

with the provisions of § 75.11(e)(3), uses an SO₂ CEMS to determine SO₂ 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 SO₂ 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 SO₂, NO_x, and CO₂ 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_x (this option is in effect through December 31, 2008); or

(B) Indicate the fuel type resulting in the highest emission factor for each parameter (SO₂, NO_x emission rate, and CO₂) separately (this option is required on and after January 1, 2009);

- (iv) Average hourly NO_x emission rate (lb/mmBtu, rounded to the nearest thousandth);
- (v) Hourly NO_x mass emissions (lbs, rounded to the nearest tenth);

(vi) Hourly SO₂ mass emissions (lbs, rounded to the nearest tenth);

(vii) Hourly CO₂ 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_x 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_x 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.

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(a) *Continuous emission or opacity monitoring systems.* The owner or operator shall record the applicable information in this section for each certified monitor or certified monitoring system (including certified backup monitors) measuring and recording emissions or flow from an affected unit.

(1) For each SO₂ or NO_x pollutant concentration monitor, flow monitor, CO₂ emissions concentration monitor (including O₂ monitors used to determine CO₂ emissions), Hg monitor, or diluent gas monitor (including wet- and dry-basis O₂ monitors used to determine percent moisture), the owner or operator shall record the following for all daily and 7-day calibration error tests, all daily system integrity checks (Hg monitors, only), and all off-line calibration demonstrations, including any follow-up tests after corrective action:

(i) Component-system identification code (on and after January 1, 2009, only the component identification code is required);

(ii) Instrument span and span scale;

(iii) Date and hour;

(iv) Reference value (i.e., calibration gas concentration or reference signal value, in ppm or other appropriate units);

(v) Observed value (monitor response during calibration, in ppm or other appropriate units);

(vi) Percent calibration error (rounded to the nearest tenth of a percent) (flag if using alternative performance specification for low emitters or differential pressure flow monitors);

(vii) Reference signal or calibration gas level;

(viii) For 7-day calibration error tests, a test number and reason for test;

(ix) For 7-day calibration tests for certification or recertification, a certification from the cylinder gas vendor or CEMS vendor that calibration gas, as defined in § 72.2 of this chapter and appendix A to this part, was used to conduct calibration error testing;

(x) Description of any adjustments, corrective actions, or maintenance prior to a passed test or following a failed test; and

(xi) Indication of whether the unit is off-line or on-line.

(2) For each flow monitor, the owner or operator shall record the following for all daily interference checks, including any follow-up tests after corrective action.

(i) Component-system identification code (after January 1, 2009, only the component identification code is required);

(ii) Date and hour;

(iii) Code indicating whether monitor passes or fails the interference check; and

(iv) Description of any adjustments, corrective actions, or maintenance prior to a passed test or following a failed test.

(3) For each SO₂ or NO_x pollutant concentration monitor, CO₂ emissions concentration monitor (including O₂ monitors used to determine CO₂ emissions), Hg concentration monitor, or diluent gas monitor (including wet- and dry-basis O₂ monitors used to determine percent moisture), the owner or operator shall record the following for the initial and all subsequent linearity check(s) and 3-level system integrity checks (Hg monitors with converters, only), including any follow-up tests after corrective action:

(i) Component-system identification code (on and after January 1, 2009, only the component identification code is required);

(ii) Instrument span and span scale (only span scale is required on and after January 1, 2009);

(iii) Calibration gas level;

(iv) Date and time (hour and minute) of each gas injection at each calibration gas level;

(v) Reference value (i.e., reference gas concentration for each gas injection at each calibration gas level, in ppm or other appropriate units);

(vi) Observed value (monitor response to each reference gas injection at each calibration gas level, in ppm or other appropriate units);

(vii) Mean of reference values and mean of measured values at each calibration gas level;

(viii) Linearity error at each of the reference gas concentrations (rounded to nearest tenth of a percent) (flag if using alternative performance specification);

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(ix) Test number and reason for test (flag if aborted test); and

(x) Description of any adjustments, corrective action, or maintenance prior to a passed test or following a failed test.

(4) For each differential pressure type flow monitor, the owner or operator shall record items in paragraphs (a)(4) (i) through (v) of this section, for all quarterly leak checks, including any follow-up tests after corrective action. For each flow monitor, the owner or operator shall record items in paragraphs (a)(4) (vi) and (vii) for all flow-to-load ratio and gross heat rate tests:

(i) Component-system identification code (on and after January 1, 2009, only the system identification code is required).

(ii) Date and hour.

(iii) Reason for test.

(iv) Code indicating whether monitor passes or fails the quarterly leak check.

(v) Description of any adjustments, corrective actions, or maintenance prior to a passed test or following a failed test.

(vi) Test data from the flow-to-load ratio or gross heat rate (GHR) evaluation, including:

(A) Monitoring system identification code;

(B) Calendar year and quarter;

(C) Indication of whether the test is a flow-to-load ratio or gross heat rate evaluation;

(D) Indication of whether bias adjusted flow rates were used;

(E) Average absolute percent difference between reference ratio (or GHR) and hourly ratios (or GHR values);

(F) Test result;

(G) Number of hours used in final quarterly average;

(H) Number of hours exempted for use of a different fuel type;

(I) Number of hours exempted for load ramping up or down;

(J) Number of hours exempted for scrubber bypass;

(K) Number of hours exempted for hours preceding a normal-load flow RATA;

(L) Number of hours exempted for hours preceding a successful diagnostic test, following a documented monitor

repair or major component replacement;

(M) Number of hours excluded for flue gases discharging simultaneously thorough a main stack and a bypass stack; and

(N) Test number.

