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primary monitor, certified back-up monitor, or other approved method of emissions determination, record the information required under paragraphs (c)(2)(i) through (c)(2)(vi) of this section.

(5) For Hg mass emissions during unit operation, as measured and reported from the certified primary monitoring system(s), certified redundant or non-redundant back-up monitoring system(s), or other approved method(s) of emissions determination, record the information required under paragraph (i)(5) of this section.

(6) Record the average flow rate of stack gas through each sorbent trap (in appropriate units, *e.g.*, liters/min, cc/min, dscm/min).

(7) Record the gas flow meter reading (in dscm, rounded to the nearest hundredth) at the beginning and end of the collection period and at least once in each unit operating hour during the collection period.

(8) Calculate and record the ratio of the bias-adjusted stack gas flow rate to the sample flow rate, as described in section 11.2 of appendix K to this part.

[64 FR 28609, May 26, 1999; 64 FR 37582, July 12, 1999; 67 FR 40440, June 12, 2002; 70 FR 28682, May 18, 2005; 72 FR 51528, Sept. 7, 2007; 73 FR 4353, Jan. 24, 2008]

### § 75.58 General recordkeeping provisions for specific situations.

The owner or operator shall meet all of the applicable recordkeeping requirements of this section.

(a) [Reserved]

(b) *Specific parametric data record provisions for calculating substitute emissions data for units with add-on emission controls.* In accordance with § 75.34, the owner or operator of an affected unit with add-on emission controls shall either record the applicable information in paragraph (b)(3) of this section for each hour of missing SO<sub>2</sub> concentration data or NO<sub>x</sub> emission rate (in addition to other information), or shall record the information in paragraph (b)(1) of this section for SO<sub>2</sub> or paragraph (b)(2) of this section for NO<sub>x</sub> through an automated data acquisition and handling system, as appropriate to the type of add-on emission controls:

(1) For units with add-on SO<sub>2</sub> emission controls using the optional para-

metric monitoring procedures in appendix C to this part, for each hour of missing SO<sub>2</sub> concentration or volumetric flow data:

(i) The information required in § 75.57(c) for SO<sub>2</sub> concentration and volumetric flow, if either one of these monitors is still operating;

(ii) Date and hour;

(iii) Number of operating scrubber modules;

(iv) Total feedrate of slurry to each operating scrubber module (gal/min);

(v) Pressure differential across each operating scrubber module (inches of water column);

(vi) For a unit with a wet flue gas desulfurization system, an in-line measure of absorber pH for each operating scrubber module;

(vii) For a unit with a dry flue gas desulfurization system, the inlet and outlet temperatures across each operating scrubber module;

(viii) For a unit with a wet flue gas desulfurization system, the percent solids in slurry for each scrubber module;

(ix) For a unit with a dry flue gas desulfurization system, the slurry feed rate (gal/min) to the atomizer nozzle;

(x) For a unit with SO<sub>2</sub> add-on emission controls other than wet or dry limestone, corresponding parameters approved by the Administrator;

(xi) Method of determination of SO<sub>2</sub> concentration and volumetric flow using Codes 1-55 in Table 4a of § 75.57; and

(xii) Inlet and outlet SO<sub>2</sub> concentration values, recorded by an SO<sub>2</sub> continuous emission monitoring system, and the removal efficiency of the add-on emission controls.

(2) For units with add-on NO<sub>x</sub> emission controls using the optional parametric monitoring procedures in appendix C to this part, for each hour of missing NO<sub>x</sub> emission rate data:

(i) Date and hour;

(ii) Inlet air flow rate (scfh, rounded to the nearest thousand);

(iii) Excess O<sub>2</sub> concentration of flue gas at stack outlet (percent, rounded to the nearest tenth of a percent);

(iv) Carbon monoxide concentration of flue gas at stack outlet (ppm, rounded to the nearest tenth);

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(v) Temperature of flue gas at furnace exit or economizer outlet duct (°F);

(vi) Other parameters specific to NO<sub>x</sub> emission controls (e.g., average hourly reagent feedrate);

(vii) Method of determination of NO<sub>x</sub> emission rate using Codes 1-55 in Table 4a of § 75.57; and

(viii) Inlet and outlet NO<sub>x</sub> emission rate values recorded by a NO<sub>x</sub> continuous emission monitoring system and the removal efficiency of the add-on emission controls.

