.
Georgia Registered Professional Engineer No. 025565
10/17/2017