

(11) Results of tests and measurements (including the results of all reference method field test sheets, charts, laboratory analyses, example calculations, or other data as appropriate) necessary to substantiate that the alternative monitoring system is equivalent in performance to an appropriate, certified operating continuous emission monitoring system.

(b) [Reserved]

[60 FR 40297, Aug. 8, 1995, as amended at 64 28605, May 26, 1999]

Subpart F—Recordkeeping Requirements

§ 75.50–75.52 [Reserved]

§ 75.53 Monitoring plan.

(a) *General provisions.* (1) The provisions of paragraphs (c) and (d) of this section shall remain in effect prior to April 1, 2000. The owner or operator shall meet the requirements of either paragraphs (a) through (d) or paragraphs (a), (b), (e) and (f) of this section prior to April 1, 2000. On and after April 1, 2000, the owner or operator shall meet the requirements of paragraphs (a), (b), (e) and (f) of this section only. In addition, the provisions in paragraphs (e) and (f) of this section that support a regulatory option provided in another section of this part must be followed if the regulatory option is used prior to April 1, 2000.

(2) The owner or operator of an affected unit shall prepare and maintain a monitoring plan. Except as provided in paragraphs (d) or (f) of this section (as applicable), a monitoring plan shall contain sufficient information on the continuous emission or opacity monitoring systems, excepted methodology under § 75.19, or excepted monitoring systems under appendix D or E to this part and the use of data derived from these systems to demonstrate that all unit SO₂ emissions, NO_x emissions, CO₂ emissions, and opacity are monitored and reported.

(b) Whenever the owner or operator makes a replacement, modification, or change in the certified CEMS, continuous opacity monitoring system, excepted methodology under § 75.19, excepted monitoring system under appendix D or E to this part, or alternative

monitoring system under subpart E of this part, including a change in the automated data acquisition and handling system or in the flue gas handling system, that affects information reported in the monitoring plan (e.g., a change to a serial number for a component of a monitoring system), then the owner or operator shall update the monitoring plan.

(c) *Contents of the monitoring plan.* Each monitoring plan shall contain the following:

(1) Precertification information, including, as applicable, the identification of the test strategy, protocol for the relative accuracy test audit, other relevant test information, span calculations, and apportionment strategies under §§ 75.10 through 75.18 of this part.

(2) *Unit table.* A table identifying ORISPL numbers developed by the Department of Energy and used in the National Allowance Database, for all affected units involved in the monitoring plan, with the following information for each unit:

(i) Short name;

(ii) Classification of unit as one of the following: Phase I (including substitution or compensating units), Phase II, new, or nonaffected;

(iii) Type of boiler (or boilers for a group of units using a common stack);

(iv) Type of fuel(s) fired, by boiler, and if more than one fuel, the fuel classification of the boiler;

(v) Type(s) of emission controls for SO₂, NO_x, and particulates installed or to be installed, including specifications of whether such controls are pre-combustion, post-combustion, or integral to the combustion process; and

(vi) Identification of all units using a common stack.

(3) *Description of monitor site location.* Description of site locations for each monitoring component in the continuous emission or opacity monitoring systems, including schematic diagrams and engineering drawings specified in paragraphs (c)(7) and (c)(8) of this section, and any other documentation that demonstrates each monitor location meets the appropriate siting criteria.

(4) *Monitoring component table.* Identification and description of each monitoring component (including each monitor and its identifiable components such as analyzer and/or probe) in the continuous emission monitoring systems (i.e., SO₂ pollutant concentration monitor, flow monitor, moisture monitor; NO_x pollutant concentration monitor and diluent gas monitor) the continuous opacity monitoring system, or excepted monitoring system (i.e., fuel flowmeter, data acquisition and handling system), including:

(i) Manufacturer model number and serial number;

(ii) Component/system identification code assigned by the utility to each identifiable monitoring component (such as the analyzer and/or probe). The code shall use a six-digit format, unique to each monitoring component, where the first three digits indicate the number of the component and the second three digits indicate the system to which the component belongs;

(iii) Actual or projected installation date (month and year);

(iv) A brief description of the component type or method of operation, such as in situ pollutant concentration monitor or thermal flow monitor;

(v) A brief description of the flow monitor that is sufficiently detailed to allow a determination of whether the applicable interference check design specification meets the requirements specified in appendix A of this part; and

(vi) A designation of the system as a primary, redundant backup, non-redundant backup or reference method backup system, as provided for in § 75.10(e).