(3) Except as otherwise provided in § 75.34(d), for units with add-on SO<sub>2</sub> or NO<sub>x</sub> emission controls following the provisions of § 75.34(a)(1), (a)(2), (a)(3) or (a)(5), and for units with add-on Hg emission controls, the owner or operator shall record:

(i) Parametric data which demonstrate, for each hour of missing SO<sub>2</sub>, Hg, or NO<sub>x</sub> emission data, the proper operation of the add-on emission controls, as described in the quality assurance/quality control program for the unit. The parametric data shall be maintained on site and shall be submitted, upon request, to the Administrator, EPA Regional office, State, or local agency. Alternatively, for units equipped with flue gas desulfurization (FGD) systems, the owner or operator may use quality-assured data from a certified SO<sub>2</sub> monitor to demonstrate proper operation of the emission controls during periods of missing Hg data;

(ii) A flag indicating, for each hour of missing SO<sub>2</sub>, Hg, or NO<sub>x</sub> emission data, either that the add-on emission controls are operating properly, as evidenced by all parameters being within the ranges specified in the quality assurance/quality control program, or that the add-on emission controls are not operating properly;

(c) *Specific SO<sub>2</sub> emission record provisions for gas-fired or oil-fired units using optional protocol in appendix D to this part.* In lieu of recording the information in § 75.57(c), the owner or operator shall record the applicable information in this paragraph for each affected gas-fired or oil-fired unit for which the owner or operator is using the optional protocol in appendix D to this part for estimating SO<sub>2</sub> mass emissions:

(1) For each hour when the unit is combusting oil:

(i) Date and hour;

(ii) Hourly average volumetric flow rate of oil, while the unit combusts oil, with the units in which oil flow is recorded (gal/hr, scf/hr, m<sup>3</sup>/hr, or bbl/hr, rounded to the nearest tenth) (flag value if derived from missing data procedures);

(iii) Sulfur content of oil sample used to determine SO<sub>2</sub> mass emission rate (rounded to nearest hundredth for diesel fuel or to the nearest tenth of a percent for other fuel oil) (flag value if derived from missing data procedures);

(iv) [Reserved];

(v) Mass flow rate of oil combusted each hour and method of determination (lb/hr, rounded to the nearest tenth) (flag value if derived from missing data procedures);

(vi) SO<sub>2</sub> mass emission rate from oil (lb/hr, rounded to the nearest tenth);

(vii) For units using volumetric oil flowmeters, density of oil with the units in which oil density is recorded and method of determination (flag value if derived from missing data procedures);

(viii) Gross calorific value of oil used to determine heat input and method of determination (Btu/lb) (flag value if derived from missing data procedures);

(ix) Hourly heat input rate from oil, according to procedures in appendix D to this part (mmBtu/hr, to the nearest tenth);

(x) Fuel usage time for combustion of oil during the hour (rounded up to the nearest fraction of an hour (in equal increments that can range from one hundredth to one quarter of an hour, at the option of the owner or operator)) (flag to indicate multiple/single fuel types combusted);

(xi) Monitoring system identification code;

(xii) Operating load range corresponding to gross unit load (01-20);

(xiii) Type of oil combusted; and

(xiv) Heat input formula ID and SO<sub>2</sub> Formula ID (required beginning January 1, 2009).

(2) For gas-fired units or oil-fired units using the optional protocol in appendix D to this part for daily manual oil sampling, when the unit is combusting oil, the highest sulfur content

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recorded from the most recent 30 daily oil samples (rounded to the nearest tenth of a percent).

