Instructions for MATS Compliance Reports

United States Environmental Protection Agency
Office of Air Quality Planning and Standards
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Reporting Instructions for
MATS Compliance Reports

INTRODUCTION

About This Document

The Emissions Collection and Monitoring Plan System (ECMPS), requires data to be submitted to the EPA through a "Client Tool", using extensible-markup language (XML) format. An XML file contains certain data elements, which are defined in one or more "schemas".
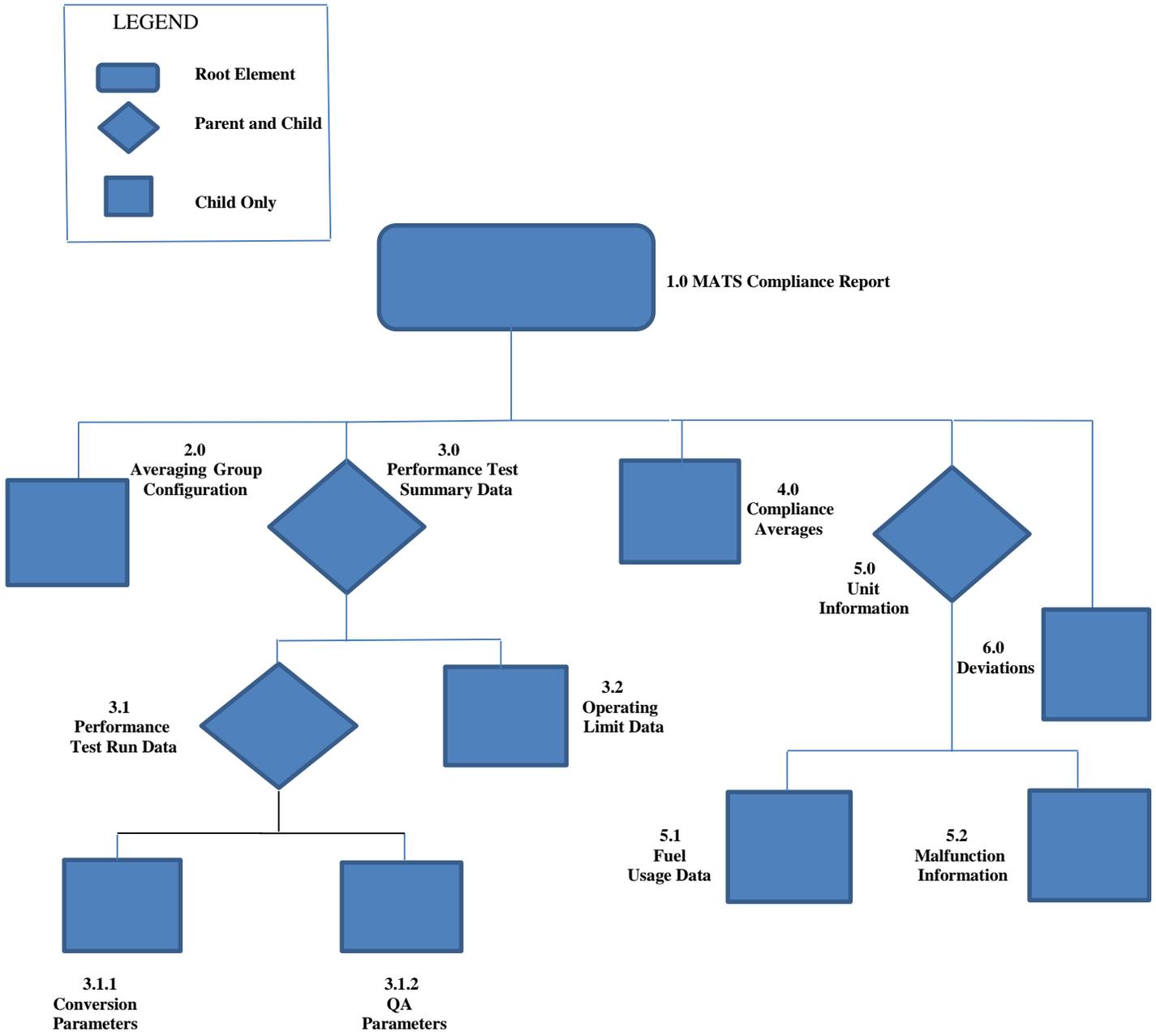
The purpose of these reporting instructions is to enable owners and operators of affected coal-fired and oil-fired electricity generating units (EGUs) to document compliance with emission limits under the Mercury and Air Toxics Standards (MATS) rule (40 CFR Part 63, Subpart UUUUU).

An XML schema is typically made up of a root element (which is the base of the schema), simple elements, and complex elements. A simple element is a single piece of data. A complex element is a group of simple elements that are logically grouped together.

The elements are related to each other in parent-child relationships. The root element is the parent element of the entire schema. Complex elements are children of the root element, and complex elements can also be children or parents of other complex elements. If a complex element is dependent on a parent complex element, the child complex element cannot be included in the XML file unless the appropriate parent complex element is also included. Figure 1 illustrates the relationships between the root element and the complex and simple elements for the MATS COMPLIANCE REPORT schema.

This document provides instructions on how to report the required data using this data structure. A separate section is provided for each complex element, its dependencies, and its simple elements. In addition, the document discusses specific considerations that apply when reporting data for particular types of monitoring configurations.

Figure 1
XML Schema for MATS Compliance Reports

LEGEND

Root Element

Parent and Child

Child Only

1.0 MATS Compliance Report

2.0
Averaging Group
Configuration

3.0
Performance Test
Summary Data

4.0
Compliance
Averages

5.0
Unit
Information

6.0
Deviations

3.1
Performance
Test Run Data

3.2
Operating
Limit Data

5.1
Fuel
Usage Data

5.2
Malfunction
Information

3.1.1
Conversion
Parameters

3.1.2
QA
Parameters

About MATS Compliance Data

Compliance data are required for each EGU affected by MATS. The MATS COMPLIANCE REPORT data file will include the results of any performance stack test that is used to demonstrate compliance with the MATS standards as well as any 30- (or in some cases 90-) boiler operating day rolling averages that must be reported for MATS compliance. The rolling averages are based on data from continuous emission monitoring systems (CEMS), sorbent trap monitoring systems, or continuous parametric monitoring systems (CPMS). If applicable, the MATS COMPLIANCE REPORT data file must also include any 30- or 90-group boiler operating day rolling averages reported for units included in an averaging plan.

The MATS COMPLIANCE REPORT data file will also include unit information for each affected EGU at the facility. Specifically, the date of the last tune-up or burner inspection must be reported, along with fuel usage during the reporting period.

A MATS COMPLIANCE REPORT data file covering all of the MATS-affected units at a given facility must be submitted for each calendar quarter. Each report must be submitted no later than 60 days after the end of the calendar quarter.

Rounding Conventions for Reporting Emissions Values

Each emissions value that is reported must be rounded to a specified precision (i.e., a certain number of decimal places or significant digits). The appropriate precision for compliance averages is based on the precision of the emission limit specified in the MATS rule.

All of the emission limits in Tables 1 and 2 of MATS are expressed in scientific notation, rounded to 2 significant figures. In view of this, for the purposes of compliance demonstrations using MATS COMPLIANCE REPORT records, all stack test results and rolling average emission rates must be reported in scientific notation, rounded off to 2 significant figures, with no spaces in-between characters. Use the standard arithmetic rounding convention, where numbers five through nine round to the next highest number in the previous decimal position to the left.

For units that continuously monitor Hg, HCl, HF, SO_2 or PM, the hourly emission rates reported in ECMPS are expressed in scientific notation, rounded to 3 significant figures. Therefore, for comparison against the standard, a 30-day rolling average value of 1.35E-2 lb/mmBtu derived from the hourly data must be rounded off to 2 significant figures and reported as 1.4E-2 lb/mmBtu in the MATS COMPLIANCE REPORT data file.

However, for units that perform quarterly, annual or triennial stack tests, if the test results are expressed in decimal format rather than in scientific notation, you must round off the results to 2 significant figures and convert it to scientific notation. For example, if the average emission rate from a stack test is 0.0185 lb/mmBtu, you would round off to 0.019 lb/mmBtu and then report it in equivalent scientific notation as 1.9E-2 in the MATS COMPLIANCE REPORT data file.

