

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

(2) Upon completion of 8,760 unit (or stack) operating 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. Notwithstanding this re-

quirement, if three years (26,280 clock hours) have elapsed since initial certification and fewer than 8,760 unit or stack operating hours have been accumulated, the owner or operator shall begin using a modified version of Equation 9, as described in paragraph (a)(3) of this section.

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

(3) When calculating percent monitor data availability using Equation 8 or 9, 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. No hours from more than three years (26,280 clock hours) earlier shall be used in Equation 9. For a unit that has accumulated fewer than 8,760 unit operating hours in the previous three years (26,280 clock hours), replace the words “during previous 8,760 unit operating hours” in the numerator of Equation 9 with “in the previous three years” and replace “8,760” in the denominator of Equation 9 with “total unit operating hours in the previous three years.” The owner or operator of a unit with an SO<sub>2</sub> monitoring system shall, when SO<sub>2</sub> 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 SO<sub>2</sub>

pollutant concentration monitors, as provided in § 75.30(d).

(b) The monitor data availability shall be calculated for each hour during each missing data period. The owner or operator shall record the percent monitor data availability for each hour of each missing data period 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; 67 FR 40434, June 12, 2002; 70 FR 28680, May 18, 2005; 73 FR 4346, Jan. 24, 2008; 76 FR 17311, Mar. 28, 2011]

**§ 75.33 Standard missing data procedures for SO<sub>2</sub>, NO<sub>x</sub>, and flow rate.**

(a) Following initial certification of the required SO<sub>2</sub>, NO<sub>x</sub>, and flow rate monitoring system(s) at a particular unit or stack location (*i.e.*, the date and time at which quality-assured data begins to be recorded by CEMS(s) at that location) and upon completion of the first 720 quality-assured monitor operating hours (for SO<sub>2</sub>) or the first 2,160 quality-assured monitor operating hours (for flow, NO<sub>x</sub> emission rate, or

NO<sub>x</sub> concentration), the owner or operator shall provide substitute data required under this subpart according to the procedures in paragraphs (b) and (c) of this section and depicted in Table 1 (SO<sub>2</sub>) and Table 2 of this section (NO<sub>x</sub>, flow). The owner or operator may either implement the provisions of paragraphs (b) and (c) of this section on a non-fuel-specific basis, or may, as described in paragraphs (b)(5), (b)(6), (c)(7) and (c)(8) of this section, provide fuel-specific substitute data values. Notwithstanding these requirements, if three years (26,280 clock hours) have elapsed since the date and hour of initial certification, and fewer than 720 (or 2,160, as applicable) quality-assured monitor operating hours have been recorded, the owner or operator shall begin using the missing data procedures of this section. The owner or operator of a unit shall substitute for missing data using quality-assured monitor operating hours of data from no earlier than three years (26,280 clock hours) prior to the date and time of the missing data period.

(b) *SO<sub>2</sub> concentration data.* For each hour of missing SO<sub>2</sub> concentration data,

(1) If 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 that hour of the 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 SO<sub>2</sub> concentrations recorded by an SO<sub>2</sub> 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 SO<sub>2</sub> concentration recorded by an SO<sub>2</sub> pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or

(B) The average of the hourly SO<sub>2</sub> concentrations recorded by an SO<sub>2</sub> pollutant concentration monitor for the hour before and the hour after the missing data period.

(2) If 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 that hour of the 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 SO<sub>2</sub> concentrations recorded by an SO<sub>2</sub> 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 SO<sub>2</sub> concentration recorded by an SO<sub>2</sub> pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or

(B) The average of the hourly SO<sub>2</sub> concentrations recorded by an SO<sub>2</sub> pollutant concentration monitor for the hour before and the hour after the missing data period.

(3) If the monitor data availability is at least 80.0 percent but less than 90.0 percent, the owner or operator shall substitute for that hour of the missing data period the maximum hourly SO<sub>2</sub> concentration recorded by an SO<sub>2</sub> pollutant concentration monitor during the previous 720 quality-assured monitor operating hours.