(vii) Reference data for the flow-to-load ratio or gross heat rate evaluation, including (as applicable):

(A) Reference flow RATA end date and time;

(B) Test number of the reference RATA;

(C) Reference RATA load and load level;

(D) Average reference method flow rate during reference flow RATA;

(E) Reference flow/load ratio;

(F) Average reference method diluent gas concentration during flow RATA and diluent gas units of measure;

(G) Fuel specific F_d - or F_c -factor during flow RATA and F-factor units of measure;

(H) Reference gross heat rate value;

(I) Monitoring system identification code;

(J) Average hourly heat input rate during RATA;

(K) Average gross unit load;

(L) Operating load level; and

(M) An indicator ("flag") if separate reference ratios are calculated for each multiple stack.

(5) For each SO₂ pollutant concentration monitor, flow monitor, each CO₂ emissions concentration monitor (including any O₂ concentration monitor used to determine CO₂ mass emissions or heat input), each NO_x-diluent continuous emission monitoring system, each NO_x concentration monitoring system, each diluent gas (O₂ or CO₂) monitor used to determine heat input, each moisture monitoring system, each Hg concentration monitoring system, each sorbent trap monitoring system, and each approved alternative monitoring system, the owner or operator shall record the following information for the initial and all subsequent relative accuracy test audits:

(i) Reference method(s) used.

(ii) Individual test run data from the relative accuracy test audit for the SO₂ concentration monitor, flow monitor, CO₂ emissions concentration monitor,

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NO_x-diluent continuous emission monitoring system, SO₂-diluent continuous emission monitoring system, diluent gas (O₂ or CO₂) monitor used to determine heat input, NO_x concentration monitoring system, moisture monitoring system, Hg concentration monitoring system, sorbent trap monitoring system, or approved alternative monitoring system, including:

(A) Date, hour, and minute of beginning of test run;

(B) Date, hour, and minute of end of test run;

(C) Monitoring system identification code;

(D) Test number and reason for test;

(E) Operating level (low, mid, high, or normal, as appropriate) and number of operating levels comprising test;

(F) Normal load (or operating level) indicator for flow RATAs (except for peaking units);

(G) Units of measure;

(H) Run number;

(I) Run value from CEMS being tested, in the appropriate units of measure;

(J) Run value from reference method, in the appropriate units of measure;

(K) Flag value (0, 1, or 9, as appropriate) indicating whether run has been used in calculating relative accuracy and bias values or whether the test was aborted prior to completion;

(L) Average gross unit load, expressed as a total gross unit load, rounded to the nearest MWe, or as steam load, rounded to the nearest thousand lb/hr, except for units that do not produce electrical or thermal output; and

(M) Flag to indicate whether an alternative performance specification has been used.

(iii) Calculations and tabulated results, as follows:

(A) Arithmetic mean of the monitoring system measurement values, of the reference method values, and of their differences, as specified in Equation A-7 in appendix A to this part;

(B) Standard deviation, as specified in Equation A-8 in appendix A to this part;

(C) Confidence coefficient, as specified in Equation A-9 in appendix A to this part;

(D) Statistical “t” value used in calculations;

(E) Relative accuracy test results, as specified in Equation A-10 in appendix A to this part. For multi-level flow monitor tests the relative accuracy test results shall be recorded at each load (or operating) level tested. Each load (or operating) level shall be expressed as a total gross unit load, rounded to the nearest MWe, or as steam load, rounded to the nearest thousand lb/hr, or as otherwise specified by the Administrator, for units that do not produce electrical or thermal output;

(F) Bias test results as specified in section 7.6.4 in appendix A to this part; and

(G) Bias adjustment factor from Equation A-12 in appendix A to this part for any monitoring system that failed the bias test (except as otherwise provided in section 7.6.5 of appendix A to this part) and 1.000 for any monitoring system that passed the bias test.

(iv) Description of any adjustment, corrective action, or maintenance prior to a passed test or following a failed or aborted test.

(v) F-factor value(s) used to convert NO_x pollutant concentration and diluent gas (O₂ or CO₂) concentration measurements into NO_x emission rates (in lb/mmBtu), heat input or CO₂ emissions.

(vi) For flow monitors, the equation used to linearize the flow monitor and the numerical values of the polynomial coefficients or K factor(s) of that equation.

(vii) For moisture monitoring systems, the coefficient or “K” factor or other mathematical algorithm used to adjust the monitoring system with respect to the reference method.

(6) For each SO₂, NO_x, Hg, or CO₂ pollutant concentration monitor, each component of a NO_x-diluent continuous emission monitoring system, and each CO₂ or O₂ monitor used to determine heat input, the owner or operator shall record the following information for the cycle time test:

(i) Component-system identification code (on and after January 1, 2009, only the component identification code is required);

(ii) Date;

(iii) Start and end times;

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- (iv) Upscale and downscale cycle times for each component;
- (v) Stable start monitor value;
- (vi) Stable end monitor value;
- (vii) Reference value of calibration gas(es);
- (viii) Calibration gas level;
- (ix) Total cycle time;
- (x) Reason for test; and
- (xi) Test number.