(5) *Data acquisition and handling system table.* Identification and description of all major hardware and software components of the automated data acquisition and handling system, including:

(i) For hardware components, the manufacturer, model number, and actual or projected installation date;

(ii) For software components, identification of the provider and a brief description of features;

(iii) A data flow diagram denoting the complete information handling path from output signals of continuous

emission monitoring system components to final reports;

(iv) A copy of the test results verifying the accuracy of the automated data acquisition and handling system (once such results are available).

(6) *Emissions formula table.* A table giving explicit formulas for each reported unit emission parameter, using component/system identification codes to link continuous emission monitoring system or excepted monitoring system observations with reported concentrations, mass emissions, or emission rates, according to the conversions listed in appendix D, E, or F to this part. The formulas must contain all constants and factors required to derive mass emissions or emission rates from component/system code observations, and each emissions formula is identified with a unique three digit code.

(7) *Schematic stack diagrams.* For units monitored by a continuous emission or opacity monitoring system, a schematic diagram identifying entire gas handling system from boiler to stack for all affected units, using identification numbers for units, monitor components, and stacks corresponding to the identification numbers provided in paragraphs (c)(2), (c)(4), (c)(5), and (c)(6) of this section. The schematic diagram must depict stack height and the height of any monitor locations. Comprehensive and/or separate schematic diagrams shall be used to describe groups of units using a common stack.

(8) *Stack and duct engineering diagrams.* For units monitored by a continuous emission or opacity monitoring system, stack and duct engineering diagrams showing the dimensions and location of fans, turning vanes, air preheaters, monitor components, probes, reference method sampling ports and other equipment which affects the monitoring system location, performance or quality control checks.

(9) Inside crosssectional area (ft²) at flue exit and at flow monitoring location.

(10) *Span and calibration gas.* A table or description identifying maximum potential concentration, maximum expected concentration (if applicable),

maximum potential flow rate, maximum potential NO_x emission rate, span value, and full-scale range for each SO₂, NO_x, CO₂, O₂, or flow component monitor. In addition, the table must identify calibration gas levels for the calibration error test and the linearity check, and calculations made to determine each span value.

(d) *Contents of monitoring plan for specific situations.* The following additional information shall be included in the monitoring plan for gas-fired or oil-fired units:

(1) For each gas-fired unit or oil-fired unit for which the owner or operator uses the optional protocol in appendix D of this part for estimating SO₂ mass emissions or appendix E of this part for estimating NO_x emission rate (using a fuel flow meter), the designated representative shall include in the monitoring plan:

- (i) A description of the fuel flowmeter (and data demonstrating its flow meter accuracy, when available);
- (ii) The installation location of each fuel flowmeter;
- (iii) The fuel sampling location(s); and
- (iv) Procedures used for calibrating each fuel flowmeter.

(2) For each gas-fired peaking unit and oil-fired peaking unit for which the owner or operator uses the optional procedures in appendix E of this part for estimating NO_x emission rate, the designated representative shall include in the monitoring plan:

- (i) A protocol containing methods used to perform the baseline or periodic NO_x emission test, and a copy of initial performance test results (when such results are available);
- (ii) Unit operating and capacity factor information demonstrating that the unit qualifies as a peaking unit, as defined in § 72.2 of this chapter; and
- (iii) Unit operating parameters related to NO_x formation by the unit.

(3) For each gas-fired unit and diesel-fired unit or unit with a wet flue gas pollution control system for which the designated representative claims an opacity monitoring exemption under § 75.14, the designated representative shall include in the monitoring plan information demonstrating that the unit qualifies for the exemption.

(e) *Contents of the monitoring plan.* Each monitoring plan shall contain the information in paragraph (e)(1) of this section in electronic format and the information in paragraph (e)(2) of this section in hardcopy format. Electronic storage of all monitoring plan information, including the hardcopy portions, is permissible provided that a paper copy of the information can be furnished upon request for audit purposes.

(1) *Electronic.* (i) ORISPL numbers developed by the Department of Energy and used in the National Allowance Data Base, for all affected units involved in the monitoring plan, with the following information for each unit:

- (A) Short name;
- (B) Classification of the unit as one of the following: Phase I (including substitution or compensating units), Phase II, new, or nonaffected;
- (C) Type of boiler (or boilers for a group of units using a common stack);
- (D) Type of fuel(s) fired by boiler, fuel type start and end dates, primary/secondary fuel indicator, and, if more than one fuel, the fuel classification of the boiler;
- (E) Type(s) of emission controls for SO₂, NO_x, and particulates installed or to be installed, including specifications of whether such controls are pre-combustion, post-combustion, or integral to the combustion process; control equipment code, installation date, and optimization date; control equipment retirement date (if applicable); and an indicator for whether the controls are an original installation;
- (F) Maximum hourly heat input capacity;
- (G) Date of first commercial operation;
- (H) Unit retirement date (if applicable);
- (I) Maximum hourly gross load (in MW, rounded to the nearest MW, or steam load in 1000 lb/hr, rounded to the nearest 100 lb/hr);
- (J) Identification of all units using a common stack;
- (K) Activation date for the stack/pipe;
- (L) Retirement date of the stack/pipe (if applicable); and
- (M) Indicator of whether the stack is a bypass stack.