(4) If the monitor data availability is less than 80.0 percent, the owner or operator shall substitute for that hour of the missing data period the maximum potential SO<sub>2</sub> concentration, as defined in section 2.1.1.1 of appendix A to this part.

(5) For units that combust more than one type of fuel, the owner or operator may opt to implement the missing data routines in paragraphs (b)(1) through (b)(4) of this section on a fuel-specific basis. If this option is selected, the owner or operator shall document this in the monitoring plan required under § 75.53.

(6) Use the following guidelines to implement paragraphs (b)(1) through (b)(4) of this section on a fuel-specific basis:

(i) Separate the historical, quality-assured SO<sub>2</sub> concentration data according to the type of fuel combusted;

(ii) For units that co-fire different types of fuel, either group the co-fired hours with the historical data for the fuel with the highest SO<sub>2</sub> emission rate (e.g., if diesel oil and pipeline natural gas are co-fired, count co-fired hours as oil-burning hours), or separate the co-fired hours from the single-fuel hours;

(iii) For the purposes of providing substitute data under paragraph (b)(4) of this section, determine a separate, fuel-specific maximum potential SO<sub>2</sub> concentration (MPC) value for each type of fuel combusted in the unit, in a manner consistent with section 2.1.1.1 of appendix A to this part. For fuel that qualifies as pipeline natural gas or natural gas (as defined in § 72.2 of this chapter), the owner or operator shall, for the purposes of determining the MPC, either determine the maximum total sulfur content and minimum gross calorific value (GCV) of the gas by fuel sampling and analysis or shall use a default total sulfur content of 0.05 percent by weight (dry basis) and a default GCV value of 950 Btu/scf. For co-firing, the MPC value shall be based on the fuel with the highest SO<sub>2</sub> emission rate. The exact methodology used to determine each fuel-specific MPC value shall be documented in the monitoring plan for the unit or stack; and

(iv) For missing data periods that require 720-hour (or, if applicable, 3-year) lookbacks, use historical data for the type of fuel combusted during each hour of the missing data period to determine the appropriate substitute data value for that hour. For co-fired missing data hours, if the historical data are separated into single-fuel and co-fired hours, use co-fired data to provide the substitute data values. Otherwise, use data for the fuel with the highest SO<sub>2</sub> emission rate to provide substitute data values for co-fired missing data hours.

(7) Table 1 summarizes the provisions of paragraphs (b)(1) through (b)(6) of this section.

(c) *Volumetric flow rate, NO<sub>x</sub> emission rate and NO<sub>x</sub> concentration data.* Use the procedures in this paragraph to provide substitute NO<sub>x</sub> and flow rate data for all affected units for which load-based ranges have been defined in accordance with section 2 of appendix C to this part. For units that do not produce

electrical or thermal output (*i.e.*, non-load-based units), use the procedures in this paragraph only to provide substitute data for volumetric flow rate, and only if operational bins have been defined for the unit, as described in section 3 of appendix C to this part. Otherwise, use the applicable missing data procedures in paragraph (d) or (e) of this section for non-load-based units. For each hour of missing volumetric flow rate data, NO<sub>x</sub> emission rate data, or NO<sub>x</sub> concentration data used to determine NO<sub>x</sub> mass emissions:

(1) If 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 that hour of the 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<sub>x</sub> emission rates or NO<sub>x</sub> concentrations recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range or operational bin, 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<sub>x</sub> emission rate or the 90th percentile NO<sub>x</sub> concentration recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range or operational bin, as determined using the procedure in appendix C to this part; or

(B) The average of the recorded hourly flow rates, NO<sub>x</sub> emission rates or NO<sub>x</sub> concentrations recorded by a monitoring system for the hour before and the hour after the missing data period.

