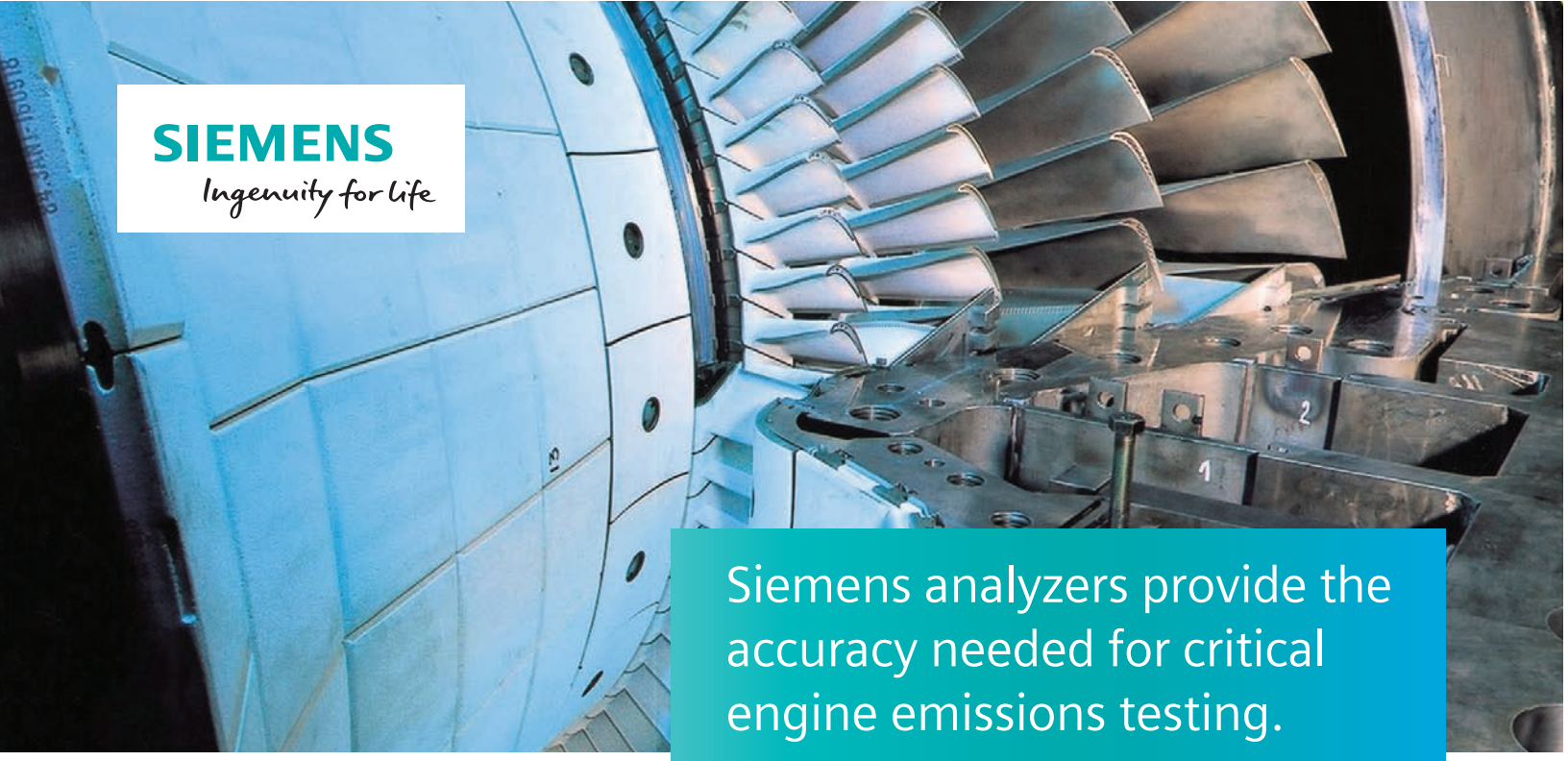

SIEMENS
Ingenuity for life

Siemens analyzers provide the accuracy needed for critical engine emissions testing.

Controlling and understanding the amount of CO, CO_2 and H_2O in the samples is critical information needed to minimize turbine emissions.

Challenge

A company in the Western USA provides industrial gas turbines for both on- and off-shore electrical power generation. The company offers low-emissions products and was looking for an analyzer to use in their continuous emissions monitoring (CEM) system that could accurately and continuously monitor and verify the CO emissions from their turbine's gas engines.

Gas engine loads of CO_2 can vary from 1 to 3%. Sample gas is conditioned by going through filters and a 41°F (5°C) condenser to remove particulate matter and dried. However, calibration gases are fed directly into a sample conditioning unit before going into the analyzer, and are 100% dry. Controlling and understanding the amount of CO, CO_2 and H_2O in the samples is critical information needed to minimize turbine emissions.

The customer performed tests on their existing Siemens gas analyzers for CO cross interference effect from back ground CO_2, and H_2O vapor. They needed to meet a critical engine emission performance standard and would rely on the measurement data provided from the Siemens gas analyzer to pass their company's rigorous QA testing procedure.

Solution

The local Siemens representative recommended the Siemens ULTRAMAT 6 analyzer as a critical component to their complete continuous emission measurement system (CEM). Taking advantage of the unique optical coupler hardware component inherent to the ULTRAMAT 6 design, which is used to minimize the effects of cross interference from back ground gases, Siemens was able to meet the customer's challenge with a custom measurement application. This custom measurement application was also applied to their existing analyzers.

The analyzer's response is compared to the calculated response. If the response is within 2% of the latest calibration and 5% of the correct value, an offset and gain adjustment is calculated for each range and each analyzer that was calibrated. If not, a calibration alarm is set. If the analyzer remains stable, the calibrated response will exactly match the calibration gas.

Because Siemens had the customer's existing unit shipped back to the factory for testing and validation of the new custom application before the new units were purchased, the customer was confident in their purchase.

Siemens ULTRAMAT 6 analyzers are available as a rack-mount unit or a field-mount unit.

Benefits

- Cost savings: The Siemens ULTRAMAT 6 analyzer can measure both CO and CO_2 with the same unit, reducing the amount of analyzers required per project.
- Low detection limits: Accurate measurements even in low concentrations
- Custom application design: Factory application support for customer's specific requirements
- Local service and support: Service and support are available in your neighborhood. Siemens extensive global coverage means you get support when and where you need it.

About the Siemens ULTRAMAT 6 analyzer

The ULTRAMAT 6 is a high-end analyzer in a 19" rack mount design or field housing. It can be used in all applications from emission measurement to process control, even in the presence of highly corrosive gases.

Most frequently used for more demanding applications, the ULTRAMAT 6 analyzer meets high standards in reliability and measuring quality. This is guaranteed by modern electronics, ease of operation and a physical element that is adapted to the measuring task.

The ULTRAMAT 6E analyzer can measure up to four infrared active components in one single unit. The ULTRAMAT 6F analyzer can measure up to two infrared active components. The use of optical couplers and the optional use of optical filters to increase the selectivity mean that, in many cases, the analyzers can be used for these measurements even in complex gas mixtures. The use of those optical couplers and filters also guarantees accurate measurements of lower concentrations and lower detection limits.

Siemens Industry, Inc.
3333 Old Milton Parkway
Alpharetta, GA 30005

1-800-241-4453
info.us@siemens.com

www.usa.siemens.com/processanalytics

Subject to change without prior notice Order No.: PIACS-0027-0919