(ii) For each unit and parameter required to be monitored, identification of monitoring methodology information, consisting of monitoring methodology, type of fuel associated with the methodology, primary/secondary methodology indicator, missing data approach for the methodology, methodology start date, and methodology end date (if applicable).

(iii) The following information:

(A) Program(s) for which the EDR is submitted;

(B) Unit classification;

(C) Reporting frequency;

(D) Program participation date;

(E) State regulation code (if applicable); and

(F) State or local regulatory agency code.

(iv) Identification and description of each monitoring component (including each monitor and its identifiable components, such as analyzer and/or probe) in the CEMS (e.g., SO₂ pollutant concentration monitor, flow monitor, moisture monitor; NO_x pollutant concentration monitor and diluent gas monitor), the continuous opacity monitoring system, or the excepted monitoring system (e.g., fuel flowmeter, data acquisition and handling system), including:

(A) Manufacturer, model number and serial number;

(B) Component/system identification code assigned by the utility to each identifiable monitoring component (such as the analyzer and/or probe). Each code shall use a three-digit format, unique to each monitoring component and unique to each monitoring system;

(C) Designation of the component type and method of sample acquisition or operation, (e.g., in situ pollutant concentration monitor or thermal flow monitor);

(D) Designation of the system as a primary, redundant backup, non-redundant backup, data backup, or reference method backup system, as provided in § 75.10(e);

(E) First and last dates the system reported data;

(F) Status of the monitoring component; and

(G) Parameter monitored.

(v) Identification and description of all major hardware and software components of the automated data acquisition and handling system, including:

(A) Hardware components that perform emission calculations or store data for quarterly reporting purposes (provide the manufacturer and model number); and

(B) Software components (provide the identification of the provider and model/version number).

(vi) Explicit formulas for each measured emission parameter, using component/system identification codes for the primary system used to measure the parameter that links CEMS or excepted monitoring system observations with reported concentrations, mass emissions, or emission rates, according to the conversions listed in appendix D or E to this part. Formulas for backup monitoring systems are required only if different formulas for the same parameter are used for the primary and backup monitoring systems (e.g., if the primary system measures pollutant concentration on a different moisture basis from the backup system). The formulas must contain all constants and factors required to derive mass emissions or emission rates from component/system code observations and an indication of whether the formula is being added, corrected, deleted, or is unchanged. Each emissions formula is identified with a unique three digit code. The owner or operator of a low mass emissions unit for which the owner or operator is using the optional low mass emissions excepted methodology in § 75.19(c) is not required to report such formulas.

(vii) Inside cross-sectional area (ft²) at flue exit (for all units) and at flow monitoring location (for units with flow monitors, only).

(viii) Stack height (ft) above ground level and stack base elevation above sea level.

(ix) Part 75 monitoring location identification, facility identification code as assigned by the Administrator for use under the Acid Rain Program or this part, and the following information, as reported to the Energy Information Administration (EIA): facility

identification number, flue identification number, boiler identification number, reporting year, and 767 reporting indicator.

(x) For each parameter monitored: scale, maximum potential concentration (and method of calculation), maximum expected concentration (if applicable) (and method of calculation), maximum potential flow rate (and method of calculation), maximum potential NO_x emission rate, span value, full-scale range, daily calibration units of measure, span effective date/hour, span inactivation date/hour, indication of whether dual spans are required, default high range value, flow rate span, and flow rate span value and full scale value (in scfh) for each unit or stack using SO₂, NO_x, CO₂, O₂, or flow component monitors.

(xi) If the monitoring system or excepted methodology provides for the use of a constant, assumed, or default value for a parameter under specific circumstances, then include the following information for each such value for each parameter:

- (A) Identification of the parameter;
- (B) Default, maximum, minimum, or constant value, and units of measure for the value;
- (C) Purpose of the value;
- (D) Indicator of use during controlled/uncontrolled hours;
- (E) Type of fuel;
- (F) Source of the value;
- (G) Value effective date and hour;
- (H) Date and hour value is no longer effective (if applicable); and
- (I) For units using the excepted methodology under § 75.19, the applicable SO₂ emission factor.

