

Question 19.16

Topic: Stack Gas Moisture and RM Backup Monitoring

Question: Does stack gas moisture content have to be determined during Part 75 RM backup gas monitor test runs?

Answer: Only in certain cases. Moisture corrections will not be required if a dilution-type (wet basis) RM backup monitor is used (except possibly for a NO_x-diluent system), because flow measurement is also on a wet basis, and therefore mass emission rates and heat input rates can be calculated directly. However, if a dry-basis backup RM pollutant concentration monitor is used, moisture correction will be required (except possibly for a NO_x-diluent system), in order to calculate the mass emission rates, and heat input rates.

For a NO_x-diluent RM backup monitoring system, moisture correction will be necessary only if the moisture basis of the NO_x pollutant concentration monitor is different from the moisture basis of the diluent monitor. Proper calculation of the NO_x emission rate in lb/mmBtu requires that the pollutant and diluent measurements be on a common moisture basis.

When moisture correction is necessary, data from a certified continuous moisture monitoring system or an appropriate fuel-specific default moisture value may be used (see §§ 75.11(b) and 75.12(b)). Reference Method 4 in Appendix A of 40 CFR 60 (or its allowable equivalents or alternatives) may also be used to determine the stack gas moisture content during each backup RM monitor test run, if necessary.

If Method 4 is used, for sampling runs of one hour or less, moisture data must be collected in at least one of the 15-minute periods during which gas concentration measurements are made with RM 6C, 7E, or 3A. For runs greater than one hour in duration, a Method 4 moisture measurement must be made during at least one 15-minute period of each clock hour of the run.

Note: EPA has authorized the use of Approximation Method 4, which is a less rigorous moisture measurement technique than regular Method 4, for such applications (see EMTIC Guideline Document, GD-23, May 19, 1993).

References: §75.20(d)(3); §§75.11(b) and 75.12(b); Method 4 in Appendix A-3 to 40 CFR Part 60

History: First published in March 1995, Update #5; revised in October 1999 Revised Manual; revised in 2013 Manual