Malaysia Power Plant - Cogeneration

CAPACITY: 500MW

A major power generator in Malaysia owns and operates two turbines operating in Malaysia. The turbines, GT1A and GT2A, are gas fired and both have an operating capacity of 250MW. Two SmartCEM 60 Analyzers were installed to determine the effectiveness of PEMS as an alternative to CEMS for gas turbines.

A study was conducted to determine which parameters would be suitable for inputs and outputs. After two rounds of testing a short list of 100 parameters were used for the model. The PEMS was certified to monitor SO_2, NO_x, O_2, CO, and CO_2. Model training data was collected and the PEMS was considered a viable alternative to PEMS in 2012.

DAS System: CMC Solutions
History of Project Development:
11/24/2010
CMC chosen for PEMS research.
11/29/2010
Parameters and tag list test conducted.
01/25/2011
PEMS Model development.
03/01/2011
Source testing and QA/QC Program issued. Certification and support training also occurred.
12/14/2011 – Q1 2012
Final reports submitted and PEMS was certified and determined to be viable alternative to CEMS.

PRODUCTS:

Norway Oil Fields - Offshore Oil

CAPACITY: 56.2 MW

A major oil and gas operator in Norway owns and operates five turbines located off the coast of Norway in the North Sea. Turbines JA-001 and JA-002 operate at 23 MW and dire on fuel gas, and turbines RI-101, RI-102, and RI-103 operate at 5300 kW and also fire on fuel gas.

The turbines are operated in accordance with the framework permit regulations specified for the individual sites by the Norwegian Environmental agencies. The units are required to monitor NOx emissions and report on annual basis for environmental purposes and on a quarterly basis for taxation purposes.

***Not actual site. Source: Offshore Energy Today**

The exhaust gas is discharged to the atmosphere through a stack. Emissions are monitored using a statistical hybrid predictive emissions monitoring system (PEMS). The PEMS installed is a SmartCEMS™ analyzer provided by CMC Solutions. Model training data was collected by a certified testing company in 2012 and 2013. A data input template and fuel composition template was provided by the unit operator. The templates will be used to manually input process data to predict emission rates and generate reports.

DAS System: CMC Solutions
History of Project Development:
12/01/2014
CMC Received certified testing data from the turbines. Using this data and emission factors CMC developed a model for the 5 turbines.
03/18/2015
Model was deployed and training was conducted.
03/25/2015
After installation, the client requested that the operating envelope be expanded.
03/30/2015