(7) In addition to the information in paragraph (a)(5) of this section, the owner or operator shall record, for each relative accuracy test audit, supporting information sufficient to substantiate compliance with all applicable sections and appendices in this part. Unless otherwise specified in this part or in an applicable test method, the information in paragraphs (a)(7)(i) through (a)(7)(vi) of this section may be recorded either in hard copy format, electronic format or a combination of the two, and the owner or operator shall maintain this information in a format suitable for inspection and audit purposes. This RATA supporting information shall include, but shall not be limited to, the following data elements:

(i) For each RATA using Reference Method 2 (or its allowable alternatives) in appendix A to part 60 of this chapter to determine volumetric flow rate:

(A) Information indicating whether or not the location meets requirements of Method 1 in appendix A to part 60 of this chapter; and

(B) Information indicating whether or not the equipment passed the required leak checks.

(ii) For each run of each RATA using Reference Method 2 (or its allowable alternatives in appendix A to part 60 of this chapter) to determine volumetric flow rate, record the following data elements (as applicable to the measurement method used):

(A) Operating level (low, mid, high, or normal, as appropriate);

(B) Number of reference method traverse points;

(C) Average stack gas temperature (°F);

(D) Barometric pressure at test port (inches of mercury);

(E) Stack static pressure (inches of H₂O);

(F) Absolute stack gas pressure (inches of mercury);

(G) Percent CO₂ and O₂ in the stack gas, dry basis;

(H) CO₂ and O₂ reference method used;

(I) Moisture content of stack gas (percent H₂O);

(J) Molecular weight of stack gas, dry basis (lb/lb-mole);

(K) Molecular weight of stack gas, wet basis (lb/lb-mole);

(L) Stack diameter (or equivalent diameter) at the test port (ft);

(M) Average square root of velocity head of stack gas (inches of H₂O) for the run;

(N) Stack or duct cross-sectional area at test port (ft²);

(O) Average velocity (ft/sec);

(P) Average stack flow rate, adjusted, if applicable, for wall effects (scfh, wet basis);

(Q) Flow rate reference method used;

(R) Average velocity, adjusted for wall effects;

(S) Calculated (site-specific) wall effects adjustment factor determined during the run, and, if different, the wall effects adjustment factor used in the calculations; and

(T) Default wall effects adjustment factor used.

(iii) For each traverse point of each run of each RATA using Reference Method 2 (or its allowable alternatives in appendix A to part 60 of this chapter) to determine volumetric flow rate, record the following data elements (as applicable to the measurement method used):

(A) Reference method probe type;

(B) Pressure measurement device type;

(C) Traverse point ID;

(D) Probe or pitot tube calibration coefficient;

(E) Date of latest probe or pitot tube calibration;

(F) Average velocity differential pressure at traverse point (inches of H₂O) or the average of the square roots of the velocity differential pressures at the traverse point ((inches of H₂O)^{1/2});

(G) T_s, stack temperature at the traverse point (°F);

(H) Composite (wall effects) traverse point identifier;

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(I) Number of points included in composite traverse point;

(J) Yaw angle of flow at traverse point (degrees);

(K) Pitch angle of flow at traverse point (degrees);

(L) Calculated velocity at traverse point both accounting and not accounting for wall effects (ft/sec); and

(M) Probe identification number.

(iv) For each RATA using Method 6C, 7E, or 3A in appendix A to part 60 of this chapter to determine SO₂, NO_x, CO₂, or O₂ concentration:

(A) Pollutant or diluent gas being measured;

(B) Span of reference method analyzer;

(C) Type of reference method system (e.g., extractive or dilution type);

(D) Reference method dilution factor (dilution type systems, only);

(E) Reference gas concentrations (zero, mid, and high gas levels) used for the 3-point pre-test analyzer calibration error test (or, for dilution type reference method systems, for the 3-point pre-test system calibration error test) and for any subsequent recalibrations;

(F) Analyzer responses to the zero-, mid-, and high-level calibration gases during the 3-point pre-test analyzer (or system) calibration error test and during any subsequent recalibration(s);

(G) Analyzer calibration error at each gas level (zero, mid, and high) for the 3-point pre-test analyzer (or system) calibration error test and for any subsequent recalibration(s) (percent of span value);

(H) Upscale gas concentration (mid or high gas level) used for each pre-run or post-run system bias check or (for dilution type reference method systems) for each pre-run or post-run system calibration error check;

(I) Analyzer response to the calibration gas for each pre-run or post-run system bias (or system calibration error) check;

(J) The arithmetic average of the analyzer responses to the zero-level gas, for each pair of pre- and post-run system bias (or system calibration error) checks;

(K) The arithmetic average of the analyzer responses to the upscale calibration gas, for each pair of pre- and post-

run system bias (or system calibration error) checks;

(L) The results of each pre-run and each post-run system bias (or system calibration error) check using the zero-level gas (percentage of span value);

(M) The results of each pre-run and each post-run system bias (or system calibration error) check using the upscale calibration gas (percentage of span value);

(N) Calibration drift and zero drift of analyzer during each RATA run (percentage of span value);

(O) Moisture basis of the reference method analysis;

(P) Moisture content of stack gas, in percent, during each test run (if needed to convert to moisture basis of CEMS being tested);

(Q) Unadjusted (raw) average pollutant or diluent gas concentration for each run;

(R) Average pollutant or diluent gas concentration for each run, corrected for calibration bias (or calibration error) and, if applicable, corrected for moisture;

(S) The F-factor used to convert reference method data to units of lb/mmBtu (if applicable);

(T) Date(s) of the latest analyzer interference test(s);

(U) Results of the latest analyzer interference test(s);

(V) Date of the latest NO₂ to NO conversion test (Method 7E only);

(W) Results of the latest NO₂ to NO conversion test (Method 7E only); and

(X) For each calibration gas cylinder used during each RATA, record the cylinder gas vendor, cylinder number, expiration date, pollutant(s) in the cylinder, and certified gas concentration(s).

