

## Ammonia Injection Grid (AIG) / Selective Catalytic Reduction (SCR) Tuning

### 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 ( $\text{NO}_x$ ) 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 ( $\text{O}_2$ ), carbon dioxide ( $\text{CO}_2$ ), carbon monoxide ( $\text{CO}$ ), and  $\text{NO}_x$ .

### Results

By sampling at a higher speed, but still accurately measuring  $\text{NO}_x$ , 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  $\text{NO}_x$  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).

