§ 60.4345 What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?

If the option to use a NO\textsubscript{X} CEMS is chosen:

(a) Each NO\textsubscript{X} diluent CEMS must be installed and certified according to Performance Specification 2 (PS 2) in appendix B to this part, except the 7-day calibration drift is based on unit operating days, not calendar days. With state approval, Procedure 1 in appendix F to this part is not required. Alternatively, a NO\textsubscript{X} diluent CEMS that is installed and certified according to appendix A of part 75 of this chapter is acceptable for use under this subpart. The relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBtu basis.

(b) As specified in §60.13(e)(2), during each full unit operating hour, both the NO\textsubscript{X} monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NO\textsubscript{X} emission rate for the hour.

(c) Each fuel flowmeter shall be installed, calibrated, maintained, and operated according to the manufacturer’s instructions. Alternatively, with state approval, fuel flowmeters that meet the installation, certification, and quality assurance requirements of appendix D to part 75 of this chapter are acceptable for use under this subpart.

(d) Each watt meter, steam flow meter, and each pressure or temperature measurement device shall be installed, calibrated, maintained, and operated according to manufacturer’s instructions.

(e) The owner or operator shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment described in paragraphs (a), (c), and (d) of this section. For the CEMS and fuel flow meters, the owner or operator may, with state approval, satisfy the requirements of this paragraph by implementing the QA program and plan described in section 1 of appendix B to part 75 of this chapter.

§ 60.4350 How do I use data from the continuous emission monitoring equipment to identify excess emissions?

For purposes of identifying excess emissions:

(a) All CEMS data must be reduced to hourly averages as specified in §60.13(h).

(b) For each unit operating hour in which a valid hourly average, as described in §60.4345(b), is obtained for both NO\textsubscript{X} and diluent monitors, the data acquisition and handling system must calculate and record the hourly NO\textsubscript{X} emission rate in units of ppm or lb/MMBtu, using the appropriate equation from method 19 in appendix A of this part. For any hour in which the hourly average O\textsubscript{2} concentration exceeds 19.0 percent O\textsubscript{2} (or the hourly average CO\textsubscript{2} concentration is less than 1.0 percent CO\textsubscript{2}), a diluent cap value of 19.0 percent O\textsubscript{2} or 1.0 percent CO\textsubscript{2} (as applicable) may be used in the emission calculations.

(c) Correction of measured NO\textsubscript{X} concentrations to 15 percent O\textsubscript{2} is not allowed.

(d) If you have installed and certified a NO\textsubscript{X} diluent CEMS to meet the requirements of part 75 of this chapter, states can approve that only quality
assured data from the CEMS shall be used to identify excess emissions under this subpart. Periods where the missing data substitution procedures in subpart D of part 75 are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under §60.7(c).

(e) All required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data must be reduced to hourly averages.

(f) Calculate the hourly average NO\textsubscript{X} emission rates, in units of the emission standards under §60.4320, using either ppm for units complying with the concentration limit or the following equation for units complying with the output based standard:

1. For simple-cycle operation:

\[ E = \frac{(NO\textsubscript{X})_h \times (HI)_h}{P} \]  

(Eq. 1)

Where:
\( E \) = hourly NO\textsubscript{X} emission rate, in lb/MWh,
\( (NO\textsubscript{X})_h \) = hourly NO\textsubscript{X} emission rate, in lb/MMBtu,
\( (HI)_h \) = hourly heat input rate to the unit, in MMBtu/h, measured using the fuel flowmeter(s), e.g., calculated using Equation D-15a in appendix D to part 75 of this chapter,
and
\( P \) = gross energy output of the combustion turbine in MW.

2. For combined-cycle and combined heat and power complying with the output-based standard, use the following equation:

\[ E = \frac{(NO\textsubscript{X})_h}{BL \times AL} \]  

(Eq. 4)

Where:
\( E \) = NO\textsubscript{X} emission rate in lb/MWh,
\( (NO\textsubscript{X})_h \) = NO\textsubscript{X} emission rate in lb/h,
\( BL \) = manufacturer’s base load rating of turbine, in MW, and
\( AL \) = actual load as a percentage of the base load.

(g) For simple cycle units without heat recovery, use the calculated hourly average emission rates from paragraph (f) of this section to assess excess emissions on a 4-hour rolling average basis, as described in §60.4380(b)(1).

(h) For combined cycle and combined heat and power units with heat recovery, use the calculated hourly average emission rates from paragraph (f) of this section to assess excess emissions on a 30 unit operating day rolling average basis, as described in §60.4380(b)(1).

§ 60.4355 How do I establish and document a proper parameter monitoring plan?

(a) The steam or water to fuel ratio or other parameters that are continuously monitored as described in §§60.4335 and 60.4340 must be monitored during the performance test required under §60.8, to establish acceptable values and ranges. You may supplement