

7.4 Step 3—Conduct Certification Testing

The types of certification tests required for Part 75 monitoring systems are described below:

- **7-day calibration error test**--- Evaluates the accuracy and stability of a gas or flow monitor's calibration over an extended period of unit operation.
- **Linearity check**---Determines whether the response of a gas monitor is linear across its range.
- **RATA**--- Compares emissions data recorded by a CEMS to data collected concurrently with an EPA emission test method.
- **Bias test**---Determines whether a monitoring system is biased low with respect to the reference method, based on the RATA results. If a low bias is found, a bias adjustment factor (BAF) must be calculated and applied to the subsequent hourly emissions data. This test is required only for SO₂, NO_x, and flow monitoring systems.
- **Cycle time test**---Determines whether a gas monitoring system is capable of completing at least one cycle of sampling, analyzing and data recording every 15 minutes.
- **Flowmeter Accuracy test**---Demonstrates that a fuel flowmeter can accurately measure the fuel flow rate over the normal operating range of the unit.
- **Four-load NO_x emission rate testing and heat input measurement**---Provides data for a correlation curve of NO_x emission rate vs. heat input rate for an Appendix E peaking unit.
- **NO_x emission rate testing at one or more unit loads** (optional)---Determines fuel-and unit-specific NO_x emission factors for LME units.
- **DAHS verification**---Ensures that all emissions calculations are being performed correctly and that the missing data routines are being applied properly.

The specific certification tests required for each Part 75 monitoring system are shown in Table 14. For the test procedures that must be followed, see the following sections of Part 75:

- For CEMS---Section 6 of Appendix A.
- For fuel flow meters---Section 2.1.5 of Appendix D.
- For Appendix E testing---Section 2.1 of Appendix E.
- For the data acquisition and handling system---§75.20(c)(9)

**Table 14: Required Certification Tests for
Part 75 Monitoring Systems**

To certify this type of monitoring system. . .	These tests must be performed. . . .	With the following exceptions and qualifications. . . .
SO ₂ or NO _x concentration	<ul style="list-style-type: none"> • 7-day calibration error test. • Linearity check. • RATA (ppm basis) • Bias test. • Cycle time test. • DAHS verification. 	<ul style="list-style-type: none"> • Peaking units and SO₂ and NO_x span values ≤ 50 ppm are exempted from the 7-day calibration error test • SO₂ and NO_x span values ≤ 30 ppm are exempted from linearity checks • SO₂ monitor is exempt from RATA if the unit burns only "very low-sulfur fuel"^a
NO _x - diluent	<ul style="list-style-type: none"> • 7-day calibration error test (each analyzer). • Linearity check (each analyzer). • RATA (lb/mmBtu basis). • Bias test. • Cycle time test (each analyzer). • DAHS verification. 	<ul style="list-style-type: none"> • Peaking units^a and NO_x span values ≤ 50 ppm are exempted from the 7-day calibration error test • NO_x span values ≤ 30 ppm are exempted from linearity checks
Stack gas flow rate	<ul style="list-style-type: none"> • 7-day calibration error test. • RATA (3-load) • Bias test. • DAHS verification. 	<ul style="list-style-type: none"> • Peaking units^a are exempted from the 7-day calibration error test • Only a single-load RATA is required for flow monitors on peaking units and bypass stacks
CO ₂ or O ₂ concentration	<ul style="list-style-type: none"> • 7-day calibration error test. • Linearity check. • RATA • Cycle time test. • DAHS verification. 	<ul style="list-style-type: none"> • Peaking units^a are exempted from the 7-day calibration error test
Moisture system with wet and dry O ₂ analyzers(s)	<ul style="list-style-type: none"> • 7-day calibration error test (each analyzer). • Linearity check (each analyzer). • RATA (% H₂O basis). • Cycle time test (each analyzer). • DAHS verification. 	<ul style="list-style-type: none"> • Peaking units^a are exempted from the 7-day calibration error test
Continuous moisture sensor	<ul style="list-style-type: none"> • RATA (% H₂O basis) • DAHS verification. 	<ul style="list-style-type: none"> • No exceptions

To certify this type of monitoring system.	These tests must be performed.	With the following exceptions and qualifications. . . .
Continuous moisture system consisting of a temperature sensor and a DAHS with a “lookup table”	<ul style="list-style-type: none"> • Demonstration that the DAHS applies the correct moisture value from the lookup table at 3 representative temperatures. This option applies to saturated gas streams, only. 	No exceptions
Appendix D fuel flowmeter system	<ul style="list-style-type: none"> • Flowmeter Accuracy test • DAHS verification. 	<ul style="list-style-type: none"> • Qualifying billing meters are exempted from accuracy testing • For orifice, nozzle, and venturi meters that conform to AGA Report No.3, the “accuracy test” consists of transmitter calibrations
Appendix E NO _x system	<ul style="list-style-type: none"> • NO_x emission rate testing and Appendix D heat input measurement at 4 unit loads • DAHS verification 	Emergency fuel (testing optional)

^a As defined in 40 CFR 72.2 and (if applicable) in §75.74(c)(11)