(v) For each test run of each moisture determination using Method 4 in appendix A to part 60 of this chapter (or its allowable alternatives), whether the determination is made to support a gas RATA, to support a flow RATA, or to quality assure the data from a continuous moisture monitoring system, record the following data elements (as applicable to the moisture measurement method used):

(A) Test number;

(B) Run number;

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(C) The beginning date, hour, and minute of the run;

(D) The ending date, hour, and minute of the run;

(E) Unit operating level (low, mid, high, or normal, as appropriate);

(F) Moisture measurement method;

(G) Volume of H₂O collected in the impingers (ml);

(H) Mass of H₂O collected in the silica gel (g);

(I) Dry gas meter calibration factor;

(J) Average dry gas meter temperature (°F);

(K) Barometric pressure (inches of mercury);

(L) Differential pressure across the orifice meter (inches of H₂O);

(M) Initial and final dry gas meter readings (ft³);

(N) Total sample gas volume, corrected to standard conditions (dscf); and

(O) Percentage of moisture in the stack gas (percent H₂O).

(vi) The raw data and calculated results for any stratification tests performed in accordance with sections 6.5.6.1 through 6.5.6.3 of appendix A to this part.

(vii) For each RATA run using the Ontario Hydro Method to determine Hg concentration:

(A) Percent CO₂ and O₂ in the stack gas, dry basis;

(B) Moisture content of the stack gas (percent H₂O);

(C) Average stack temperature (°F);

(D) Dry gas volume metered (dscm);

(E) Percent isokinetic;

(F) Particle-bound Hg collected by the filter, blank, and probe rinse (µgm);

(G) Oxidized Hg collected by the KCl impingers (µgm);

(H) Elemental Hg collected in the HNO₃/H₂O₂ impinger and in the KMnO₄/H₂SO₄ impingers (µgm);

(I) Total Hg, including particle-bound Hg (µgm); and

(J) Total Hg, excluding particle-bound Hg (µgm)

(viii) Data elements for Methods 30A and 30B. [Reserved]

(ix) For a unit with a flow monitor installed on a rectangular stack or duct, if a site-specific default or measured wall effects adjustment factor (WAF) is used to correct the stack gas volumetric flow rate data to account

for velocity decay near the stack or duct wall, the owner or operator shall keep records of the following for each flow RATA performed with EPA Method 2 in appendices A-1 and A-2 to part 60 of this chapter, subsequent to the WAF determination:

(A) Monitoring system ID;

(B) Test number;

(C) Operating level;

(D) RATA end date and time;

(E) Number of Method 1 traverse points; and

(F) Wall effects adjustment factor (WAF), to the nearest 0.0001.

(x) For each RATA run using Method 29 in appendix A-8 to part 60 of this chapter to determine Hg concentration:

(A) Percent CO₂ and O₂ in the stack gas, dry basis;

(B) Moisture content of the stack gas (percent H₂O);

(C) Average stack gas temperature (°F);

(D) Dry gas volume metered (dscm);

(E) Percent isokinetic;

(F) Particulate Hg collected in the front half of the sampling train, corrected for the front-half blank value (µg); and

(G) Total vapor phase Hg collected in the back half of the sampling train, corrected for the back-half blank value (µg).

(8) For each certified continuous emission monitoring system, continuous opacity monitoring system, excepted monitoring system, or alternative monitoring system, the date and description of each event which requires certification, recertification, or certain diagnostic testing of the system and the date and type of each test performed. If the conditional data validation procedures of § 75.20(b)(3) are to be used to validate and report data prior to the completion of the required certification, recertification, or diagnostic testing, the date and hour of the probationary calibration error test shall be reported to mark the beginning of conditional data validation.

(9) When hardcopy relative accuracy test reports, certification reports, recertification reports, or semiannual or annual reports for gas or flow rate

CEMS, Hg CEMS, or sorbent trap monitoring systems are required or requested under § 75.60(b)(6) or § 75.63, the reports shall include, at a minimum, the following elements (as applicable to the type(s) of test(s) performed:

- (i) Summarized test results.
- (ii) DAHS printouts of the CEMS data generated during the calibration error, linearity, cycle time, and relative accuracy tests.
- (iii) For pollutant concentration monitor or diluent monitor relative accuracy tests at normal operating load:
 - (A) The raw reference method data from each run, i.e., the data under paragraph (a)(7)(iv)(Q) of this section (usually in the form of a computerized printout, showing a series of one-minute readings and the run average);
 - (B) The raw data and results for all required pre-test, post-test, pre-run and post-run quality assurance checks (i.e., calibration gas injections) of the reference method analyzers, i.e., the data under paragraphs (a)(7)(iv)(E) through (a)(7)(iv)(N) of this section;
 - (C) The raw data and results for any moisture measurements made during the relative accuracy testing, i.e., the data under paragraphs (a)(7)(v)(A) through (a)(7)(v)(O) of this section; and
 - (D) Tabulated, final, corrected reference method run data (i.e., the actual values used in the relative accuracy calculations), along with the equations used to convert the raw data to the final values and example calculations to demonstrate how the test data were reduced.