1.0 MATS COMPLIANCE REPORT XML MODEL

Figure 2
MATS COMPLIANCE REPORT XML ELEMENTS
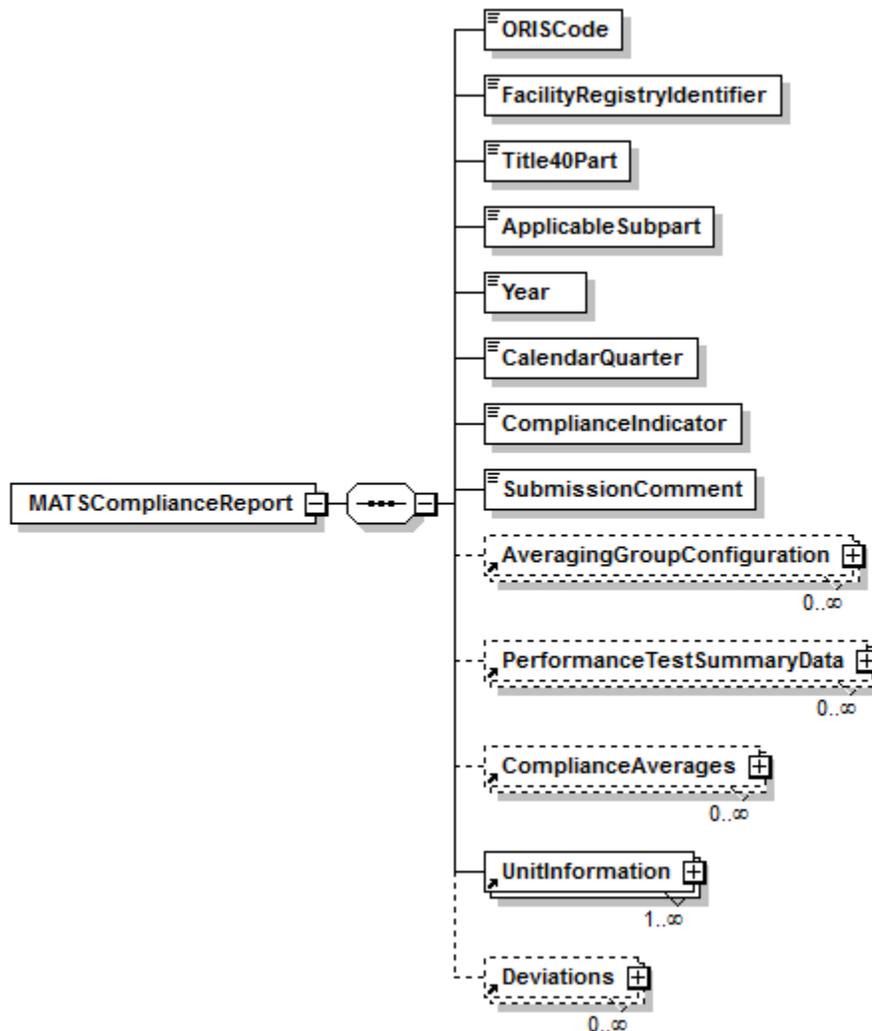
Description of Data

The MATS COMPLIANCE REPORT record is the root element for the XML schema. This record identifies the facility and applicable subpart of Part 63 for which the data are being reported. In addition, it provides information about the reporting period for which data are provided by identifying the year and calendar quarter. Include a single MATS COMPLIANCE REPORT record for the facility in each quarterly data file.

Use the following instructions for reporting each data element of the MATS COMPLIANCE REPORT record:

ORIS Code
Element Name: ORISCode

Report the code that indicates the unique identifying number given to a plant by the Energy Information Administration (EIA) or, if applicable, the equivalent code assigned to the facility by EPA to enable the report to be processed by ECMPS.

Facility Registry Identifier
Element Name: FacilityRegistryIdentifier

Report the code that indicates the identifying number given to a plant EPA's Facility Registry System (FRS).

Title 40 Part
*Element Name**: Title40Part*

Report "63", which is the Part of the Title 40 Code of Federal Regulations (CFR) that applies to the MATS rule.

Applicable Subpart
*Element Name**: ApplicableSubpart*

Report "UUUUU", which is the Subpart of Part 63 that applies to the MATS rule.

Year
Element Name: Year

Report the calendar year represented by the data in the file. (YYYY)

Calendar Quarter
Element Name: CalendarQuarter

Report the calendar quarter represented by the data in the file (i.e., 1, 2, 3, or 4). Be sure that the reported year and quarter are properly matched to the data within the file.

Compliance Indicator
Element Name: ComplianceIndicator

If the file includes any performance stack test results and/or any calculated 30- or 90-day rolling averages, report "Y" in this data field if all of the stack test results and/or 30- (or 90-) day rolling averages demonstrate compliance. Report "N" in this field if any stack test results and/or 30- (or 90-) day rolling average(s) show non-compliance. If no required performance tests were completed during the quarter and no required 30- or 90-day rolling averages were calculated during the quarter, report "0" in this field.

Submission Comment
Element Name: SubmissionComment

This field can be used to report additional information or provide an explanation about an event that is specific to the quarterly report. Report the text of the comment in this field.

Elements that depend on the MATS COMPLIANCE REPORT record

The following complex elements are dependent on the MATS COMPLIANCE REPORT record. These complex elements *cannot* be submitted unless an applicable MATS COMPLIANCE REPORT record is included in the data file.

- AVERAGING GROUP CONFIGURATION
- PERFORMANCE TEST SUMMARY DATA
- COMPLIANCE AVERAGES
- UNIT INFORMATION

2.0 AVERAGING GROUP CONFIGURATION XML MODEL

Figure 3
AVERAGING GROUP CONFIGURATION XML ELEMENTS
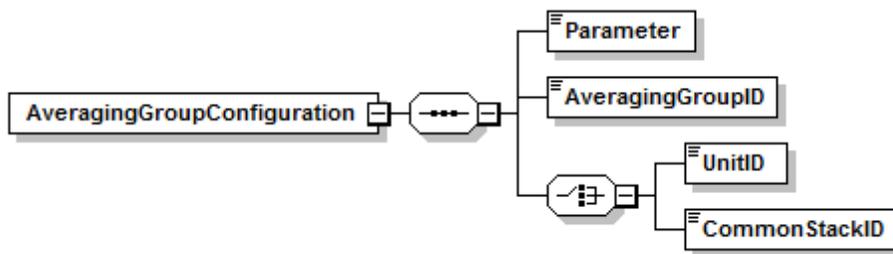
Description of Data

The AVERAGING GROUP CONFIGURATION record is reported <u>only</u> when you have elected to use emissions averaging under §63.10009. This record requires an averaging group ID to be assigned and identifies the parameter to be averaged and the units and/or common stacks that are included in the averaging plan. In each quarterly report, you must submit one AVERAGING GROUP CONFIGURATION record for each unit or common stack in the averaging plan.

Use the following instructions to report each data element of the AVERAGING GROUP CONFIGURATION record:

Parameter
Element Name: Parameter

Select the code for the parameter to be averaged from the list in Table 1, below, and report this value.

Averaging Group ID
Element Name: AveragingGroupID

Assign an ID number to the averaging group. The ID must begin with the prefix "GP", followed by one to four alphanumeric characters (e.g., GP1, GP123A).

Table 1
Parameter Codes

Parameter	Code
Filterable particulate matter	PM
Mercury	HG
Hydrogen Chloride	HCL
Hydrogen Fluoride	HF
Sulfur Dioxide	SO2
Total non-Hg HAP metals (except for oil-fired sources)	TNHM
Total HAP metals including Hg (oil-fired sources, only)	TMIH
Antimony	SB
Arsenic	AS
Beryllium	BE
Cadmium	CD
Chromium	CR
Cobalt	CO
Lead	PB
Manganese	MN
Nickel	NI
Selenium	SE

Unit ID
Element Name: UnitID

For each EGU in the averaging group that is tested or monitored at the unit level, report the Unit ID. If there is an electronic monitoring plan in ECMPS for the unit, report the Unit ID exactly as it appears in the monitoring plan. Otherwise, assign a Unit ID composed of one to six alphanumeric characters (e.g., 3, BLR2).

