Background
Coal fired generating facilities have multiple reasons to tune their AIG/SCR several of these go beyond meeting permit requirements. Cost reduction savings can be found in utilizing fewer nitrogen oxides (NOX) credits, limiting ammonia usage, extending catalyst life, and reducing downtime due to ammonia slip. CleanAir’s experience has shown that facilities that operate an SCR can see these benefits with annual tuning.

CleanAir’s Approach
CleanAir utilizes our proprietary Multi-point Automated Sampling System (MASS) to sample even the largest grids in a minimal amount of time. The system is designed to sample for oxygen (O₂), carbon dioxide (CO₂), carbon monoxide (CO), and NOX.

Results
By sampling at a higher speed, but still accurately measuring NOX, temporal boiler fluctuations can be minimized which allows us to focus on properly tuning the SCR. CleanAir has sampled 128-point grids at the inlet and outlet of an SCR in about an hour and on smaller grids this time can be reduced even further, whereas a grid such as this would take nearly four hours to sample utilizing a standard CEM setup. CleanAir is able to verify lack of ammonia slip on the back end of a tuning mobilization, allowing us to demonstrate that a minimal amount of ammonia is being utilized for maximum NOX reduction efficiency and expectations of reduced downtime.

Summary
Ammonia Injection Grid (AIG) / Selective Catalytic Reduction (SCR) Tuning using proprietary Multi-point Automated Sampling System (MASS).