(2) If 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 that hour of the missing data period according to the following procedures:

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(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<sub>x</sub> emission rate or NO<sub>x</sub> concentration recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range or operational bin, 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<sub>x</sub> emission rate or the 95th percentile NO<sub>x</sub> concentration recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range or operational bin, as determined using the procedure in appendix C to this part; or

(B) The average of the hourly flow rates, NO<sub>x</sub> emission rates or NO<sub>x</sub> concentrations recorded by a monitoring system for the hour before and the hour after the missing data period.

(3) If 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 that hour of the missing data period, the maximum hourly flow rate or the maximum hourly NO<sub>x</sub> emission rate or the maximum hourly NO<sub>x</sub> concentration recorded during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range or operational bin, as determined using the procedure in appendix C to this part.

(4) If the monitor data availability is less than 80.0 percent, the owner or operator shall substitute, as applicable, for that hour of the 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<sub>x</sub> emission rate, as defined in section 2.1.2.1 of appendix A to this part, or the maximum potential NO<sub>x</sub> concentration, as defined in section 2.1.2.1 of appendix A to this part. In addition, when non-load-based operational bins are used, the owner or operator shall substitute the maximum potential flow

rate for any hour in the missing data period in which essential operating or parametric data are unavailable and the operational bin cannot be determined.

(5) This paragraph, (c)(5), does not apply to non-load-based, affected units using operational bins. Whenever no prior quality-assured flow rate data, NO<sub>x</sub> concentration data or NO<sub>x</sub> 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<sub>x</sub> concentration or maximum hourly NO<sub>x</sub> 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<sub>x</sub> concentration data or NO<sub>x</sub> emission rate data exist at either the corresponding load range (or a higher load range) or at the corresponding operational bin, the owner or operator shall substitute, as applicable, either the maximum potential NO<sub>x</sub> emission rate or the maximum potential NO<sub>x</sub> 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.

(7) This paragraph (c)(7) does not apply to affected units using non-load-based operational bins. For units that combust more than one type of fuel, the owner or operator may opt to implement the missing data routines in paragraphs (c)(1) through (c)(6) of this section on a fuel-specific basis. If this option is selected, the owner or operator shall document this in the monitoring plan required under § 75.53.

(8) This paragraph, (c)(8), does not apply to affected units using non-load-based operational bins. Use the following guidelines to implement paragraphs (c)(1) through (c)(6) of this section on a fuel-specific basis:

(i) Separate the historical, quality-assured NO<sub>x</sub> emission rate, NO<sub>x</sub> concentration, or flow rate data according to the type of fuel combusted;

(ii) For units that co-fire different types of fuel, either group the co-fired hours with the historical data for the fuel with the highest NO<sub>x</sub> emission

rate, NO<sub>x</sub> concentration or flow rate, or separate the co-fired hours from the single-fuel hours;

(iii) For the purposes of providing substitute data under paragraph (c)(4) of this section, a separate, fuel-specific maximum potential concentration (MPC), maximum potential NO<sub>x</sub> emission rate (MER), or maximum potential flow rate (MPF) value (as applicable) shall be determined for each type of fuel combusted in the unit, in a manner consistent with §72.2 of this chapter and with section 2.1.2.1 or 2.1.4.1 of appendix A to this part. For co-firing, the MPC, MER or MPF value shall be based on the fuel with the highest emission rate or flow rate (as applicable). Furthermore, for a unit with add-on NO<sub>x</sub> emission controls, a separate fuel-specific maximum controlled NO<sub>x</sub> emission rate (MCR) or maximum expected NO<sub>x</sub> concentration (MEC) value (as applicable) shall be de-

termined for each type of fuel combusted in the unit. The exact methodology used to determine each fuel-specific MPC, MER, MEC, MCR or MPF value shall be documented in the monitoring plan for the unit or stack.