Common Stack ID
Element Name: CommonStackID

For each common stack in the averaging group that is tested or monitored at the common stack level, report the common stack ID. If there is an electronic monitoring plan in ECMPS for the common stack, report the common stack ID exactly as it appears in the monitoring plan. Otherwise, assign a common stack ID consisting of three to six alphanumeric characters, beginning with the prefix "CS" (e.g., CS1, CSABX2).

3.0 PERFORMANCE TEST SUMMARY DATA XML MODEL

Figure 4
PERFORMANCE TEST SUMMARY DATA XML Elements
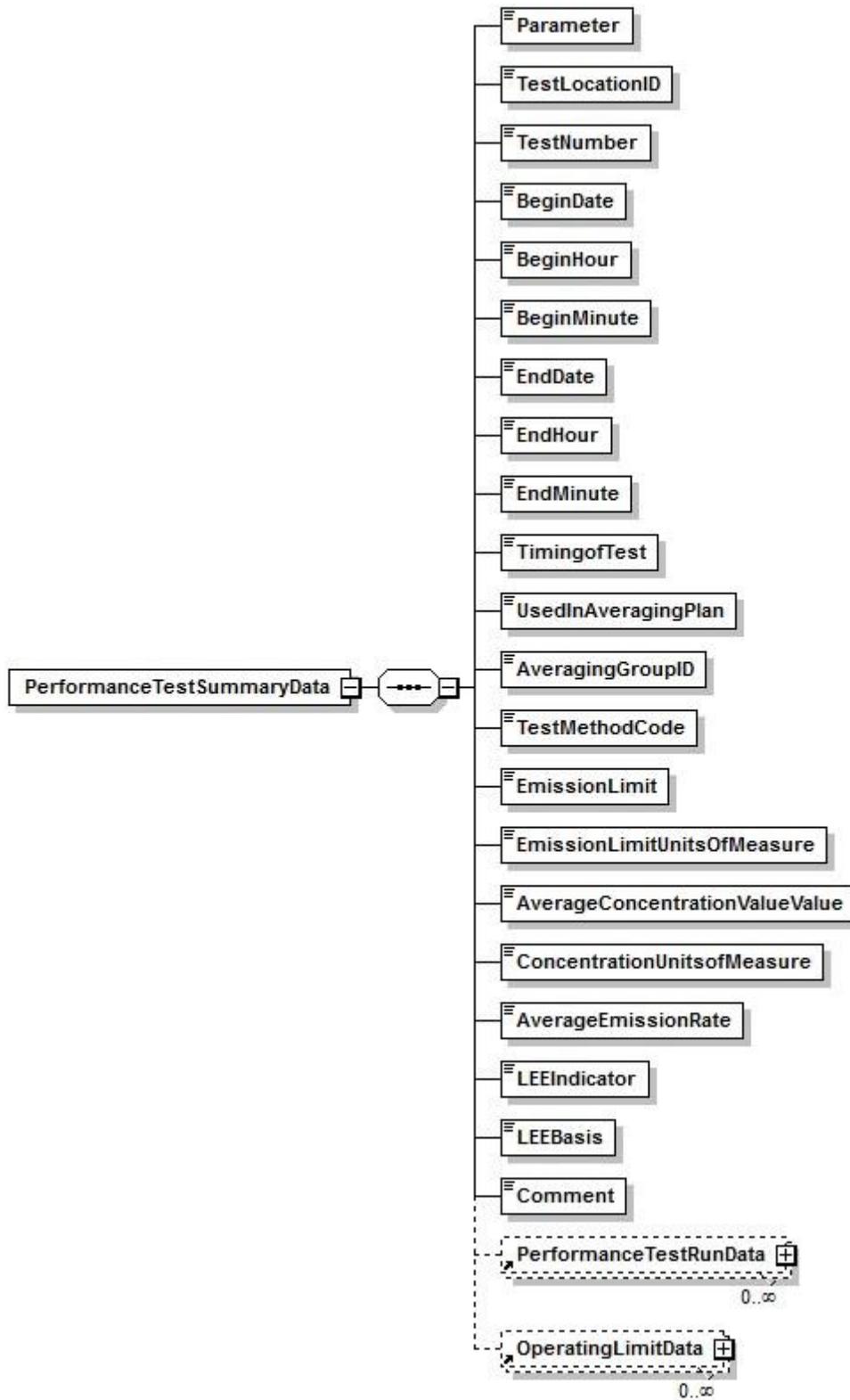
Description of Data

PERFORMANCE TEST SUMMARY DATA records (see Figure 4) are reported for all performance stack tests that are used to demonstrate compliance with an emission limitation, i.e., required quarterly or annual stack tests and/or LEE qualification tests (including 30 boiler operating day LEE tests for Hg).

Submit one PERFORMANCE TEST SUMMARY DATA record for each performance stack test that is completed during the calendar quarter and is used to demonstrate compliance with a MATS emission limit, including any LEE qualification tests and/or annual filterable PM performance tests that are used in conjunction with a PM CPMS.

If the results of a particular stack test are used as part of an emissions averaging plan, you must submit the test results in a PERFORMANCE TEST SUMMARY DATA record, but compliance with the weighted average emission rate (WAER) for the emissions averaging group is demonstrated using the COMPLIANCE AVERAGES records.

Use the following instructions to report each element of the PERFORMANCE TEST SUMMARY DATA record.

Test Location ID
Element Name: TestLocationID

Report the Unit or Stack ID that represents the location at which the performance test was done. If there is an electronic monitoring plan in ECMPS for the unit or stack, the Unit or Stack ID reported here must be the same as the ID in the monitoring plan. Otherwise, assign, as applicable, a Unit ID consisting of one to six alphanumeric characters, or a common stack ID consisting of three to six alphanumeric characters, beginning with the prefix "CS". If the unit or stack is in an averaging plan, the Unit or Stack ID must exactly match the unit or stack ID in the AVERAGING GROUP CONFIGURATION record.

Test Number
Element Name: TestNumber

You must assign a unique test number to each performance stack test. This number must exactly match the one assigned to the test in the supplementary report that provides the essential data elements from Appendix E of Subpart UUUUU for the reference method(s) used in the performance test.

Parameter
Element Name: Parameter

Report the code that indicates the parameter from the list in Table 1, above. Note: Parameter "SO2" is not applicable. When SO_2 serves as a surrogate for HCl, continuous monitoring is required; stack testing is not an available compliance option.

Begin Date
Element Name: BeginDate

Report the begin date of the first run in the test (MMDDYYYY).

Begin Hour
Element Name: BeginHour

Report the begin hour of the first run in the test (00-23).

End Date
Element Name: EndDate

Report the end date of the last run in the test (MMDDYYYY).

End Hour
Element Name: EndHour

Report the end hour of the last run in the test (00-23).

Timing of Test
Element Name: TimingOfTest

Report "1" if the test was performed on-schedule, according to §63.10006(f) of the MATS rule. Report "0" if the test was performed late.

Used In Averaging Plan
Element Name: UsedInAveragingPlan

Report "1" if the test was performed on a unit (or stack) that is included in an emissions averaging plan, and "0" if the test was performed on a unit (or stack) that is not included in an emissions averaging plan. If "1" is reported, the test results presented in the PERFORMANCE TEST SUMMARY DATA record are not used directly to demonstrate compliance but rather are used in conjunction with stack test results and/or hourly CEMS (or sorbent trap system) emission rates from other units to determine the 30- or 90-day weighted average emission rates for the group of units. The calculated 30- or 90-day rolling averages are reported in the COMPLIANCE AVERAGES record.

Averaging Group ID
Element Name: AveragingGroupID

If the results of this performance test are to be included in an emissions averaging plan along with stack test results and/or hourly CEMS (or sorbent trap) emission rates from other affected EGUs report the Group ID number that was established in the AVERAGING GROUP CONFIGURATION record.

Test Method Code
Element Name: TestMethodCode

Report the primary reference method used to determine the emissions (i.e., the RM for the pollutant), using the codes in Table 2, below.

Emissions Limit
Element Name: EmissionsLimit

Report the applicable MATS emission limit exactly as it appears in Table 1 or Table 2 of Subpart UUUUU (i.e., in scientific notation, rounded to 2 significant figures, e.g., 4.0E-2).

