Transportable CEMS to Support PEMS Model Building

Background

A CleanAir client, a major gas turbine manufacturer, was developing a Predictive Emissions Monitoring System (PEMS) for their global customer base to continuously monitor NOx, NO, CO, O2, CO2, unburned hydrocarbons, and formaldehyde. The client required a cost-effective solution to collect one-to-two months of emissions data to train the PEMS model.

CleanAir's Approach

CleanAir focused on using Fourier Transform Infrared (FTIR) Spectroscopy as the primary measurement technique. The FTIR systems are integrated into a portable shelter meeting ATEX requirements with data acquisition and Modbus communication linked to the turbine control system allowing for remote monitoring and diagnostics of data, calibrations, alarms, and critical parameters.

Results

CleanAir partnered with the client to develop and integrate a portable system that could be easily shipped and installed in all parts of the world, with remote operation and data collection and a goal of 90% data availability.

Summary

A major gas turbine manufacturer developed a predictive emissions monitoring system (PEMS) for global clients. CleanAir was contracted to provide a transportable FTIR system to train the PEMS model over a two-month period.