(iv) For relative accuracy tests for flow monitors:

- (A) The raw flow rate reference method data, from Reference Method 2 (or its allowable alternatives) under appendix A to part 60 of this chapter, including auxiliary moisture data (often in the form of handwritten data sheets), i.e., the data under paragraphs (a)(7)(ii)(A) through (a)(7)(ii)(T), paragraphs (a)(7)(iii)(A) through (a)(7)(iii)(M), and, if applicable, paragraphs (a)(7)(v)(A) through (a)(7)(v)(O) of this section; and
- (B) The tabulated, final volumetric flow rate values used in the relative accuracy calculations (determined from the flow rate reference method data and other necessary measurements,

such as moisture, stack temperature and pressure), along with the equations used to convert the raw data to the final values and example calculations to demonstrate how the test data were reduced.

(v) Calibration gas certificates for the gases used in the linearity, calibration error, and cycle time tests and for the calibration gases used to quality assure the gas monitor reference method data during the relative accuracy test audit.

(vi) Laboratory calibrations of the source sampling equipment. For sorbent trap monitoring systems, the laboratory analyses of all sorbent traps, and information documenting the results of all leak checks and other applicable quality control procedures.

(vii) A copy of the test protocol used for the CEMS certifications or recertifications, including narrative that explains any testing abnormalities, problematic sampling, and analytical conditions that required a change to the test protocol, and/or solutions to technical problems encountered during the testing program.

(viii) Diagrams illustrating test locations and sample point locations (to verify that locations are consistent with information in the monitoring plan). Include a discussion of any special traversing or measurement scheme. The discussion shall also confirm that sample points satisfy applicable acceptance criteria.

(ix) Names of key personnel involved in the test program, including test team members, plant contacts, agency representatives and test observers on site.

(10) Whenever reference methods are used as backup monitoring systems pursuant to § 75.20(d)(3), the owner or operator shall record the following information:

(i) For each test run using Reference Method 2 (or its allowable alternatives in appendix A to part 60 of this chapter) to determine volumetric flow rate, record the following data elements (as applicable to the measurement method used):

- (A) Unit or stack identification number;
- (B) Reference method system and component identification numbers;

- (C) Run date and hour;
- (D) The data in paragraph (a)(7)(ii) of this section, except for paragraphs (a)(7)(ii)(A), (F), (H), (L) and (Q) through (T); and
- (E) The data in paragraph (a)(7)(iii), except on a run basis.
- (ii) For each reference method test run using Method 6C, 7E, or 3A in appendix A to part 60 of this chapter to determine SO₂, NO_x, CO₂, or O₂ concentration:
- (A) Unit or stack identification number;
- (B) The reference method system and component identification numbers;
- (C) Run number;
- (D) Run start date and hour;
- (E) Run end date and hour;
- (F) The data in paragraphs (a)(7)(iv)(B) through (I) and (L) through (O); and (G) Stack gas density adjustment factor (if applicable).
- (iii) For each hour of each reference method test run using Method 6C, 7E, or 3A in appendix A to part 60 of this chapter to determine SO₂, NO_x, CO₂, or O₂ concentration:
- (A) Unit or stack identification number;
- (B) The reference method system and component identification numbers;
- (C) Run number;
- (D) Run date and hour;
- (E) Pollutant or diluent gas being measured;
- (F) Unadjusted (raw) average pollutant or diluent gas concentration for the hour; and
- (G) Average pollutant or diluent gas concentration for the hour, adjusted as appropriate for moisture, calibration bias (or calibration error) and stack gas density.
- (11) For each other quality-assurance test or other quality assurance activity, the owner or operator shall record the following (as applicable):
- (i) Component/system identification code;
- (ii) Parameter;
- (iii) Test or activity completion date and hour;
- (iv) Test or activity description;
- (v) Test result;
- (vi) Reason for test; and
- (vii) Test code.
- (12) For each request for a quality assurance test extension or exemption, for any loss of exempt status, and for each single-load flow RATA claim pursuant to section 2.3.1.3(c)(3) of appendix B to this part, the owner or operator shall record the following (as applicable):
- (i) For a RATA deadline extension or exemption request:
- (A) Monitoring system identification code;
- (B) Date of last RATA;
- (C) RATA expiration date without extension;
- (D) RATA expiration date with extension;
- (E) Type of RATA extension of exemption claimed or lost;
- (F) Year to date hours of usage of fuel other than very low sulfur fuel;
- (G) Year to date hours of non-redundant back-up CEMS usage at the unit/stack; and
- (H) Quarter and year.
- (ii) For a linearity test or flow-to-load ratio test quarterly exemption:
- (A) Component-system identification code;
- (B) Type of test;
- (C) Basis for exemption;
- (D) Quarter and year; and
- (E) Span scale.
- (iii) [Reserved]
- (iv) For a fuel flowmeter accuracy test extension:
- (A) Component-system identification code;
- (B) Date of last accuracy test;
- (C) Accuracy test expiration date without extension;
- (D) Accuracy test expiration date with extension;
- (E) Type of extension; and
- (F) Quarter and year.
- (v) For a single-load (or single-level) flow RATA claim:
- (A) Monitoring system identification code;
- (B) Ending date of last annual flow RATA;
- (C) The relative frequency (percentage) of unit or stack operation at each load (or operating) level (low, mid, and high) since the previous annual flow RATA, to the nearest 0.1 percent;
- (D) End date of the historical load (or operating level) data collection period; and

(E) Indication of the load (or operating) level (low, mid or high) claimed for the single-load flow RATA.