Table 2
Test Method Codes

Parameter	Test Method	Test Method Code
PM	Method 5 with front half temperature of 160º ±14º C (320º ±25ºF) or other temperature approved by the Administrator	5MATS
PM	Method 5D with front half temperature of 160º ±14º C (320º ±25ºF)---for EGUs with positive pressure fabric filters	5DMATS
TNHM, TMIH, SB, AS, BE, CD, CR, CO, PB, MN, NI, HG	Method 29	29
HCL, HF	Method 26	26
HCL, HF	Method 26A	26A
HCL, HF	Method 320	320
HCL, HF	ASTM 6348-03 with additional QA measures and spiking levels specified in Table 5 of MATS	ASTM6348
HG	Method 30B	30B
Any (specify)	Other method approved by petition	PET

Emissions Limit Units of Measure
Element Name: EmissionsLimitUnitsOfMeasure

Report the units of measure for the applicable MATS emission limit from the following list:

Table 3
Emission Limit Units of Measure

Units of Measure	Code
Pounds per Million Btu	LBMMBTU
Pounds per Megawatt Hour	LBMWH
Pounds per Trillion Btu	LBTBTU
Pounds per Gigawatt Hour	LBGWH

Average Emission Rate
Element Name: AverageEmissionRate

For quarterly and annual stack tests, determine the average pollutant emission rate for the 3 (or more) test runs by averaging the individual Emission Values reported in the PERFORMANCE TEST RUN DATA records. Report the average pollutant emission rate in this field, in the units of measure of specified in the **Emissions Limit Units of Measure** field.

For 30-boiler operating day Hg LEE tests, proceed as follows.

- For each pair of sorbent traps used (i.e., for each data collection period), determine the Hg concentration and the average value of each parameter that is used to convert Hg concentration to units of the emission standard (i.e., CO_2 or O_2 concentration, stack gas flow rate, electrical load, or moisture content, as applicable). The average parameter values for each data collection period are reported in the CONVERSION PARAMETERS records.

- Then, determine the <u>overall</u> average values of Hg concentration and each parameter for the 30-day test, by taking the arithmetic average of all of the average parameter values from the individual data collection periods.

- Finally, use the <u>overall</u> average value of each parameter together with the <u>overall</u> average Hg concentration to determine the average Hg emission rate for the 30-day test, and report the result in this field.

LEE Indicator
Element Name: LEEIndicator

If this stack test is used to establish (or re-establish) LEE status, report "1" in this field; otherwise, report "0". <u>Note</u>: For pollutants other than Hg, 3 years of stack test data are required to establish LEE status. If the requisite 3-years of data have not yet been accumulated, report "0" for this test.

LEE Basis
Element Name: LEEBasis

If you have reported "1" in the LEE Indicator field, report the appropriate code from Table 4 below to indicate the basis upon which LEE status has been established.

Table 4
Basis of LEE Qualification

Basis of LEE Qualification	Code
For Hg LEE status, the test results are < 10% of the applicable standard	10PCT
For Hg LEE status, the test results show projected annual Hg mass emissions to be ≤ 29 lb/yr	29LB
For non-Hg pollutants, the results of <u>this</u> stack test establish LEE status at < 50% of the applicable standard	50PCT

Comment
Element Name: Comment

Report any comments regarding the test. Indicate whether there have been any operational changes since the last stack test that could increase emissions.

Elements that depend on the PERFORMANCE TEST SUMMARY DATA record

The following complex elements are dependent on the PERFORMANCE TEST SUMMARY DATA record, in a parent-child relationship. These complex elements *cannot* be submitted unless a PERFORMANCE TEST SUMMARY DATA record is included in the data file.

- **PERFORMANCE TEST RUN DATA**
- **OPERATING LIMIT DATA**

3.1 PERFORMANCE TEST RUN DATA XML MODEL

Figure 5
PERFORMANCE TEST RUN DATA XML Elements
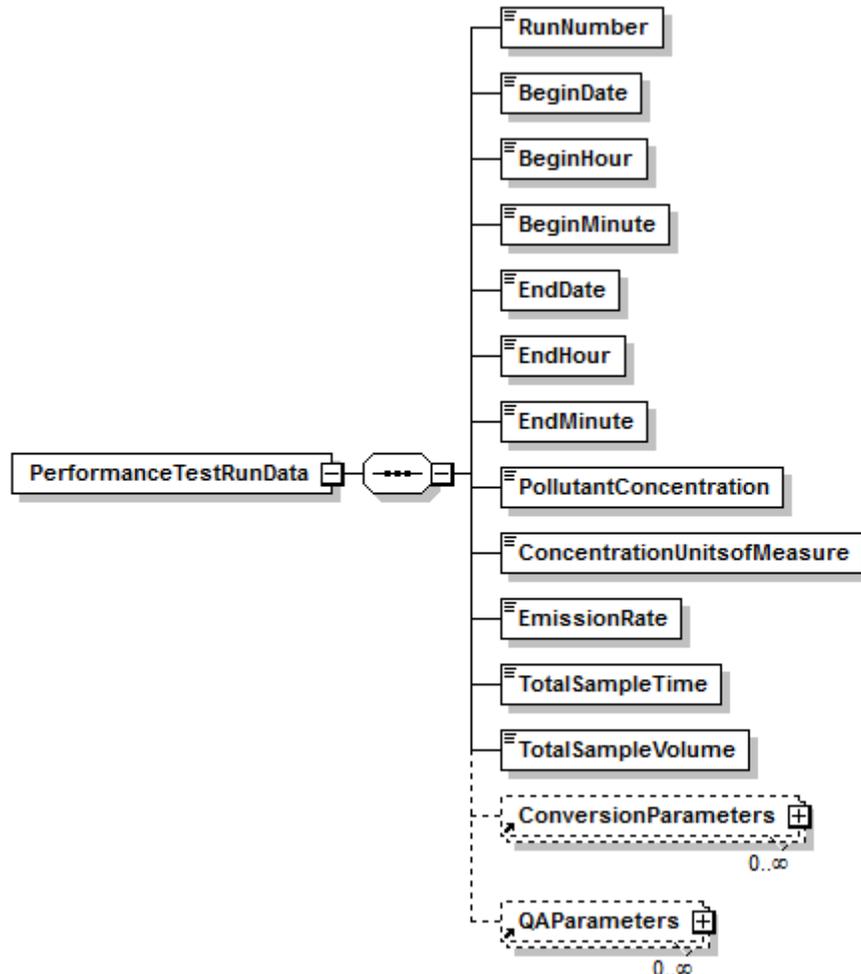
Description of Data

Submit one PERFORMANCE TEST RUN DATA record for each discreet test run that was used to calculate the average value reported in the PERFORMANCE TEST SUMMARY DATA record. A minimum of three test runs must be submitted for each parameter. For 30 boiler operating day Hg LEE qualification tests, report one PERFORMANCE TEST RUN DATA record for each pair of sorbent traps used during the test (i.e., for each data collection period).

Use the following instructions to report each element of the PERFORMANCE TEST RUN DATA record:

Run Number
Element Name: RunNumber

For quarterly and annual stack tests, assign a number to each test run. For a 30 boiler operating

day Hg LEE test, assign a run number to each data collection period with a particular pair of sorbent traps. A minimum of three test runs must be submitted for each test. Number the runs sequentially, beginning with "1".

Begin Date
Element Name: BeginDate

Report the begin date of the run or data collection period (MMDDYYYY)

Begin Hour
Element Name: BeginHour

Report the begin hour of the run or data collection period (00-23).

Begin Minute
Element Name: BeginMinute

Report the begin minute of the run or data collection period (00-59).

End Date
Element Name: EndDate

Report the end date of the run or data collection period (MMDDYYYY).

End Hour
Element Name: EndHour

Report the end hour of the run or data collection period (00-23).

End Minute
Element Name: EndMinute

Report the end minute of the run or data collection period (00-59).

Pollutant Concentration
Element Name: PollutantConcentration

Report the pollutant concentration measured during the test run or data collection period, in the same units of measure that are reported in the **Concentration Units of Measure** field (see Table 5, below).

Concentration Units of Measure
Element Name: ConcentrationUnitsOfMeasure

Report the units of measure of the pollutant concentration measured by the reference method. The typical units of measure of the various MATS test methods are presented in Table 5, below.

