

# Certification Testing Vs. Compliance Testing for CEMS

## INTRODUCTION

Typically, the U.S. Environmental Protection Agency requires two types of tests; a certification test and a compliance test, for facilities which must monitor stack emissions. The certification and compliance tests can both be performed by the same stack test crew. While these tests cannot be performed simultaneously, they can be performed consecutively.

## COMPLIANCE TESTING

The compliance test may also be called a performance test, test burn, a trial burn or a source test. These tests relate to the emissions of the combustion source itself, including particulate, metals and toxic gases along with the pollutant gases being monitored by the Continuous Emissions Monitoring System. These tests determine if the source can be permitted to operate, based on compliance with EPA imposed limits for each constituent identified as being emitted. Rosemount Analytical is not directly involved with compliance testing.

## CERTIFICATION TESTING

The certification tests are specifically for the CEMS. They confirm that the CEMS is performing according to the Performance Specifications contained in Title 40 of the Code of Federal Regulations, Part 60 (40 CFR 60), Appendix B. At times, other performance specs may be applicable, such as the Boiler and Industrial Furnace Methods Manual, the Northeast States for Coordinated Air Use Management Guidelines, or the South Coast Air Quality Management District, Rule 218 and Method 100. Each state has the right to exceed the requirements of 40 CFR 60.



**Figure 1. Continuous emissions monitoring systems (CEMS) must pass a certification test as part of the EPA certification process**

## PROCEDURES

Certification testing may be required either before or after the compliance test. The timing of these events must be carefully coordinated with the EPA. The testing dates always relate to the operation of the combustion source dates, and must be closely followed in order to avoid penalties or forced shut-downs. A certified CEMS is used to determine that the combustion source is continuously “in compli-

ance” after it is permitted to operate. If the certification testing is completed first, then the installed CEMS can be utilized to complete the compliance testing.

At about the time of shipment of the CEMS, Rosemount Analytical selects a subcontractor to perform the CEMS certification stack tests and to generate a test protocol for the EPA certification testing of the CEMS. Rosemount Analytical submits two copies of the test protocol to the customer, one of which is to be submitted to the EPA for review and/or approval. After review/approval of the test protocol, the remaining steps in the certification process can proceed. With careful coordination, the same contractor can be utilized to perform both the compliance testing and the certification testing.

It should be noted that the CEMS cannot be started until the plant/combustion source is started and is operating at normal load conditions. The CEMS

must be set-up and calibrated for the application on which it is installed and at the operating conditions at which it is intended to operate. In conjunction with this, the EPA normally requires operation at or above fifty percent of maximum load for the certification tests.

After the CEMS and peripheral equipment is installed, and the plant/combustion source is operating normally, a full week should be planned for start up of the CEMS. In addition, a month should be allocated for unattended operation of the CEMS, during which time the CEMS should successfully complete the equivalent of a seven day drift test. Only normal routine maintenance should be performed on the CEMS during this time period. The CEMS usually passes the drift test the first week after start-up. After a successful drift test, the rest of the EPA certification process can proceed with minimum risk of failure.

Emerson Process Management and Rosemount Analytical are marks of the Emerson Process Management group of companies. All other marks are the property of their respective owners. The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure its accuracy, they are not to be construed as warranties or guarantees, expressed or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available upon request. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

**Rosemount Analytical**  
**Process Gas Analyzer Center of Excellence**  
**Emerson Process Management**  
**GmbH & Co. OHG**  
Industriestrasse 1  
63594 Hasselroth  
Germany  
T 49 6055 884 0  
F 49 6055 884 209

**Rosemount Analytical Inc.**  
**Gas Analyzer Service Center**  
6565P Davis Industrial Parkway  
Solon, OH 44139 USA  
T 440.914.1261  
Toll Free in US and Canada 800.433.6076  
F 440.914.1262  
e-mail: gas.csc@emerson.com  
US Response Center 800.654.7768

#### LATIN AMERICA

**Emerson Process Management**  
**Rosemount Analytical**  
11100 Brittmoores Park Road  
Houston, TX 77041 USA  
T 713.467.6000  
F 713.827.3328

#### EUROPE

**Emerson Process Management**  
**Shared Services Limited**  
Heath Place  
Bognor Regis  
West Sussex PO22 9SH  
England  
T 44 1243 863121  
F 44 1243 845354

#### ASIA-PACIFIC

**Emerson Process Management**  
**Asia Pacific Private Limited**  
1 Pandan Crescent  
Singapore 128461  
Republic of Singapore  
T 65 6 777 8211  
F 65 6 777 0947  
e-mail: analytical@ap.emersonprocess.com

#### MIDDLE EAST AND AFRICA

**Emerson Process Management**  
EPM Building  
P.O. Box 17033  
Jebel Ali Free Zone  
Dubai, United Arab Emirates  
T 971 4 8835235  
F 971 4 8835312

 <http://twitter.com/RAIhome>

 Follow our blog at <http://www.analyticexpert.com>.

**ROSEMOUNT**<sup>®</sup>  
Analytical

For more information:  
[www.EmersonProcess.com/RAIhome](http://www.EmersonProcess.com/RAIhome)

  
**EMERSON**<sup>™</sup>  
Process Management