(13) An indication that data have been excluded from a periodic span and range evaluation of an SO₂ or NO_x monitor under section 2.1.1.5 or 2.1.2.5 of appendix A to this part and the reason(s) for excluding the data. For purposes of reporting under § 75.64(a), this information shall be reported with the quarterly report as descriptive text consistent with § 75.64(g).

(14) For the sorbent traps used in sorbent trap monitoring systems to quantify Hg concentration under subpart I of this part (including sorbent traps used for relative accuracy testing), the owner or operator shall keep records of the following:

(i) The ID number of the monitoring system in which each sorbent trap was used to collect Hg;

(ii) The unique identification number of each sorbent trap;

(iii) The beginning and ending dates and hours of the data collection period for each sorbent trap;

(iv) The average Hg concentration (in µgm/dscm) for the data collection period;

(v) Information documenting the results of the required leak checks;

(vi) The analysis of the Hg collected by each sorbent trap; and

(vii) Information documenting the results of the other applicable quality control procedures in § 75.15 and in appendices B and K to this part.

(b) *Excepted monitoring systems for gas-fired and oil-fired units.* The owner or operator shall record the applicable information in this section for each excepted monitoring system following the requirements of appendix D to this part or appendix E to this part for determining and recording emissions from an affected unit.

(1) For certification and quality assurance testing of fuel flowmeters tested against a reference fuel flow rate (i.e., flow rate from another fuel flowmeter under section 2.1.5.2 of appendix D to this part or flow rate from a procedure according to a standard incorporated by reference under section 2.1.5.1 of appendix D to this part):

(i) Unit or common pipe header identification code;

(ii) Component and system identification codes of the fuel flowmeter being tested (on and after January 1, 2009, only the component identification code is required);

(iii) Date and hour of test completion, for a test performed in-line at the unit;

(iv) Date and hour of flowmeter re-installation, for laboratory tests;

(v) Test number;

(vi) Upper range value of the fuel flowmeter;

(vii) Flowmeter measurements during accuracy test (and mean of values), including units of measure;

(viii) Reference flow rates during accuracy test (and mean of values), including units of measure;

(ix) Level of fuel flowrate test during runs (low, mid or high);

(x) Average flowmeter accuracy for low and high fuel flowrates and highest flowmeter accuracy of any level designated as mid, expressed as a percent of upper range value;

(xi) Indicator of whether test method was a lab comparison to reference meter or an in-line comparison against a master meter;

(xii) Test result (aborted, pass, or fail); and

(xiii) Description of fuel flowmeter calibration specification or procedure (in the certification application, or periodically if a different method is used for annual quality assurance testing).

(2) For each transmitter or transducer accuracy test for an orifice-, nozzle-, or venturi-type flowmeter used under section 2.1.6 of appendix D to this part:

(i) Component and system identification codes of the fuel flowmeter being tested (on and after January 1, 2009, only the component identification code is required);

(ii) Completion date and hour of test;

(iii) For each transmitter or transducer: transmitter or transducer type (differential pressure, static pressure, or temperature); the full-scale value of the transmitter or transducer, transmitter input (pre-calibration) prior to accuracy test, including units of measure; and expected transmitter output during accuracy test (reference value from NIST-traceable equipment), including units of measure;

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(iv) For each transmitter or transducer tested: output during accuracy test, including units of measure; transmitter or transducer accuracy as a percent of the full-scale value; and transmitter output level as a percent of the full-scale value;

(v) Average flowmeter accuracy at low and high level fuel flowrates and highest flowmeter accuracy of any level designated as mid fuel flowrate, expressed as a percent of upper range value;

(vi) Test result (pass, fail, or aborted);

(vii) Test number; and

(viii) Accuracy determination methodology.

(3) For each visual inspection of the primary element or transmitter or transducer accuracy test for an orifice-, nozzle-, or venturi-type flowmeter under sections 2.1.6.1 through 2.1.6.4 of appendix D to this part:

(i) Date of inspection/test;

(ii) Hour of completion of inspection/test;

(iii) Component and system identification codes of the fuel flowmeter being inspected/tested; and

(iv) Results of inspection/test (pass or fail).

(4) For fuel flowmeters that are tested using the optional fuel flow-to-load ratio procedures of section 2.1.7 of appendix D to this part:

(i) Test data for the fuel flowmeter flow-to-load ratio or gross heat rate check, including:

(A) Component/system identification code (on and after January 1, 2009, only the monitoring system identification code is required);

(B) Calendar year and quarter;

(C) Indication of whether the test is for fuel flow-to-load ratio or gross heat rate;

(D) Quarterly average absolute percent difference between baseline for fuel flow-to-load ratio (or baseline gross heat rate and hourly quarterly fuel flow-to-load ratios (or gross heat rate value));

(E) Test result;

(F) Number of hours used in the analysis;

(G) Number of hours excluded due to co-firing;

(H) Number of hours excluded due to ramping;

(I) Number of hours excluded in lower 25.0 percent range of operation; and

(J) Test number.

