

Environmental Protection Agency

§ 75.33

(1) Prior to completion of 8,760 unit operating hours following initial certification, the owner or operator shall, for the purpose of applying the stand-

ard missing data procedures of § 75.33, use equation 8 to calculate, hourly, percent monitor data availability.

$$\text{Percent monitor data availability} = \frac{\text{Total unit operating hours for which quality-assured data were recorded since certification}}{\text{Total unit operating hours since certification}} \times 100 \quad (\text{Eq. 8})$$

(2) Upon completion of 8,760 unit operating hours following initial certification (or, for a unit with less than 8,760 unit operating hours three years (26,280 clock hours) after initial certification, upon completion of three years (26,280 clock hours) following initial

certification) and thereafter, the owner or operator shall, for the purpose of applying the standard missing data procedures of § 75.33, use equation 9 to calculate, hourly, percent monitor data availability.

$$\text{Percent monitor data availability} = \frac{\text{Total unit operating hours for which quality-assured data were recorded during previous 8,760 unit operating hours}}{8,760} \times 100 \quad (\text{Eq. 9})$$

(3) The owner or operator shall include all unit operating hours, and all monitor operating hours for which quality-assured data were recorded by a certified primary monitor; a certified redundant or non-redundant backup monitor or a reference method for that unit; or by an approved alternative monitoring system under subpart E of this part when calculating percent monitor data availability using equation 8 or 9. No hours from more than three years (26,280 clock hours) earlier shall be used in equation 9. The owner or operator of a unit with an SO₂ monitoring system shall, when SO₂ emissions are determined in accordance with § 75.11(e)(1) or (e)(2), exclude hours in which a unit combusts only gaseous fuel from calculations of percent monitor data availability for SO₂ pollutant concentration monitors, as provided in § 75.30(d).

shall record the percent monitor data availability for the last hour of each missing data period as the monitor availability used to implement the missing data substitution procedures.

[58 FR 3701, Jan. 11, 1993, as amended at 60 FR 26529, 26567, May 17, 1995; 61 FR 59160, Nov. 20, 1996; 64 FR 28602, May 26, 1999]

§ 75.33 Standard missing data procedures for SO₂, NO_x and flow rate.

(a) Following initial certification (i.e., the date and time at which quality assured data begins to be recorded by the CEMS) and upon completion of the first 720 quality-assured monitor operating hours of the SO₂ pollutant concentration monitor or the first 2,160 quality assured monitor operating hours of the flow monitor, NO_x-diluent monitoring system or NO_x concentration monitoring system used to determine NO_x mass emissions, the owner or operator shall provide substitute data required under this subpart according to the procedures in paragraphs (b) and

(b) The monitor data availability need not be calculated during the missing data period. The owner or operator

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(c) of this section and depicted in Table 1 (SO₂) and Table 2 of this section (NO_x, flow). The owner or operator of a unit shall substitute for missing data using

only quality-assured monitor operating hours of data from the three years (26,280 clock hours) prior to the date and time of the missing data period.

TABLE 1—MISSING DATA PROCEDURE FOR SO₂ CEMS, CO₂ CEMS, MOISTURE CEMS AND DILUENT (CO₂ OR O₂) MONITORS FOR HEAT INPUT DETERMINATION

Trigger conditions		Calculation routines	
Monitor data availability (percent)	Duration (N) of CEMS outage (hours) ²	Method	Lookback period
95 or more	N ≤ 24	Average	HB/HA.
	N > 24	For SO ₂ , CO ₂ and H ₂ O**, the greater of: Average	HB/HA. 720 hours.*
90 or more, but below 95	N ≤ 8	90th percentile	HB/HA.
	N > 8	For O ₂ , and H ₂ O ^x , the lesser of: Average	720 hours.* HB/HA.
80 or more, but below 90	N > 0	10th percentile	HB/HA.
		Average	720 hours.*
Below 80	N > 0	For SO ₂ , CO ₂ and H ₂ O**, the greater of: Average	HB/HA.
		95th percentile	720 hours.*
		For O ₂ , and H ₂ O ^x , the lesser of: Average	HB/HA.
		5th percentile	720 hours.*
		For SO ₂ , CO ₂ and H ₂ O**: Maximum value ¹	720 hours.*
		For O ₂ , and H ₂ O ^x : Minimum value	720 hours.*
		Maximum potential concentration or % (for SO ₂ , CO ₂ and H ₂ O**) or	
		Minimum potential concentration or % (for O ₂ , and H ₂ O ^x)	None.