(3) For gas-fired units or oil-fired units using the optional protocol in appendix D to this part, when either an assumed oil sulfur content or density value is used, or when as-delivered oil sampling is performed:

(i) Record the measured sulfur content, gross calorific value, and, if applicable, density from each fuel sample; and

(ii) Record and report the assumed sulfur content, gross calorific value, and, if applicable, density used to calculate SO<sub>2</sub> mass emission rate or heat input rate.

(4) For each hour when the unit is combusting gaseous fuel:

(i) Date and hour.

(ii) Hourly heat input rate from gaseous fuel, according to procedures in appendix F to this part (mmBtu/hr, rounded to the nearest tenth).

(iii) Sulfur content or SO<sub>2</sub> emission rate, in one of the following formats, in accordance with the appropriate procedure from appendix D to this part:

(A) Sulfur content of gas sample and method of determination (rounded to the nearest 0.1 grains/100 scf) (flag value if derived from missing data procedures); or

(B) Default SO<sub>2</sub> emission rate of 0.0006 lb/mmBtu for pipeline natural gas, or calculated SO<sub>2</sub> emission rate for natural gas from section 2.3.2.1.1 of appendix D to this part.

(iv) Hourly flow rate of gaseous fuel, while the unit combusts gas (100 scfh) and source of data code for gas flow rate.

(v) Gross calorific value of gaseous fuel used to determine heat input rate (Btu/100 scf) (flag value if derived from missing data procedures).

(vi) SO<sub>2</sub> mass emission rate due to the combustion of gaseous fuels (lb/hr).

(vii) Fuel usage time for combustion of gaseous fuel during the hour (rounded up to the nearest fraction of an hour (in equal increments that can range from one hundredth to one quarter of an hour, at the option of the owner or operator)) (flag to indicate multiple/single fuel types combusted).

(viii) Monitoring system identification code.

(ix) Operating load range corresponding to gross unit load (01–20).

(x) Type of gas combusted; and

(xi) Heat input formula ID and SO<sub>2</sub> Formula ID (required beginning January 1, 2009).

(5) For each oil sample or sample of diesel fuel:

(i) Date of sampling;

(ii) Sulfur content (percent, rounded to either the nearest hundredth, or nearest ten-thousandth for diesel fuels and to the nearest tenth for other fuel oil);

(iii) Gross calorific value (Btu/lb); and

(iv) Density or specific gravity, if required to convert volume to mass.

(6) For each sample of gaseous fuel for sulfur content:

(i) Date of sampling; and

(ii) Sulfur content (grains/100 scf, rounded to the nearest tenth).

(7) For each sample of gaseous fuel for gross calorific value:

(i) Date of sampling; and

(ii) Gross calorific value (Btu/100 scf).

(8) For each oil sample or sample of gaseous fuel:

(i) Type of oil or gas; and

(ii) Type of sulfur sampling (using codes in tables D-4 and D-5 of appendix D to this part) and value used in calculations, and type of GCV or density sampling (using codes in tables D-4 and D-5 of appendix D to this part).

(d) *Specific NO<sub>x</sub> emission record provisions for gas-fired peaking units or oil-fired peaking units using optional protocol in appendix E to this part.* In lieu of recording the information in § 75.57(d), the owner or operator shall record the applicable information in this paragraph for each affected gas-fired peaking unit or oil-fired peaking unit for which the owner or operator is using the optional protocol in appendix E to this part for estimating NO<sub>x</sub> emission rate. The owner or operator shall meet the requirements of this section, except that the requirements under paragraphs (d)(1)(vii) and (d)(2)(vii) of this section shall become applicable on the date on which the owner or operator is required to monitor, record, and report NO<sub>x</sub> mass emissions under an applicable State or federal NO<sub>x</sub> mass emission reduction program, if the provisions of

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subpart H of this part are adopted as requirements under such a program.