(ii) Reference data for the fuel flowmeter flow-to-load ratio or gross heat rate evaluation, including:

(A) Completion date and hour of most recent primary element inspection or test number of the most recent primary element inspection (as applicable); (on and after January 1, 2009, the test number of the most recent primary element inspection is required in lieu of the completion date and hour for the most recent primary element inspection);

(B) Completion date and hour of most recent flow meter of transmitter accuracy test or test number of the most recent flowmeter or transmitter accuracy test (as applicable); (on and after January 1, 2009, the test number of the most recent flowmeter or transmitter accuracy test is required in lieu of the completion date and hour for the most recent flowmeter or transmitter accuracy test);

(C) Beginning date and hour of baseline period;

(D) Completion date and hour of baseline period;

(E) Average fuel flow rate, in 100 scfh for gas and lb/hr for oil;

(F) Average load, in megawatts, 1000 lb/hr of steam, or mmBtu/hr thermal output;

(G) Baseline fuel flow-to-load ratio, in the appropriate units of measure (if using fuel flow-to-load ratio);

(H) Baseline gross heat rate if using gross heat rate, in the appropriate units of measure (if using gross heat rate check);

(I) Number of hours excluded from baseline data due to ramping;

(J) Number of hours excluded from baseline data in lower 25.0 percent of range of operation;

(K) Average hourly heat input rate;

(L) Flag indicating baseline data collection is in progress and that fewer than four calendar quarters have elapsed since the quarter of the last flowmeter QA test;

(M) Number of hours excluded due to co-firing; and

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(N) Monitoring system identification code.

(5) For gas-fired peaking units or oil-fired peaking units using the optional procedures of appendix E to this part, for each initial performance, periodic, or quality assurance/quality control-related test:

(i) For each run of emission data, record the following data:

(A) Unit or common pipe identification code;

(B) Monitoring system identification code for appendix E system (on and after January 1, 2009, component identification codes shall be reported in addition to the monitoring system identification code);

(C) Run start date and time;

(D) Run end date and time;

(E) Total heat input during the run (mmBtu);

(F) NO_x emission rate (lb/mmBtu) from reference method;

(G) Response time of the O₂ and NO_x reference method analyzers;

(H) Type of fuel(s) combusted during the run. This requirement remains in effect through December 31, 2008;

(I) Heat input rate (mmBtu/hr) during the run;

(J) Test number;

(K) Run number;

(L) Operating level during the run;

(M) NO_x concentration recorded by the reference method during the run;

(N) Diluent concentration recorded by the reference method during the run; and

(O) Moisture measurement for the run (if applicable).

(ii) For each run during which oil or mixed fuels are combusted record the following data:

(A) Unit or common pipe identification code;

(B) Monitoring system identification code for oil monitoring system (on and after January 1, 2009, component identification codes shall be reported in addition to the monitoring system identification code);

(C) Run start date and time;

(D) Run end date and time;

(E) Mass flow or volumetric flow of oil, in the units of measure for the type of fuel flowmeter;

(F) Gross calorific value of oil in the appropriate units of measure;

(G) Density of fuel oil in the appropriate units of measure (if density is used to convert oil volume to mass);

(H) Hourly heat input (mmBtu) during run from oil;

(I) Test number;

(J) Run number; and

(K) Operating level during the run.

(iii) For each run during which gas or mixed fuels are combusted record the following data:

(A) Unit or common pipe identification code;

(B) Monitoring system identification code for gas monitoring system (on and after January 1, 2009, component identification codes shall be reported in addition to the monitoring system identification code);

(C) Run start date and time;

(D) Run end date and time;

(E) Volumetric flow of gas (100 scf);

(F) Gross calorific value of gas (Btu/100 scf);

(G) Hourly heat input (mmBtu) during run from gas;

(H) Test number;

(I) Run number; and

(J) Operating level during the run.

(iv) For each operating level at which runs were performed:

(A) Completion date and time of last run for operating level (as applicable). This requirement remains in effect through December 31, 2008;

(B) Type of fuel(s) combusted during test;

(C) Average heat input rate at that operating level (mmBtu/hr);

(D) Arithmetic mean of NO_x emission rates from reference method run at this level;

(E) F-factor used in calculations of NO_x emission rate at that operating level;

(F) Unit operating parametric data related to NO_x formation for that unit type (e.g., excess O₂ level, water/fuel ratio);

(G) Test number;

(H) Operating level for runs; and

(I) Component identification code (required on and after January 1, 2009).

(c) Except as otherwise provided in § 75.58(b)(3)(i), units with add-on SO₂ or NO_x emission controls following the provisions of § 75.34(a)(1) or (a)(2), and for units with add-on Hg emission controls, the owner or operator shall keep

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the following records on-site in the quality assurance/quality control plan required by section 1 of appendix B to this part:

(1) A list of operating parameters for the add-on emission controls, including parameters in § 75.58(b), appropriate to the particular installation of add-on emission controls; and

(2) The range of each operating parameter in the list that indicates the add-on emission controls are properly operating.

(d) *Excepted monitoring for low mass emissions units under § 75.19(c)(1)(iv).* For oil-and gas-fired units using the optional SO₂, NO_x and CO₂ emissions calculations for low mass emission units under § 75.19, the owner or operator shall record the following information for tests performed to determine a fuel and unit-specific default as provided in § 75.19(c)(1)(iv):

(1) For each run of each test performed using the procedures of section 2.1 of appendix E to this part, record the following data:

- (i) Unit or common pipe identification code;
- (ii) Run start date and time;
- (iii) Run end date and time;
- (iv) NO_x emission rate (lb/mmBtu) from reference method;
- (v) Response time of the O₂ and NO_x reference method analyzers;
- (vi) Type of fuel(s) combusted during the run;
- (vii) Test number;
- (viii) Run number;
- (ix) Operating level during the run;
- (x) NO_x concentration recorded by the reference method during the run;
- (xi) Diluent concentration recorded by the reference method during the run;
- (xii) Moisture measurement for the run (if applicable); and
- (xiii) An indicator (“flag”) if the run is used to calculate the highest 3-run average NO_x emission rate at any load level.