HB/HA = hour before and hour after the CEMS outage.

* = Quality-assured, monitor operating hours, during unit operation.

¹Where unit with add-on emission controls can demonstrate that the controls are operating properly, as provided in § 75.34, the unit may, upon approval, use the maximum controlled emission rate from the previous 720 operating hours.

²During unit operating hours.

^xUse this algorithm for moisture except when Equation 19-3, 19-4 or 19-8 in Method 19 in appendix A to part 60 of this chapter is used for NO_x emission rate.

**Use this algorithm for moisture *only* when Equation 19-3, 19-4 or 19-8 in Method 19 in appendix A to part 60 of this chapter is used for NO_x emission rate.

TABLE 2.—MISSING DATA PROCEDURE FOR NO_x-DILUENT CEMS, NO_x CONCENTRATION CEMS AND FLOW RATE CEMS

Trigger conditions		Calculation routines		
Monitor data availability (percent)	Duration (N) of CEMS outage (hours) ²	Method	Lookback period	Load ranges
95 or more	N ≤ 24	Average	2160 hours*	Yes.
	N > 24	The greater of: Average	HB/HA	No.
90 or more, but below 95	N ≤ 8	90th percentile	2160 hours*	Yes.
	N > 8	Average	2160 hours*	Yes.
		The greater of:		

TABLE 2.—MISSING DATA PROCEDURE FOR NO_x-DILUENT CEMS, NO_x CONCENTRATION CEMS AND FLOW RATE CEMS—Continued

Trigger conditions		Calculation routines		
Monitor data availability (percent)	Duration (N) of CEMS outage (hours) ²	Method	Lookback period	Load ranges
80 or more, but below 90	N > 0	Average	HB/HA	No.
		95th percentile	2160 hours*	Yes.
Below 80	N > 0	Maximum value ¹	2160 hours*	Yes.
		Maximum NO _x emission rate; or maximum potential NO _x concentration; or maximum potential flow rate.	None	No.

HB/HA=hour before and hour after the CEMS outage.
 *Quality-assured, monitor operating hours, in the corresponding load range ("load bin") for each hour of the missing data period.
¹Where unit with add-on emission controls can demonstrate that the controls are operating properly, as provided in § 75.34, the unit may, upon approval, use the maximum controlled emission rate from the previous 720 operating hours.
²During unit operating hours.

(b) *SO₂ concentration data.* For each hour of missing SO₂ concentration data,

(1) Whenever the monitor data availability is equal to or greater than 95.0 percent, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

(i) For a missing data period less than or equal to 24 hours, substitute the average of the hourly SO₂ concentrations recorded by an SO₂ pollutant concentration monitor for the hour before and the hour after the missing data period.

(ii) For a missing data period greater than 24 hours, substitute the greater of:

(A) The 90th percentile hourly SO₂ concentration recorded by an SO₂ pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or

(B) The average of the hourly SO₂ concentrations recorded by an SO₂ pollutant concentration monitor for the hour before and the hour after the missing data period.

(2) Whenever the monitor data availability is at least 90.0 percent but less than 95.0 percent, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

(i) For a missing data period of less than or equal to 8 hours, substitute the average of the hourly SO₂ concentrations recorded by an SO₂ pollutant concentration monitor for the hour before and the hour after the missing data period.

(ii) For a missing data period of more than 8 hours, substitute the greater of:

(A) the 95th percentile hourly SO₂ concentration recorded by an SO₂ pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or

(B) The average of the hourly SO₂ concentrations recorded by an SO₂ pollutant concentration monitor for the hour before and the hour after the missing data period.

(3) Whenever the monitor data availability is at least 80.0 percent but less than 90.0 percent, the owner or operator shall substitute for each missing data period the maximum hourly SO₂ concentration recorded by an SO₂ pollutant concentration monitor during the previous 720 quality-assured monitor operating hours.

(4) Whenever the monitor data availability is less than 80.0 percent, the owner or operator shall substitute for each missing data period the maximum potential SO₂ concentration, as defined in section 2.1.1.1 of appendix A to this part.