Table 5
Concentration Units of Measure

Units of Measure	Code
Parts per million, dry volume basis	PPMD
Parts per million, wet volume basis	PPMW
Milligrams per dry standard cubic meter	MGDSCM
Grams per dry standard cubic meter	GDSCM
Milligrams per wet standard cubic meter	MGWSCM
Micrograms per dry standard cubic meter	UGDSCM
Micrograms per wet standard cubic meter	UGWSCM

Emission Rate
Element Name: EmissionRate

Except for 30 boiler operating day Hg LEE tests, report the test run results, converted from concentration units to the units of the applicable emission standard (as identified in the **Emission Limit Units of Measure** field ---see Table 3, above).

For Hg LEE tests, only the overall average Hg concentration for the 30-day test (as reported in the PERFORMANCE TEST SUMMARY DATA record) gets converted to the units of the emission standard; therefore, leave this field blank.

Total Sampling Time
Element Name: TotalSamplingTime

Report the total sampling time for the test run, in minutes.

Total Sample Volume
Element Name: TotalSampleVolume

Report the total sample volume, in dscm, collected during the test run. For test Codes 320 and ASTM6348, which are instrumental methods, leave this field blank. For Method 30B, which includes paired sample trains with a separate sample volume for each sampling train, report the average of the sample volumes for the two trains if both are used to determine the compliance value.

3.1.1 CONVERSION PARAMETERS XML MODEL

Figure 6
CONVERSION PARAMETERS XML Elements
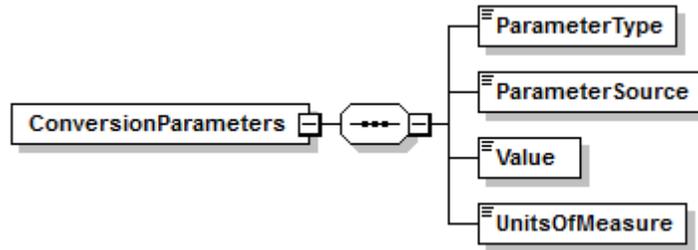
Description of Data

CONVERSION PARAMETERS records are used to report values of the parameters that are required to convert the pollutant concentration values measured by the reference method to the units of the MATS emissions standard (i.e., CO_2 or O_2 concentration, stack gas flow rate, moisture content, or electrical load, as applicable). For each test run, report one CONVERSION PARAMETERS record for each parameter that is used to convert the concentration to the units of the standard. The number of CONVERSION PARAMETERS records that you must report depends on the emission rate equation used for the conversion, which, in turn, depends on whether you have elected to comply with a heat input-based standard or an electrical output-based standard.

Use the following instructions to report each element of the CONVERSION PARAMETERS record.

Parameter Type
Element Name: ParameterType

From Table 6, below, select and report the code for each conversion parameter that is used to convert the pollutant concentration measurement to the units of the applicable standard.

Table 6
Conversion Parameters

Conversion Parameter	Code
Dry-based F-factor	FD
Carbon-based F-factor	FC
Average O_2 concentration, wet basis	O2W
Average O_2 concentration, dry basis	O2D
Average CO_2 concentration, wet basis	CO2W
Average CO_2 concentration, dry basis	CO2D
Stack gas moisture content	H2O
Stack gas flow rate	FLOW
Gross electrical load (MW)	LOAD

Parameter Source
Element Name: *ParameterSource*

Report the source of each conversion parameter, using the appropriate code from Table 7.

Table 7
Conversion Parameter Source Codes

Source of Parameter	Code
Reference Method	RM
Certified Part 75 CEMS	CEMS
Default F_d, F_c, or % H_2O Value from Method 19 or Part 75	DEFAULT
Site-specific F_d, F_c, or % H_2O Value	SITESPECIFIC
Station Meter (gross load)	METER
Other Method Approved by Petition	OTHER

Value
Element Name: *Value*

For quarterly and annual stack tests, report the numerical value of the conversion parameter for the test run.

For 30-boiler operating day Hg LEE tests using Method 30B, report the average value of the parameter for the data collection period with a particular pair of sorbent traps.

Note: The MATS Rule requires the overall average diluent gas concentration, stack gas flow rate, stack gas moisture content, and electrical load values for the entire 30 operating day test period to be used together with the overall average Hg concentration for the 30-day period (as reported in the PERFORMANCE TEST SUMMARY DATA record) to calculate the average Hg emission rate for the LEE test (see §63.1005(h)(3)(ii) and (iii)). To obtain the overall average value of a particular conversion parameter for the 30-day test, you must take the arithmetic average of the average values of that parameter for the individual data collection periods.

Units of Measure
**Element Name:** *UnitsofMeasure*

Report the units of measure of the parameter, using the appropriate code from Table 8.

Table 8
Conversion Parameters---Units of Measure

Parameter	Units of Measure
Dry-based F-factor	dscf/MMBtu
Carbon-based F-factor	scf CO_2/MMBtu
O_2 concentration, wet or dry basis	% O_2
CO_2 concentration, wet or dry basis	% CO_2
Stack gas moisture content	% H_2O
Stack Gas Flow Rate	scfh
Gross electrical load	MW

3.1.2 QA PARAMETERS XML MODEL

Figure 7
QA PARAMETERS XML Elements
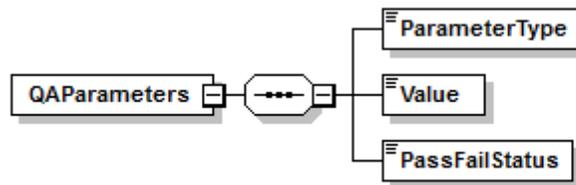
Description of Data

The QA PARAMETERS record is used to report the results of various quality assurance activities that are used to validate the reference method used during the performance test run (or, for 30-day Hg LEE tests, during the data collection period with a particular pair of sorbent traps).

Use the following instructions to report each element of the QA PARAMETERS record.

Parameter Type
Element Name: *ParameterType*

Identify the applicable QA parameter code(s) from Table 9 below for the reference method used to measure the pollutant concentration during the performance test run (or data collection period). A separate QA PARAMETERS record must be reported for each QA parameter specified in Table 9 that applies to the reference method.

For Method 30B tests, report leak check results using parameter codes LEAKA and LEAKB and breakthrough results using parameter codes BRKA and BRKB when the test results are based on

both sorbent trap system trains (A and B). However, when Method 30B test results are based on a single sorbent trap, report leak check and breakthrough results using parameter codes LEAK and BRK, respectively (see section 12.8.3 of Performance Specification 12B in Part 60, Appendix B).

Table 9
QA Parameter Codes

Parameter Type	Units of Measure	Applicable Test Methods	Parameter Code(s)
Filter Temperature	°F	Methods 5, 5D, 29, 26, 26A	FILTERTEMP
Leak Check	Various	All	LEAK, LEAKA, LEAKB
Isokinetic Variance	%	Methods 5, 5D, 26A, 29	ISOKENETIC
Spike Recovery	%	Methods 320, 30B	SPKRCV
Breakthrough	%	Method 30B	BRK, BRKA, BRKB
Relative Deviation	%	Method 30B	RD

Value
Element Name: Value

Report the QA parameter value for the test run (or data collection period) in the units of measure shown in Table 9. Report filter temperature to the nearest degree; report percentages to one decimal place. Leave this field blank when reporting the results of a leak check but indicate whether the leak check was passed using the Pass Fail Status element.

**Pass Fail Status**
Element Name: PassFailStatus

Report the pass/fail status of each QA parameter, in accordance with Table 10.

Table 10
Pass/Fail Status Codes

Code	Reporting Instructions
PASSED	Report PASSED when the applicable specification for the QA parameter is met.
FAILED	Report FAILED when the applicable specification for the QA parameter is not met.
NA	Report NA for Breakthrough when the Hg concentration in the stack is less than 10% of the emission limit---there is no applicable specification.

3.2 OPERATING LIMIT DATA XML MODEL

Figure 8
OPERATING LIMIT DATA XML Elements
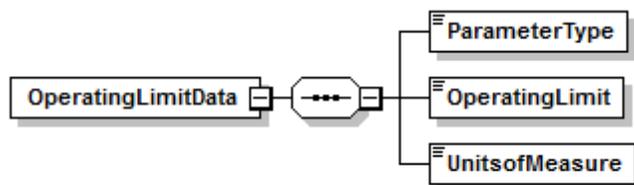
Description of Data

For MATS affected units, the OPERATING LIMIT DATA record is <u>only</u> used to report the operating limit established during annual filterable particulate matter performance testing for sources that use a PM CMPS. Do not report an OPERATING LIMIT DATA record for any other performance tests.