(iv) For missing data periods that require 2,160-hour (or, if applicable, 3-year) lookbacks, use historical data for the type of fuel combusted during each hour of the missing data period to determine the appropriate substitute data value for that hour. For co-fired missing data hours, if the historical data are separated into single-fuel and co-fired hours, use co-fired data to provide the substitute data values. Otherwise, use data for the fuel with the highest NO<sub>x</sub> emission rate, NO<sub>x</sub> concentration or flow rate (as applicable) to provide substitute data values for co-fired missing data hours. Tables 1 and 2 follow.

TABLE 1—MISSING DATA PROCEDURE FOR SO<sub>2</sub> CEMS, CO<sub>2</sub> CEMS, MOISTURE CEMS, AND DILUENT (CO<sub>2</sub> OR O<sub>2</sub>) MONITORS FOR HEAT INPUT DETERMINATION

Trigger conditions		Calculation routines	
Monitor data availability (percent)	Duration (N) of CEMS outage (hours) <sup>2</sup>	Method	Lookback period
95 or more .....	N ≤ 24 .....	Average .....	HB/HA.
	N > 24 .....	For SO <sub>2</sub> , CO <sub>2</sub> , and H <sub>2</sub> O**, the greater of: Average .....	HB/HA.
90 or more, but below 95 ....	N ≤ 8 .....	90th percentile .....	720 hours.*
	N > 8 .....	For O <sub>2</sub> and H <sub>2</sub> O <sup>x</sup> , the lesser of: 10th percentile .....	HB/HA.
80 or more, but below 90 ....	N > 0 .....	Average .....	720 hours.*
		For SO <sub>2</sub> , CO <sub>2</sub> , and H <sub>2</sub> O**, the greater of: Average .....	HB/HA.
Below 80 .....	N > 0 .....	95th percentile .....	720 hours.*
		For O <sub>2</sub> and H <sub>2</sub> O <sup>x</sup> , the lesser of: Average .....	HB/HA.
		5th Percentile .....	720 hours.*
		For SO <sub>2</sub> , CO <sub>2</sub> , and H <sub>2</sub> O**, Maximum value <sup>1</sup> .....	720 hours.*
		For O <sub>2</sub> and H <sub>2</sub> O <sup>x</sup> : Minimum value <sup>1</sup> .....	720 hours.*
		Maximum potential concentration <sup>3</sup> or % (for SO <sub>2</sub> , CO <sub>2</sub> , and H <sub>2</sub> O**) or Minimum potential concentration or % (for O <sub>2</sub> and H <sub>2</sub> O <sup>x</sup> ).	None.

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

\*Quality-assured, monitor operating hours, during unit operation. May be either fuel-specific or non-fuel-specific. For units that report data only for the ozone season, include only quality assured monitor operating hours within the ozone season in the lookback period. Use data from no earlier than 3 years prior to the missing data period.

<sup>1</sup>Where a unit with add-on SO<sub>2</sub> emission controls can demonstrate that the controls are operating properly during the missing data period, as provided in §75.34, the unit may use the maximum controlled concentration from the previous 720 quality-assured monitor operating hours.

<sup>2</sup>During unit operating hours.

<sup>3</sup>Where a unit with add-on SO<sub>2</sub> emission controls can demonstrate that the controls are operating properly during the missing data period, the unit may report the greater of: (a) the maximum expected SO<sub>2</sub> concentration or (b) 1.25 times the maximum controlled value from the previous 720 quality-assured monitor operating hours (see §75.34).

<sup>x</sup>Use this algorithm for moisture except when Equation 19-3, 19-4 or 19-8 in Method 19 in appendix A-7 to part 60 of this chapter is used for NO<sub>x</sub> emission rate.

\*\*Use this algorithm for moisture *only* when Equation 19-3, 19-4 or 19-8 in Method 19 in appendix A-7 to part 60 of this chapter is used for NO<sub>x</sub> emission rate.