(c) *Volumetric flow rate, NO_x emission rate and NO_x concentration data.* For each hour of missing volumetric flow rate data, NO_x emission rate data, or NO_x concentration data used to determine NO_x mass emissions:

(1) Whenever the monitor or continuous emission monitoring system data availability is equal to or greater than 95.0 percent, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

(i) For a missing data period less than or equal to 24 hours, substitute, as applicable, for each missing hour, the arithmetic average of the flow rates or NO_x emission rates or NO_x concentrations recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range, as determined using the procedure in appendix C to this part.

(ii) For a missing data period greater than 24 hours, substitute, as applicable, for each missing hour, the greater of:

(A) The 90th percentile hourly flow rate or the 90th percentile NO_x emission rate or the 90th percentile NO_x concentration recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range, as determined using the procedure in appendix C to this part; or

(B) The average of the recorded hourly flow rates, NO_x emission rates or NO_x concentrations recorded by a monitoring system for the hour before and the hour after the missing data period.

(2) Whenever the monitor or continuous emission monitoring system data availability is at least 90.0 percent but less than 95.0 percent, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

(i) For a missing data period of less than or equal to 8 hours, substitute, as applicable, the arithmetic average hourly flow rate or NO_x emission rate or NO_x concentration recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range, as determined using the procedure in appendix C to this part.

(ii) For a missing data period greater than 8 hours, substitute, as applicable, for each missing hour, the greater of:

(A) The 95th percentile hourly flow rate or the 95th percentile NO_x emission rate or the 95th percentile NO_x concentration recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range, as determined using the procedure in appendix C to this part; or

(B) The average of the hourly flow rates, NO_x emission rates or NO_x concentrations recorded by a monitoring system for the hour before and the hour after the missing data period.

(3) Whenever the monitor data availability is at least 80.0 percent but less than 90.0 percent, the owner or operator shall, by means of the automated data acquisition and handling system, substitute, as applicable, for each hour of each missing data period, the maximum hourly flow rate or the maximum hourly NO_x emission rate or the maximum hourly NO_x concentration recorded during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range, as determined using the procedure in section 2 of appendix C to this part.

(4) Whenever the monitor data availability is less than 80.0 percent, the owner or operator shall substitute, as applicable, for each hour of each missing data period, the maximum potential flow rate, as defined in section 2.1.4.1 of appendix A to this part, or the maximum NO_x emission rate, as de-

defined in section 2.1.2.1 of appendix A to this part, or the maximum potential NO_x concentration, as defined in section 2.1.2.1 of appendix A to this part.

(5) Whenever no prior quality-assured flow rate data, NO_x concentration data or NO_x emission rate data exist for the corresponding load range, the owner or operator shall substitute, as applicable, for each hour of missing data, the maximum hourly flow rate or the maximum hourly NO_x concentration or maximum hourly NO_x emission rate at the next higher level load range for which quality-assured data are available.

(6) Whenever no prior quality-assured flow rate data, NO_x concentration data or NO_x emission rate data exist for either the corresponding load range or a higher load range, the owner or operator shall substitute, as applicable, either the maximum potential NO_x emission rate or the maximum potential NO_x concentration, as defined in section 2.1.2.1 of appendix A to this part or the maximum potential flow rate, as defined in section 2.1.4.1 of appendix A to this part.

[58 FR 3701, Jan. 11, 1993, as amended at 60 FR 26529, May 17, 1995; 61 FR 25582, May 22, 1996; 64 FR 28602, May 26, 1999]

§ 75.34 Units with add-on emission controls.

(a) The owner or operator of an affected unit equipped with add-on SO₂ and/or NO_x emission controls shall use one of the following options for each hour in which quality-assured data from the outlet SO₂ and/or NO_x monitoring system(s) are not obtained:

(1) The owner or operator may use the missing data substitution procedures as specified for all affected units in §§ 75.31 through 75.33 to substitute data for each hour in which the add-on emission controls are operating within the proper parametric ranges specified in the quality assurance/quality control program for the unit, required by section 1 in appendix B of this part. The designated representative shall document in the quality assurance/quality control program the ranges of the add-on emission control operating