(1) For each hour when the unit is combusting oil:

- (i) Date and hour;
- (ii) Hourly average mass flow rate of oil while the unit combusts oil with the units in which oil flow is recorded (lb/hr);
- (iii) Gross calorific value of oil used to determine heat input (Btu/lb);
- (iv) Hourly average NO<sub>x</sub> emission rate from combustion of oil (lb/mmBtu, rounded to the nearest hundredth);
- (v) Heat input rate of oil (mmBtu/hr, rounded to the nearest tenth);
- (vi) Fuel usage time for combustion of oil during the hour (rounded up to the nearest fraction of an hour, in equal increments that can range from one hundredth to one quarter of an hour, at the option of the owner or operator);
- (vii) NO<sub>x</sub> mass emissions, calculated in accordance with section 8.1 of appendix F to this part;
- (viii) NO<sub>x</sub> monitoring system identification code;
- (ix) Fuel flow monitoring system identification code;
- (x) Segment identification of the correlation curve; and
- (xi) Heat input rate formula ID (required beginning January 1, 2009).

(2) For each hour when the unit is combusting gaseous fuel:

- (i) Date and hour;
- (ii) Hourly average fuel flow rate of gaseous fuel, while the unit combusts gas (100 scfh);
- (iii) Gross calorific value of gaseous fuel used to determine heat input (Btu/100 scf) (flag value if derived from missing data procedures);
- (iv) Hourly average NO<sub>x</sub> emission rate from combustion of gaseous fuel (lb/mmBtu, rounded to nearest hundredth);
- (v) Heat input rate from gaseous fuel, while the unit combusts gas (mmBtu/hr, rounded to the nearest tenth);
- (vi) Fuel usage time for combustion of gaseous fuel during the hour (rounded up to the nearest fraction of an hour, in equal increments that can range from one hundredth to one quarter of an hour, at the option of the owner or operator);

(vii) NO<sub>x</sub> mass emissions, calculated in accordance with section 8.1 of appendix F to this part;

- (viii) NO<sub>x</sub> monitoring system identification code;
- (ix) Fuel flow monitoring system identification code;
- (x) Segment identification of the correlation curve; and
- (xi) Heat input rate formula ID (required beginning January 1, 2009).

(3) For each hour when the unit combusts multiple fuels:

- (i) Date and hour;
- (ii) Hourly average heat input rate from all fuels (mmBtu/hr, rounded to the nearest tenth); and
- (iii) Hourly average NO<sub>x</sub> emission rate for the unit for all fuels (lb/mmBtu, rounded to the nearest hundredth).

(4) For each hour when the unit combusts any fuel(s):

- (i) For stationary gas turbines and diesel or dual-fuel reciprocating engines, hourly averages of operating parameters under section 2.3 of appendix E to this part (flag if value is outside of manufacturer's recommended range); and
- (ii) For boilers, hourly average boiler O<sub>2</sub> reading (percent, rounded to the nearest tenth) (flag if value exceeds by more than 2 percentage points the O<sub>2</sub> level recorded at the same heat input during the previous NO<sub>x</sub> emission rate test).

(5) For each fuel sample:

- (i) Date of sampling;
- (ii) Gross calorific value (Btu/lb for oil, Btu/100 scf for gaseous fuel); and
- (iii) Density or specific gravity, if required to convert volume to mass.

(6) Flag to indicate multiple or single fuels combusted.

(e) *Specific SO<sub>2</sub> emission record provisions during the combustion of gaseous fuel.* (1) If SO<sub>2</sub> emissions are determined in accordance with the provisions in §75.11(e)(2) during hours in which only gaseous fuel is combusted in a unit with an SO<sub>2</sub> CEMS, the owner or operator shall record the information in paragraph (c)(3) of this section in lieu of the information in §§75.57(c)(1), (c)(3), and (c)(4), for those hours.