Use the following instructions to report each element of the OPERATING LIMIT DATA record:

Parameter Type
Element Name: ParameterType

Report a parameter type of "PMCPMS".

Operating Limit
Element Name: OperatingLimit

Report the operating limit, i.e., either the highest one-hour average PM CPMS output value recorded during the performance test or the extrapolated PM CPMS output value corresponding to 75 percent of the applicable PM emissions limit, in accordance with §63.10023(b) and Table 6 of Subpart UUUUU.

Units of Measure
Element Name: UnitsofMeasure

Report the units of measure of the PM CPMS operating limit. If the operating limit is in units of milliamps, report MA; if it is in units of particulate concentration, report PMC, or if it is in some other units of measure (raw data signal), report OTHER.

4.0 COMPLIANCE AVERAGES XML MODEL

Figure 9
COMPLIANCE AVERAGES XML Elements
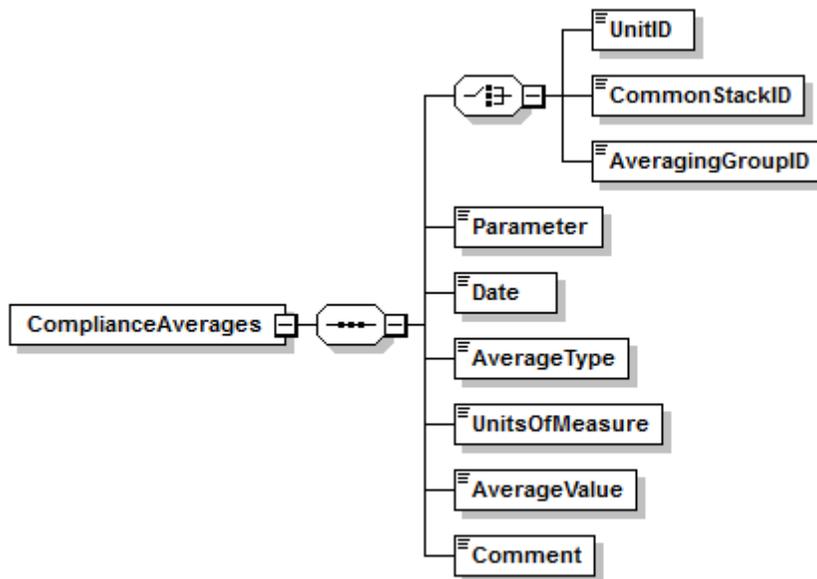
Description of Data

COMPLIANCE AVERAGES records are used to report the 30-boiler operating day rolling averages that are used to demonstrate compliance with MATS limits based on CEMS, sorbent trap system, or PM CPMS data. These records are also used to report the 30- or 90-group boiler operating day rolling averages for units and common stacks included in an averaging plan.

- For an EGU that is not included in an averaging plan, if emissions are monitored and reported at the unit level, a new 30 boiler operating day rolling average emission rate for each applicable pollutant (or, if applicable, a new 30- boiler operating day rolling average PM CMPS value) is calculated and reported in a COMPLIANCE AVERAGES record, for each boiler operating day in the calendar quarter (excluding boiler operating days on which fuel is combusted only during startup and/or shutdown).

- When emissions from multiple EGUs are monitored and reported at a common stack that is <u>not</u> in an averaging plan, a new 30 operating day rolling average emission rate for each applicable pollutant (or, if applicable, a new 30- boiler operating day rolling average PM CMPS value) is calculated and reported in a COMPLIANCE AVERAGES record, for each day in the calendar quarter on which any unit that shares the common stack combusts any fuel (excluding operating days on which fuel is combusted only during startup and/or shutdown).

- For EGUs that are part of an emissions averaging plan, a new 30- or 90-group boiler operating day weighted emissions average emission rate (WAER) is calculated for each applicable pollutant and reported in a COMPLIANCE AVERAGES record, for each day in the calendar quarter on which any unit in the averaging plan combusts any fuel (excluding operating days on which fuel is combusted only during startup and/or shutdown).

- Do not report a COMPLIANCE AVERAGES record for any pollutant (or CPMS value) for any day in the calendar quarter on which no fuel is combusted in the affected unit (or units), or for operating days on which fuel is combusted only during startup and/or shutdown.

- If, for a particular pollutant, quarterly stack test data are used as part of an emissions averaging plan, you must report those stack test results using PERFORMANCE TEST SUMMARY DATA and PERFORMANCE TEST RUN DATA records, as described in sections 3.0 and 3.1, above. Then you must include the stack test results in the calculation of each 30- or 90-operating day weighted average emission rate (WAER) for the averaging group, as described in §63.10009, and report the WAER in a COMPLIANCE AVERAGES record. See Examples 1 and 2, below:

Example 1: Suppose that a facility includes three MATS-affected units, and emissions are measured at the unit level using CEMS for SO_2, PM and Hg. The units are designed to combust coal with a GCV $\geq$ 8,300 Btu/lb. The source decides to implement a 90 group boiler operating day averaging plan for Hg that includes all three units, but will not use emissions averaging for SO_2 or PM.

For each unit, the source would have to report one COMPLIANCE AVERAGES record for SO_2 and one COMPLIANCE AVERAGES record for PM for each boiler operating day in the calendar quarter on which a new 30 day rolling average emission rate is calculated. For Hg, the source would report a COMPLIANCE AVERAGES record for each group boiler operating day in the calendar quarter on which a new 90-group boiler operating day weighted average emision rate is calculated for the group of units.

Example 2: Suppose that a facility has three affected coal-fired units and elects to monitor HCl emissions using a CEMS on two of the units and to perform quarterly HCl stack testing on the third unit. All three units are included in an averaging plan for HCl. In the 1st and 2nd calendar quarters, the required quarterly HCl stack tests for the third unit are performed on February 15th and May 1st, respectively.

The source must report a COMPLIANCE AVERAGES record for each group boiler operating day in the calendar quarter on which a new 30-group boiler operating day weighted average HCl emission rate is calculated for the group of units. The weighted average emission rates are calculated as follows:

From the beginning of the calendar quarter through May 1st, the results of the February 15th stack test of the third unit (which were reported using PERFORMANCE TEST SUMMARY DATA and PERFORMANCE TEST RUN DATA records) are used together with hourly average CEMS emission rates from the other two units to calculate the WAER for the group of units.

Then, for the remainder of the calendar quarter, the results of the May 1st stack test of the third unit (which are reported using PERFORMANCE TEST SUMMARY DATA and PERFORMANCE TEST RUN DATA records) are used together with hourly average CEMS emission rates from the other two units to calculate the WAER.

Use the following instructions for reporting each element of the COMPLIANCE AVERAGES record.

Unit ID
Element Name: UnitID

If a particular unit is <u>not</u> included in an averaging plan, and emissions (or, if applicable, PM CPMS values) are monitored and reported at the unit level, report the Unit ID in this field, exactly as it appears in the electronic monitoring plan for the unit. Otherwise, leave this field blank.

Common Stack ID
Element Name: CommonStackID

If emissions (or, if applicable, PM CPMS values) are monitored and reported at a common stack and the common stack is <u>not</u> included in an averaging plan, report the Common Stack ID in this field, exactly as it appears in the electronic monitoring plan for the unit. Otherwise, leave this field blank.

Averaging Group ID
Element Name: AveragingGroupID

If emissions averaging is being used for a particular parameter, report the Group ID that was established in the AVERAGING GROUP CONFIGURATION record. If emissions averaging is not used for the parameter, leave this field blank.

Parameter
Element Name: Parameter

Report the code that indicates the applicable parameter from Table 1, above. <u>Note</u>: If a PM CPMS is used for the compliance demonstration, report a parameter code of "PMCPMS" in this field to represent the raw PM CPMS response values.

Date
Element Name: Date

Report the date (MMDDYYYY) for the boiler operating day for which an emissions average is being reported.

Average Type
Element Name: AverageType

Report the average type from the list below. Note that compliance for MATS is demonstrated using 30-day averages except for Hg emissions where the owner or operator may demonstrate compliance on a 90- group boiler operating day basis.