TABLE 2—LOAD-BASED MISSING DATA PROCEDURE FOR NO<sub>x</sub>-DILUENT CEMS, NO<sub>x</sub> CONCENTRATION CEMS AND FLOW RATE CEMS

Trigger conditions		Calculation routines		
Monitor data availability (percent)	Duration (N) of CEMS outage (hours) <sup>2</sup>	Method	Lookback period	Load ranges
95 or more .....	N ≤ 24	Average .....	2,160 hours* .....	Yes.
	N > 24	The greater of: Average .....	HB/HA .....	No.
90 or more, but below 95 .....	N ≤ 8	90th percentile .....	2,160 hours* .....	Yes.
	N > 8	Average .....	2,160 hours* .....	Yes.
80 or more, but below 90 .....	N > 0	The greater of: Average .....	HB/HA .....	No.
	N > 0	95th percentile .....	2,160 hours* .....	Yes.
Below 80 .....	N > 0	Maximum value <sup>1</sup> .....	2,160 hours* .....	Yes.
	N > 0	Maximum potential NO <sub>x</sub> emission rate <sup>3</sup> ; or maximum potential NO <sub>x</sub> concentration <sup>3</sup> ; or maximum potential flow rate.	None .....	No.

HB/HA = hour before and hour after the CEMS outage.  
<sup>\*</sup>Quality-assured, monitor operating hours, using data at the corresponding load range ("load bin") for each hour of the missing data period. May be either fuel-specific or non-fuel-specific. For units that report data only for the ozone season, include only quality assured monitor operating hours within the ozone season in the lookback period. Use data from no earlier than three years prior to the missing data period.  
<sup>1</sup>Where a unit with add-on NO<sub>x</sub> emission controls can demonstrate that the controls are operating properly during the missing data period, as provided in § 75.34, the unit may use the maximum controlled NO<sub>x</sub> concentration or emission rate from the previous 2,160 quality-assured monitor operating hours. Units with add-on controls that report NO<sub>x</sub> mass emissions on a year-round basis under subpart H of this part may use separate ozone season and non-ozone season data pools to provide substitute data values, as described in § 75.34(a)(2).  
<sup>2</sup>During unit operating hours.  
<sup>3</sup>Alternatively, where a unit with add-on NO<sub>x</sub> emission controls can demonstrate that the controls are operating properly during the missing data period, as provided in § 75.34, the unit may report the greater of: (a) the maximum expected NO<sub>x</sub> concentration (or maximum controlled NO<sub>x</sub> emission rate, as applicable); or (b) 1.25 times the maximum controlled value at the corresponding load bin, from the previous 2,160 quality-assured monitor operating hours.

(9) The load-based provisions of paragraphs (c)(1) through (c)(8) of this section are summarized in Table 2 of this section. The non-load-based provisions for volumetric flow rate, found in paragraphs (c)(1) through (c)(4), and (c)(6) of this section, are presented in Table 4 of this section.

(d) *Non-load-based NO<sub>x</sub> emission rate and NO<sub>x</sub> concentration data.* Use the procedures in this paragraph to provide substitute NO<sub>x</sub> data for affected units that do not produce electrical output (in megawatts) or thermal output (in klb/hr of steam). For each hour of missing NO<sub>x</sub> emission rate data, or NO<sub>x</sub> concentration data used to determine NO<sub>x</sub> mass emissions:

(1) If 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 that hour of the 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 NO<sub>x</sub> emission rates or NO<sub>x</sub> concentrations recorded by a monitoring system in a 2,160 hour lookback period. The lookback period may be comprised of either:

- (A) The previous 2,160 quality-assured monitor operating hours, or
- (B) The previous 2,160 quality-assured monitor operating hours at the corresponding operational bin, if operational bins, as defined in section 3 of appendix C to this part, are used.

(ii) For a missing data period greater than 24 hours, substitute, for each missing hour, the 90th percentile NO<sub>x</sub> emission rate or the 90th percentile NO<sub>x</sub> concentration recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours (or during the previous 2,160 quality-assured monitor operating hours at the corresponding operational bin, if operational bins are used).