(2) The provisions of this paragraph apply to a unit which, in accordance

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with the provisions of § 75.11(e)(3), uses an SO<sub>2</sub> CEMS to determine SO<sub>2</sub> emissions during hours in which only gaseous fuel is combusted in the unit. If the unit sometimes burns only gaseous fuel that is very low sulfur fuel (as defined in § 72.2 of this chapter) as a primary and/or backup fuel and at other times combusts higher sulfur fuels, such as coal or oil, as primary and/or backup fuel(s), then the owner or operator shall keep records on-site, in a form suitable for inspection, of the type(s) of fuel(s) burned during each period of missing SO<sub>2</sub> data and the number of hours that each type of fuel was combusted in the unit during each missing data period. This record-keeping requirement does not apply to an affected unit that burns very low sulfur fuel exclusively, nor does it apply to a unit that burns such gaseous fuel(s) only during unit startup.

(f) *Specific SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> record provisions for gas-fired or oil-fired units using the optional low mass emissions excepted methodology in § 75.19.* In lieu of recording the information in §§ 75.57(b) through (e), the owner or operator shall record the following information for each affected low mass emissions unit for which the owner or operator is using the optional low mass emissions excepted methodology in § 75.19(c):

(1) All low mass emission units shall report for each hour:

- (i) Date and hour;
- (ii) Unit operating time (units using the long term fuel flow methodology report operating time to be 1);
- (iii) Fuel type (pipeline natural gas, natural gas, other gaseous fuel, residual oil, or diesel fuel). If more than one type of fuel is combusted in the hour, either:

(A) Indicate the fuel type which results in the highest emission factors for NO<sub>x</sub> (this option is in effect through December 31, 2008); or

(B) Indicate the fuel type resulting in the highest emission factor for each parameter (SO<sub>2</sub>, NO<sub>x</sub> emission rate, and CO<sub>2</sub>) separately (this option is required on and after January 1, 2009);

(iv) Average hourly NO<sub>x</sub> emission rate (lb/mmBtu, rounded to the nearest thousandth);

(v) Hourly NO<sub>x</sub> mass emissions (lbs, rounded to the nearest tenth);

(vi) Hourly SO<sub>2</sub> mass emissions (lbs, rounded to the nearest tenth);

(vii) Hourly CO<sub>2</sub> mass emissions (tons, rounded to the nearest tenth);

(viii) Hourly calculated unit heat input in mmBtu;

(ix) Hourly unit output in gross load or steam load;

(x) The method of determining hourly heat input: unit maximum rated heat input, unit long term fuel flow or group long term fuel flow;

(xi) The method of determining NO<sub>x</sub> emission rate used for the hour: default based on fuel combusted, unit specific default based on testing or historical data, group default based on representative testing of identical units, unit specific based on testing of a unit with NO<sub>x</sub> controls operating, or missing data value;

(xii) Control status of the unit; and

(xiii) Base or peak load indicator (as applicable); and

(xiv) Multiple fuel flag.

(2) Low mass emission units using the optional long term fuel flow methodology to determine unit heat input shall report for each quarter:

- (i) Type of fuel;
- (ii) Beginning date and hour of long term fuel flow measurement period;
- (iii) End date and hour of long term fuel flow period;
- (iv) Quantity of fuel measured;
- (v) Units of measure;
- (vi) Fuel GCV value used to calculate heat input;
- (vii) Units of GCV;
- (viii) Method of determining fuel GCV used;
- (ix) Method of determining fuel flow over period;
- (x) Monitoring-system identification code;
- (xi) Quarter and year;
- (xii) Total heat input (mmBtu); and
- (xiii) Operating hours in period.

[64 FR 28612, May 26, 1999, as amended at 67 FR 40441, 40442, June 12, 2002; 70 FR 28683, May 18, 2005; 73 FR 4354, Jan. 24, 2008]

### **§ 75.59 Certification, quality assurance, and quality control record provisions.**

The owner or operator shall meet all of the applicable recordkeeping requirements of this section.