Table 11
Compliance Average Type

Average Type	Description
30D	This code applies to a 30-boiler operating day average for either: • A particular unit or common stack; or • An emissions averaging group
90D	90-group boiler operating day weighted average emission rate (WAER) for an emissions averaging group. This code applies only to Hg, for a unit designed to combust coal with a GCV ≥ 8300 Btu/lb

Units of Measure
Element Name: UnitsOfMeasure

Report the units of measure for the reported value (in the units of the standard) from the following list. Codes MA, PMC, and OTHER are used exclusively for PM CPMS.

Table 12
Units of Measure Codes

Units of Measure	Code
lb/MMBtu	LBMMBTU
lb/MWh	LBMWH
lb/TBtu	LBTBTU
lb/GWh	LBGWH
Milliamperes	MA
Particulate matter concentration	PMC
Other raw data signal	OTHER

Average Value
Element Name: AverageValue

For units or common stacks that are not included in an averaging plan, report the 30-boiler operating day rolling average determined for the boiler operating day in the same units of measure that are reported in the **Units of Measure** field.

If the data is being reported for an emissions averaging group, report the rolling 30- or 90-"group boiler operating day" weighted average emission rate (WAER) for the group boiler operating day in the same units of measure that are reported in the **Units of Measure** field.

Comment
Element Name: Comment

Report any comments regarding the emissions average data.

Special Considerations

For units in an averaging plan, the 30- or 90-boiler operating day WAER values may be based on CEMS data, sorbent trap monitoring system data, stack test results, or, in some cases, a combination of these. Use Equation 2a, 2b, 3a, or 3b in §63.10009(b) (as applicable) to calculate

the WAERs. When using these equations, note the following considerations for each EGU in the averaging group:

- When CEMS (or sorbent trap system) data are to be included in the calculation of the 30- (or 90-) group boiler operating day WAERs, you must use all valid hourly average pollutant emission rates and the corresponding hourly heat input (mmBtu), electrical generation (MWh), or steam generation (lb) values (as applicable) recorded during each 30- (or 90-) day group boiler operating day period. Each 30- (or 90) day average must exclude Part 75 bias adjusted data and/or substitute data, as well as any hourly averages recorded during periods of startup or shutdown as defined by the MATS rule, with two exceptions:

    ✓ If you monitor Hg emissions with a sorbent trap monitoring system, you may opt to include startup and shutdown emissions in your compliance determinations; and
    ✓ For monitored common stacks, startup and shutdown emissions must be included in compliance determinations when at least one unit other than the unit(s) starting up or shutting down is in normal, stable operation.

- If stack test data are to be included in the WAER calculations, you must use the average pollutant emission rate from the most recent test together with the cumulative heat input, electrical output, or steam generation values (as applicable) for each 30- or 90- group boiler operating day period.

- If you elect to use steam generation instead of heat input or electrical generation to calculate the WAER, you must use a conversion factor (i.e., mmBtu per lb of steam generated or MWh per lb of steam generated), obtained from the most recent compliance or emission test.

5.0 UNIT INFORMATION XML MODEL

Figure 10
UNIT INFORMATION XML Elements
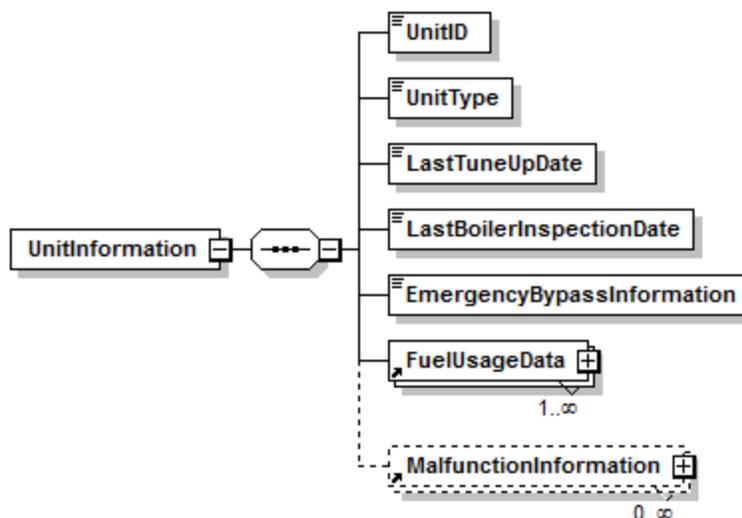
Description of Data

Report one UNIT INFORMATION record for each affected unit at the facility. You must report the unit type, and, as applicable, the date of the last boiler tune-up and burner inspection.

Elements that depend on the UNIT INFORMATION record.

The following complex element is dependent upon the UNIT INFORMATION record. This element *cannot* be submitted unless a UNIT INFORMATION record is included in the data file:

- FUEL USAGE DATA
- MALFUNCTION INFORMATION

Use the following instructions to complete each element of the UNIT INFORMATION record:

Unit ID
Element Name: UnitID

Report the ID of the affected unit. If there is an electronic monitoring plan in place in ECMPS for the unit, report the Unit ID exactly as it appears in the monitoring plan.

Unit Type
Element Name: UnitType

Report the type of combustion unit using the applicable code listed in Table 13, below.

Table 13
Unit Type

Unit Description	Unit Type Code
Arch-Fired Boiler	AF
Cyclone Boiler	C
Cell Burner Boiler	CB
Circulating Fluidized Bed Boiler	CFB
Dry Bottom Wall-Fired Boiler	DB
Dry Bottom turbo-fired Boiler	DTF
Dry Bottom Vertically-fired Boiler	DVF
Other Boiler	OB
Stoker Boiler	S
Tangentially-fired Boiler	T
Wet Bottom Wall-Fired Boiler	WBF
Wet Bottom Tangentially-fired Boiler	WBT
Wet Bottom Vertically-fired Boiler	WVF
Integrated Gasification Combined Cycle	IGCC

Last Tune-up Date
Element Name: LastTuneupDate

Report the completion date of the most recent performance tune-up done to comply with the requirements in §63.10021(e).

Last Burner Inspection Date
Element name: LastBurnerInspectionDate

Report the completion date of the most recent burner inspection if it was not done in conjunction with the most recent boiler tune-up but instead was delayed until the next scheduled outage.

Emergency Bypass Information
Element Name: EmergencyBypassInformation

In general, an existing EGU may not use the LEE compliance option if: (1) it is coal-fired, petroleum coke-fired, or is an IGCC; and (2) is equipped with a main stack and bypass stack (or duct) that allows the effluent to bypass a control device. However, there is an exception to this. Section 63.10000(c)(1)(i)(C)(*2*) allows the LEE option to be used for such a unit if: (a) the EGU initially qualifies for LEE status; (b) the required LEE retests are performed (e.g., annually for Hg); (c) the control device is bypassed only during emergency periods totaling no more than 2 percent of the EGU's annual operating hours, and clean fuels are burned to the maximum extent practicable during the emergency periods.; and (d) emergency bypass information is reported annually.

If you choose to implement the alternative LEE compliance option in §63.10000(c)(1)(i)(C)(*2*), use the following instructions to report emergency bypass information. Note that bypass hours in which only clean fuel is combusted are exempted from this reporting requirement.

In the compliance report for the fourth quarter of each calendar year, use a text field to report the following emergency bypass information:

- Report the total number of emergency bypass hours for the calendar year as a percentage of the EGU's annual operating hours.
- Briefly describe each emergency event, including the cause and corrective actions taken.
- Provide an estimate of the emissions released during the bypass event(s).
- Show how this emissions estimate, taken together with the results of the most recent LEE retest, demonstrates that the EGU continues to qualify as a LEE, or that LEE status has been lost.
- If there were no emergency bypass events in the year, include a statement to that effect.