(2) If 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 that hour of the missing data period according to the following procedures:

(i) For a missing data period of less than or equal to eight hours, substitute, as applicable, the arithmetic average of the hourly NO<sub>x</sub> emission rates or NO<sub>x</sub> concentrations recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours (or during the previous 2,160 quality-assured monitor operating hours at the corresponding operational bin, if operational bins are used).

(ii) For a missing data period greater than eight hours, substitute, for each missing hour, the 95th percentile hourly flow rate or the 95th percentile NO<sub>x</sub> emission rate or the 95th percentile NO<sub>x</sub> concentration recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours (or during the previous 2,160 quality-assured monitor operating hours at the corresponding operational bin, if operational bins are used).

(3) If 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 that hour of the missing data period, the maximum hourly NO<sub>x</sub> emission rate or the maximum hourly NO<sub>x</sub> concentration recorded during the previous 2,160 quality-assured monitor operating hours (or during the previous 2,160 quality-assured monitor operating hours at the corresponding operational bin, if operational bins are used).

(4) If the monitor data availability is less than 80.0 percent, the owner or operator shall substitute, as applicable, for that hour of the missing data period, the maximum NO<sub>x</sub> emission rate, as defined in §72.2 of this chapter, or the maximum potential NO<sub>x</sub> concentration, as defined in section 2.1.2.1 of appendix A to this part. In addition, when operational bins are used, the owner or operator shall substitute (as applicable) the maximum potential NO<sub>x</sub> emission rate or the maximum po-

tential NO<sub>x</sub> concentration for any hour in the missing data period in which essential operating or parametric data are unavailable and the operational bin cannot be determined.

(5) If operational bins are used and no prior quality-assured NO<sub>x</sub> concentration data or NO<sub>x</sub> emission rate data exist for the corresponding operational bin, the owner or operator shall substitute, as applicable, either the maximum potential NO<sub>x</sub> emission rate, as defined in §72.2 of this chapter, or the maximum potential NO<sub>x</sub> concentration, as defined in section 2.1.2.1 of appendix A to this part.

(6) Table 3 of this section summarizes the provisions of paragraphs (d)(1) through (d)(5) of this section.

(e) *Non-load-based volumetric flow rate data.* (1) If operational bins, as defined in section 3 of appendix C to this part, are used for a unit that does not produce electrical or thermal output, use the missing data procedures in paragraph (c) of this section to provide substitute volumetric flow rate data for the unit.

(2) If operational bins are not used, modify the procedures in paragraph (c) of this section as follows:

(i) In paragraphs (c)(1) through (c)(3), the words "previous 2,160 quality-assured monitor operating hours" shall apply rather than "previous 2,160 quality-assured monitor operating hours at the corresponding unit load range or operational bin, as determined using the procedure in appendix C to this part;"

(ii) The last sentence in paragraph (c)(4) does not apply;

(iii) Paragraphs (c)(5), (c)(7), and (c)(8) are not applicable; and

(iv) In paragraph (c)(6), the words, "for either the corresponding load range (or a higher load range) or at the corresponding operational bin" do not apply.

(3) Table 4 of this section summarizes the provisions of paragraphs (e)(1) and (e)(2) of this section. Tables 3 and 4 follow:

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TABLE 3—NON-LOAD-BASED MISSING DATA PROCEDURE FOR NO<sub>x</sub>-DILUENT CEMS AND NO<sub>x</sub> CONCENTRATION CEMS

Trigger conditions		Calculation routines	
Monitor data availability (percent)	Duration (N) of CEMS outage (hours) <sup>1</sup>	Method	Lookback period
95 or more .....	N ≤ 24	Average .....	2,160 hours.*
	N > 24	90th percentile .....	2,160 hours.*
90 or more, but below 95 .....	N ≤ 8	Average .....	2,160 hours.*
	N > 8	95th percentile .....	2,160 hours.*
80 or more, but below 90 .....	N > 0	Maximum value <sup>3</sup> .....	2,160 hours.*
Below 80, or operational bin indeterminate.	N > 0	Maximum potential NO <sub>x</sub> emission rate <sup>2</sup> or maximum potential NO <sub>x</sub> concentration <sup>2</sup> .	None.

