In-Situ Module for Catalyst Performance Testing

Hera Case History

Plant Data:

Location:	Eastern Canadian Utility
Thermal Output:	8 units x 500 MW
CoPilots Installed:	Units 1 & 5

Problem:

Users and suppliers of NOx reduction catalyst for SCR applications at Power Plants have long needed to know what to expect from the catalyst, before selection and final sizing of the SCR. To date a very limited number of reliable predictive methods or tools have been available.

Hera's CoPilot‡ Module:

Recognizing the industry's need for a reliable and portable catalyst testing device, Hera designed its CoPilot™ with features most sought by plant specialists, including in-situ data collection and intermittent catalyst sample inspection.

Installation:

The CoPilot™ Module*, consisting of vessel and door, is shipped fully assembled. An opening is cut in the duct at an appropriate location. The opening is sealed from ambient with door in either open or closed position. The design of the module allows swift opening and closing of the door by one person. The Module includes a stand alone Instrument Rack.

Fully assembled CoPilot™ Module is delivered to the site

Objective of Program:

For this project both catalyst manufacturer and plant operators wanted to learn about catalyst life expectancy, poisoning effects and ammonia slip using a reasonably sized and economic in-situ demonstration apparatus that produces accurate and repeatable results. The ability to access samples and perform continuous testing were primary considerations.

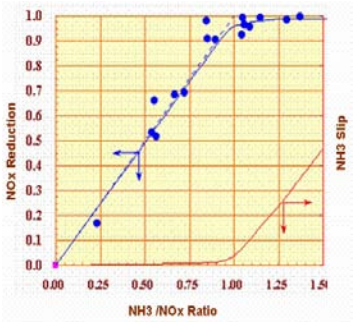
Project:

The Utility, in cooperation with a catalyst supplier, installed CoPilot™ Modules on two units in an area of ductwork representing future full scale SCR conditions. Over a period of six months the catalyst supplier was able to obtain corroborating data for its catalysts while the Plant fired various coals typical for North American applications. The CoPilot™ Modules will remain in service to gather data on the long term effects of catalyst exposure, and to record the effects of changes in flue gas and fly ash properties, sootblowing, load swings and other operating variables as they occur.

Plant personnel closing the access door after catalyst inspection

Results:

Uninterrupted ageing of catalyst test elements, in combination with full accessability for performance testing and visual inspection, provides valuable information on future SCR long term operation. Results of initial on-line performance testing create a baseline for future comparisons.



The catalyst manufacturer found that they could expand their capabilities to predict actual in-service performance of catalyst on new, previously untried coals. The plant operators like the comfort that comes with knowing that their SCR catalyst will perform as expected.

* - U.S. Patent Nos. 6,120,580 and 6,245,134
‡ - CoPilot is a trademark of Hera,LLC

For information please contact HERA, LLC
Telephone: 949.707.5432
Facsimile: 949.707.5435
E-mail: info@herallc.com

HERA, LLC
23042 Alcalde Rd., Suite F
Laguna Hills, CA 92653
www.herallc.com