(xii) For each unit or common stack (except for peaking units) on which hardware CEMS are installed:

- (A) The upper and lower boundaries of the range of operation (as defined in section 6.5.2.1 of appendix A to this part), expressed in megawatts or thousands of lb/hr of steam;
- (B) The load level(s) designated as normal in section 6.5.2.1 of appendix A to this part, expressed in megawatts or thousands of lb/hr of steam;
- (C) The two load levels (i.e., low, mid, or high) identified in section 6.5.2.1 of appendix A to this part as the most frequently used;

(D) The date of the load analysis used to determine the normal load level(s) and the two most frequently-used load levels; and

(E) Activation and deactivation dates, when the normal load level(s) or two most frequently-used load levels change and are updated.

(xiii) For each unit for which the optional fuel flow-to-load test in section 2.1.7 of appendix D to this part is used:

(A) The upper and lower boundaries of the range of operation (as defined in section 6.5.2.1 of appendix A to this part), expressed in megawatts or thousands of lb/hr of steam;

(B) The load level designated as normal, pursuant to section 6.5.2.1 of appendix A to this part, expressed in megawatts or thousands of lb/hr of steam; and

(C) The date of the load analysis used to determine the normal load level.

(2) *Hardcopy.* (i) Information, including (as applicable): identification of the test strategy; protocol for the relative accuracy test audit; other relevant test information; calibration gas levels (percent of span) for the calibration error test and linearity check; calculations for determining maximum potential concentration, maximum expected concentration (if applicable), maximum potential flow rate, maximum potential NO_x emission rate, and span; and apportionment strategies under §§ 75.10 through 75.18.

(ii) Description of site locations for each monitoring component in the continuous emission or opacity monitoring systems, including schematic diagrams and engineering drawings specified in paragraphs (e)(2)(iv) and (e)(2)(v) of this section and any other documentation that demonstrates each monitor location meets the appropriate siting criteria.

(iii) A data flow diagram denoting the complete information handling path from output signals of CEMS components to final reports.

(iv) For units monitored by a continuous emission or opacity monitoring system, a schematic diagram identifying entire gas handling system from boiler to stack for all affected units, using identification numbers for units,

monitor components, and stacks corresponding to the identification numbers provided in paragraphs (e)(1)(i), (e)(1)(iv), (e)(1)(vi), and (e)(1)(ix) of this section. The schematic diagram must depict stack height and the height of any monitor locations. Comprehensive and/or separate schematic diagrams shall be used to describe groups of units using a common stack.

(v) For units monitored by a continuous emission or opacity monitoring system, stack and duct engineering diagrams showing the dimensions and location of fans, turning vanes, air preheaters, monitor components, probes, reference method sampling ports, and other equipment that affects the monitoring system location, performance, or quality control checks.

(f) *Contents of monitoring plan for specific situations.* The following additional information shall be included in the monitoring plan for the specific situations described:

(1) For each gas-fired unit or oil-fired unit for which the owner or operator uses the optional protocol in appendix D to this part for estimating heat input and/or SO₂ mass emissions, or for each gas-fired or oil-fired peaking unit for which the owner/operator uses the optional protocol in appendix E to this part for estimating NO_x emission rate (using a fuel flowmeter), the designated representative shall include the following additional information in the monitoring plan:

(i) *Electronic.*

(A) Parameter monitored;

(B) Type of fuel measured, maximum fuel flow rate, units of measure, and basis of maximum fuel flow rate (i.e., upper range value or unit maximum) for each fuel flowmeter;

(C) Test method used to check the accuracy of each fuel flowmeter;

(D) Submission status of the data;

(E) Monitoring system identification code; and

(F) For gaseous fuels fired by the unit, the method used to verify that the fuel meets the definition in § 72.2 of pipeline natural gas or natural gas, if applicable, and the demonstration methods used for other gaseous fuels, if applicable, to determine the appropriate frequency for sampling for GCV or sulfur content of the fuel.