\* If operational bins are used, the lookback period is 2,160 quality-assured, monitor operating hours, and data at the corresponding operational bin are used to provide substitute data values. If operational bins are not used, the lookback period is the previous 2,160 quality-assured monitor operating hours. For units that report data only for the ozone season, include only quality-assured monitor operating hours within the ozone season in the lookback period. Use data from no earlier than three years prior to the missing data period.

<sup>1</sup> During unit operation.

<sup>2</sup> Alternatively, where a unit with add-on NO<sub>x</sub> emission controls can demonstrate that the controls are operating properly, as provided in § 75.34, the unit may report the greater of: (a) the maximum expected NO<sub>x</sub> concentration, (or maximum controlled NO<sub>x</sub> emission rate, as applicable); or (b) 1.25 times the maximum controlled value at the corresponding operational bin (if applicable), from the previous 2,160 quality-assured monitor operating hours.

<sup>3</sup> Where a unit with add-on NO<sub>x</sub> emission controls can demonstrate that the controls are operating properly during the missing data period, as provided in § 75.34, the unit may use the maximum controlled NO<sub>x</sub> concentration or emission rate from the previous 2,160 quality-assured monitor operating hours. Units with add-on controls that report NO<sub>x</sub> mass emissions on a year-round basis under subpart H of this part may use separate ozone season and non-ozone season data pools to provide substitute data values, as described in § 75.34(a)(2).

TABLE 4—NON-LOAD-BASED MISSING DATA PROCEDURE FOR FLOW RATE CEMS

Trigger conditions		Calculation routines	
Monitor data availability (percent)	Duration (N) of CEMS outage (hours) <sup>1</sup>	Method	Lookback period
95 or more .....	N ≤ 24	Average .....	2160 hours*
	N > 24	The greater of: .....	
		Average .....	HB/HA
		90th percentile .....	2160 hours*
90 or more, but below 95 .....	N ≤ 8	Average .....	2160 hours*
	N > 8	The greater of: .....	
		Average .....	
		95th percentile .....	
		HB/HA .....	
		2160 hours*.	
80 or more, but below 90 .....	N > 0	Maximum value .....	2160 hours*
Below 80, or operational bin indeterminate.	N > 0	Maximum potential flow rate .....	None

\* If operational bins are used, the lookback period is the previous 2,160 quality-assured, monitor operating hours and data at the corresponding operational bin are used to provide substitute data values. If operational bins are not used, the lookback period is the previous 2,160 quality-assured, monitor operating hours. For units that report data only for the ozone season, include only quality-assured monitor operating hours within the ozone season in the lookback period. Use data from no earlier than three years prior to the missing data period.

<sup>1</sup> During unit operation.

[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; 67 FR 40434, June 12, 2002; 67 FR 53505, Aug. 16, 2002; 67 FR 57274, Sept. 9, 2002; 70 FR 28680, May 18, 2005; 73 FR 4346, Jan. 24, 2008; 76 FR 17311, Mar. 28, 2011]

§ 75.34 Units with add-on emission controls.

(a) The owner or operator of an affected unit equipped with add-on SO<sub>2</sub> and/or NO<sub>x</sub> emission controls shall provide substitute data in accordance with paragraphs (a)(1), through (a)(5) of this

section for each hour in which quality-assured data from the outlet SO<sub>2</sub> and/or NO<sub>x</sub> monitoring system(s) are not obtained.

(1) The owner or operator may use the missing data substitution procedures specified in §§ 75.31 through 75.33