(2) For each single-load or multiple-load appendix E test, record the following:

- (i) The three-run average NO_x emission rate for each load level;
- (ii) An indicator that the average NO_x emission rate is the highest NO_x

average emission rate recorded at any load level of the test (if appropriate);

(iii) The default NO_x emission rate (highest three-run average NO_x emission rate at any load level);

(iv) An indicator that the add-on NO_x emission controls were operating or not operating during each run of the test;

(v) Parameter data indicating the use and efficacy of control equipment during the test; and

(vi) Indicator of whether the testing was done at base load, peak load or both (if appropriate); and

(vii) The default NO_x emission rate for peak load hours (if applicable).

(3) For each unit in a group of identical units qualifying for reduced testing under § 75.19(c)(1)(iv)(B), record the following data:

(i) The unique group identification code assigned to the group. This code must include the ORIS code of one of the units in the group;

(ii) The ORIS code or facility identification code for the unit;

(iii) The plant name of the facility at which the unit is located, consistent with the facility’s monitoring plan;

(iv) The identification code for the unit, consistent with the facility’s monitoring plan;

(v) A record of whether or not the unit underwent fuel and unit-specific testing for purposes of establishing a fuel and unit-specific NO_x emission rate for purposes of § 75.19;

(vi) The completion date of the fuel and unit-specific test performed for purposes of establishing a fuel and unit-specific NO_x emission rate for purposes of § 75.19;

(vii) The fuel and unit-specific NO_x default rate established for the group of identical units under § 75.19;

(viii) The type of fuel combusted for the units during testing and represented by the resulting default NO_x emission rate;

(ix) The control status for the units during testing and represented by the resulting default NO_x emission rate;

(x) Documentation supporting the qualification of all units in the group for reduced testing based on the criteria established in §§ 75.19(c)(1)(iv)(B)(1); and

(xi) Purpose of group tests.

(e) *Excepted monitoring for Hg low mass emission units under § 75.81(b).* For qualifying coal-fired units using the alternative low mass emission methodology under § 75.81(b), the owner or operator shall record the data elements described in § 75.59(a)(7)(vii), § 75.59(a)(7)(viii), or § 75.59(a)(7)(x), as applicable, for each run of each Hg emission test and re-test required under § 75.81(c)(1) or § 75.81(d)(4)(iii).

(f) *DAHS Verification.* For each DAHS (missing data and formula) verification that is required for initial certification, recertification, or for certain diagnostic testing of a monitoring system, record the date and hour that the DAHS verification is successfully completed. (This requirement only applies to units that report monitoring plan data in accordance with § 75.53(g) and (h).)

[64 FR 28614, May 26, 1999, as amended at 67 FR 40442, June 12, 2002; 70 FR 28683, May 18, 2005; 63 FR 4354, Jan. 24, 2008]

Subpart G—Reporting Requirements

§ 75.60 General provisions.

(a) The designated representative for any affected unit subject to the requirements of this part shall comply with all reporting requirements in this section and with the signatory requirements of § 72.21 of this chapter for all submissions.

(b) *Submissions.* The designated representative shall submit all reports and petitions (except as provided in § 75.61) as follows:

(1) *Initial certifications.* The designated representative shall submit initial certification applications according to § 75.63.

(2) *Recertifications.* The designated representative shall submit recertification applications according to § 75.63.

(3) *Monitoring plans.* The designated representative shall submit monitoring plans according to § 75.62.

(4) *Electronic quarterly reports.* The designated representative shall submit electronic quarterly reports according to § 75.64.

(5) *Other petitions and communications.* The designated representative shall submit petitions, correspondence, application forms, designated representa-

tive signature, and petition-related test results in hardcopy to the Administrator. Additional petition requirements are specified in §§ 75.66 and 75.67.

(6) *Semiannual or annual RATA reports.* If requested in writing (or by electronic mail) by the applicable EPA Regional Office, appropriate State, and/or appropriate local air pollution control agency, the designated representative shall submit a hardcopy RATA report within 45 days after completing a required semiannual or annual RATA according to section 2.3.1 of appendix B to this part, or within 15 days of receiving the request, whichever is later. The designated representative shall report the hardcopy information required by § 75.59(a)(9) to the applicable EPA Regional Office, appropriate State, and/or appropriate local air pollution control agency that requested the RATA report.

(7) *Routine appendix E retest reports.* If requested in writing (or by electronic mail) by the applicable EPA Regional Office, appropriate State, and/or appropriate local air pollution control agency, the designated representative shall submit a hardcopy report within 45 days after completing a required periodic retest according to section 2.2 of appendix E to this part, or within 15 days of receiving the request, whichever is later. The designated representative shall report the hardcopy information required by § 75.59(b)(5) to the applicable EPA Regional Office, appropriate State, and/or appropriate local air pollution control agency that requested the hardcopy report.

(8) *Routine retest reports for Hg low mass emissions units.* If requested in writing (or by electronic mail) by the applicable EPA Regional Office, appropriate State, and/or appropriate local air pollution control agency, the designated representative shall submit a hardcopy report for a semiannual or annual retest required under § 75.81(d)(4)(iii) for a Hg low mass emissions unit, within 45 days after completing the test or within 15 days of receiving the request, whichever is later. The designated representative shall report, at a minimum, the following hardcopy information to the applicable EPA Regional Office, appropriate