(ii) *Hardcopy.* (A) A schematic diagram identifying the relationship between the unit, all fuel supply lines, the fuel flowmeter(s), and the stack(s). The schematic diagram must depict the installation location of each fuel flowmeter and the fuel sampling location(s). Comprehensive and/or separate schematic diagrams shall be used to describe groups of units using a common pipe;

(B) For units using the optional default SO₂ emission rate for "pipeline natural gas" or "natural gas" in appendix D to this part, the information on the sulfur content of the gaseous fuel used to demonstrate compliance with either section 2.3.1.4 or 2.3.2.4 of appendix D to this part;

(C) For units using the 720 hour test under 2.3.6 of Appendix D of this part to determine the required sulfur sampling requirements, report the procedures and results of the test; and

(D) For units using the 720 hour test under 2.3.5 of Appendix D of this part to determine the appropriate fuel GCV sampling frequency, report the procedures used and the results of the test;

(2) For each gas-fired peaking unit and oil-fired peaking unit for which the owner or operator uses the optional procedures in appendix E to this part for estimating NO_x emission rate, the designated representative shall include in the monitoring plan:

(i) *Electronic.* Unit operating and capacity factor information demonstrating that the unit qualifies as a peaking unit or gas-fired unit, as defined in § 72.2 of this chapter, and NO_x correlation test information, including:

(A) Test date;

(B) Test number;

(C) Operating level;

(D) Segment ID of the NO_x correlation curve;

(E) NO_x monitoring system identification;

(F) Low and high heat input values and corresponding NO_x rates;

(G) Type of fuel; and

(H) To document the unit qualifies as a peaking unit, current calendar year, capacity factor data as specified in the definition of peaking unit in § 72.2 of this part, and an indication of whether the data are actual or projected data.

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(ii) *Hardcopy.* (A) A protocol containing methods used to perform the baseline or periodic NO_x emission test; and

(B) Unit operating parameters related to NO_x formation by the unit.

(3) For each gas-fired unit and diesel-fired unit or unit with a wet flue gas pollution control system for which the designated representative claims an opacity monitoring exemption under § 75.14, the designated representative shall include in the hardcopy monitoring plan the information specified under § 75.14(b), (c), or (d), demonstrating that the unit qualifies for the exemption.

(4) For each monitoring system recertification, maintenance, or other event, the designated representative shall include the following additional information in electronic format in the monitoring plan:

(i) Component/system identification code;

(ii) Event code or code for required test;

(iii) Event begin date and hour;

(iv) Conditionally valid data period begin date and hour (if applicable);

(v) Date and hour that last test is successfully completed; and

(vi) Indicator of whether conditionally valid data were reported at the end of the quarter.

(5) For each unit using the low mass emission excepted methodology under § 75.19 the designated representative shall include the following additional information in the monitoring plan:

(i) *Electronic.* For each low mass emissions unit, report the results of the analysis performed to qualify as a low mass emissions unit under § 75.19(c). This report will include either the previous three years actual or projected emissions and the emissions calculated using the methodology which will be used by the unit to estimate future emissions.

(ii) *Hardcopy.* (A) A schematic diagram identifying the relationship between the unit, all fuel supply lines and tanks, any fuel flowmeter(s), and the stack(s). Comprehensive and/or separate schematic diagrams shall be used to describe groups of units using a common pipe;

(B) For units which use the long term fuel flow methodology under § 75.19(c)(3), the designated representative must provide a diagram of the fuel flow to each affected unit or group of units and describe in detail the procedures used to determine the long term fuel flow for a unit or group of units for each fuel combusted by the unit or group of units;

(C) A statement that the unit burns only natural gas or fuel oil and a list of the fuels that are burned or a statement that the unit is projected to burn only natural gas or fuel oil and a list of the fuels that are projected to be burned;

(D) A statement that the unit meets the applicability requirements in §§ 75.19(a) and (b); and

(E) Any unit historical actual and projected emissions data and calculated emissions data demonstrating that the affected unit qualifies as a low mass emissions unit under §§ 75.19(a) and 75.19(b).

(6) For each gas-fired unit the designated representative shall include in the monitoring plan, in electronic format, the following: current calendar year, fuel usage data as specified in the definition of gas-fired in § 72.2 of this part, and an indication of whether the data are actual or projected data.

[58 FR 3701, Jan. 11, 1993, as amended at 60 FR 26532, 26568, May 17, 1995; 61 FR 59161, Nov. 20, 1996; 64 FR 28605, May 26, 1999]

§ 75.54 General recordkeeping provisions.

(a) *Recordkeeping requirements for affected sources.* On and after January 1, 1996, and before April 1, 2000, the owner or operator shall meet the requirements of either this section or § 75.57. On and after April 1, 2000, the owner or operator shall meet the requirements of § 75.57. The owner or operator of any affected source subject to the requirements of this part shall maintain for each affected unit a file of all measurements, data, reports, and other information required by this part at the source in a form suitable for inspection for at least three (3) years from the date of each record. Unless otherwise provided, throughout this subpart the