5.1 FUEL USAGE DATA XML MODEL

Figure 11
FUEL USAGE DATA XML Elements
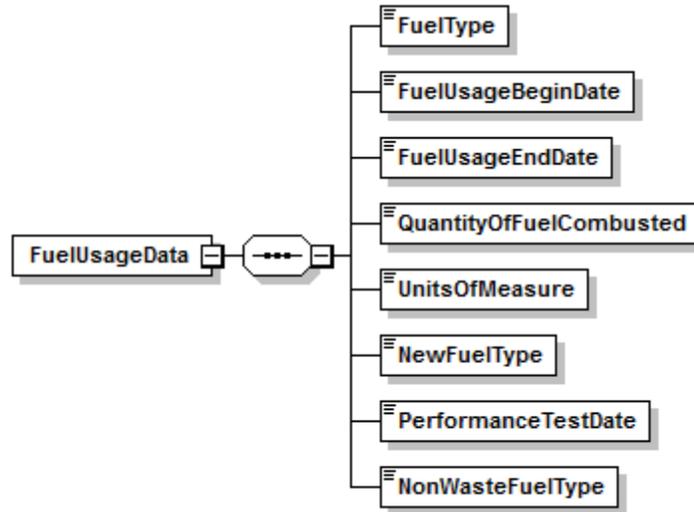
Description of Data

FUEL USAGE DATA records must be reported at the unit level. For each calendar month in the quarter, submit a FUEL USAGE DATA record for each type of MATS-affected fuel combusted in the EGU. The record will include a description of fuel type and the total amount of the fuel combusted, expressed in the appropriate units of measure.

Also use this record to indicate whether you burned any new type of fuel during the reporting period. If so, you must include the date of the performance test when that fuel was in use.

For non-hazardous secondary fuels, you must indicate whether the fuel has received a non-waste determination by EPA.

Use the following instructions for reporting each data element of the FUEL USAGE DATA record:

Fuel Type
Element Name: FuelType

Report the type of fuel combusted during the calendar month, using the appropriate code from Table 14.

Table 14
Fuel Type Codes

Fuel Type	Code
Bituminous Coal	BTC
Sub-bituminous Coal	SBTC
Lignite	LIG
Anthracite Coal	ANT
Coal Blend with GCV $\geq$ 8,300 Btu/lb	CB8300
Distillate Oil	DIST
Residual Oil	RES
Solid Oil-derived Fuel (Petroleum Coke)	SODF
Natural Gas	NG
Gasified Coal	GASC
Gasified Solid Oil-derived Fuel	GSODF
Biomass	BIO
Other Liquid Fuel	OLF
Other Gaseous Fuel	OGF
Non-hazardous Non-waste Secondary Fuel	NHNWF

Fuel Usage Begin Date
Element Name: FuelUsageBeginDate

Report the first date in the month on which the fuel was combusted (MMDDYYYY).

Fuel Usage End Date
Element Name: FuelUsageEndDate

Report the last date in the month on which the fuel was combusted (MMDDYYYY).

Quantity of Fuel Combusted
Element Name: QuantityofFuelCombusted

Report the quantity of the fuel that was combusted during the month, in the units of measure specified in the **Units of Measure** field below.

Units of Measure
Data Element Name: UnitsofMeasure

Report the appropriate units of measure code from Table 15.

Table 15
Fuel Usage Units of Measure

Category	Units of Measure	Code
Solid Fuel	Tons	TON
Liquid Fuel	Gallons	GAL
Gaseous Fuel	Standard Cubic Feet	SCF

New Fuel Type
Data Element Name: NewFuelType

If the fuel type is new (not previously combusted in the unit), report "1". Otherwise, report "0".

Performance Test Date
Element Name: PerformanceTestDate

If a new fuel was utilized during the month, report the date on which performance testing was completed while burning the new fuel. If the performance tests were conducted for multiple parameters, record the date when the date on which the testing of all applicable parameters was completed while burning the new fuel. Leave blank if a new fuel was not combusted, if CEMS are used to demonstrate compliance, or if the performance test has not yet been completed.

Non-waste Fuel Type
Element Name: NonWasteFuelType

EPA allows the use of non-waste, non-hazardous secondary fuels if certain criteria under 40 CFR 241.3 are met. Except for the materials listed in (a) through (d), below, whether or not a particular material qualifies as a non-waste, non-hazardous fuel type is determined by EPA through the petition process.

According to 40 CFR Part 241.4, the following non-hazardous secondary materials are not considered to be solid waste when used as fuel in a combustion unit:

(a) Scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires.

(b) Resinated wood.

(c) Coal refuse that has been recovered from legacy piles and processed in the same manner as currently-generated coal refuse.

(d) Dewatered pulp and paper sludge that are not discarded and are generated and burned on-site at pulp and paper mills that burn a significant portion of such materials, provided that the dewatered residuals are managed in a manner that preserves their meaningful heating values.

If any of these non-waste, non-hazardous fuel is combusted during the month, or if another secondary fuel that qualifies as a non-waste, non-hazardous fuel report the fuel type using the appropriate code in Table 16.

Table 16
Non-waste, Non-hazardous Fuel Types

Non-waste Fuel Type	Code
Scrap Tires	SCT
Resinated Wood	RW
Coal Refuse	CRF
Dewatered Pulp and Paper Sludge	DPS
Other	OTH

5.2 MALFUNCTION INFORMATION XML MODEL

Figure 12
MALFUNCTION INFORMATION XML Elements
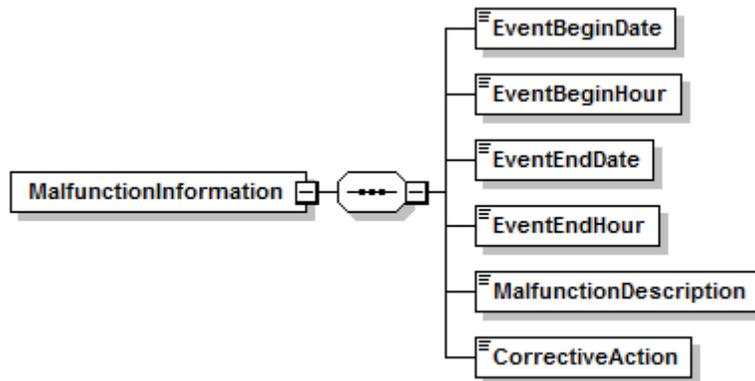
Description of Data

If the EGU experienced any equipment malfunction(s) during the quarter which may have caused an emissions limit to be exceeded, report one MALFUNCTION INFORMATION record for each such incident.

Use the following instructions to report each element of the MALFUNCTION INFORMATION record.

Event Begin Date
Element Name: EventBeginDate

Report the date on which the malfunction incident began (MMDDYYYY).

Event Begin Hour
Element Name: EventBeginHour

Report the clock hour in which the malfunction incident began (00-23).

Event End Date
Element Name: EventEndDate

Report the date on which the malfunction incident ended (MMDDYYYY).

Event End Hour
Element Name: EventEndHour

Report the clock hour in which the malfunction incident ended (00-23).

Malfunction Description
Element Name:MalfunctionDescription
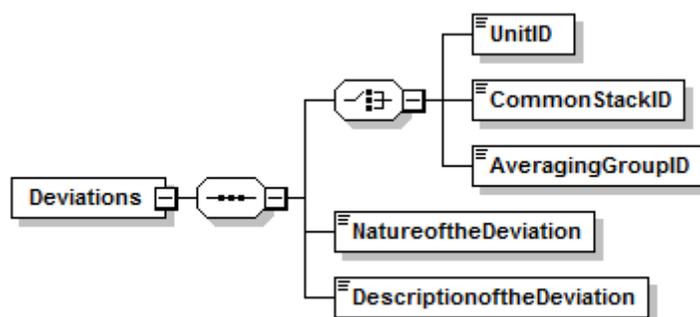
Give a brief description of the malfunction incident.

Corrective Action Description
Element Name: CorrectiveActionDescription

Report the corrective actions that were taken in response to the malfunction incident.

6.0 DEVIATIONS XML MODEL

Figure 13
DEVIATION XML Elements

Description of Data

If there were any deviations during the reporting period, report a DEVIATIONS record for each one.

Use the following instructions to report each element of the MALFUNCTION INFORMATION record.

Unit, Stack, or Group ID
Element Name: UnitStackGroupID

Report the Unit ID, Common Stack ID or Averaging Group ID for which the deviation is being reported:

- If the deviation is being reported for the exceeding an emission limit or operating limit where monitoring or testing is performed on an individual EGU, or is being reported for a not meeting a work practice standard, testing or monitoring requirement on an individual EGU, report the corresponding Unit ID exactly as it appears in the electronic monitoring plan for the unit.

- If the deviation is being reported for the exceeding an emission limit or operating limit where monitoring or testing is performed on a common stack or is being reported for a not meeting a testing or monitoring requirement on a common stack, report the Common Stack ID exactly as it appears in the electronic monitoring plan for the unit.

- If the deviation is being reported for the exceeding an emission limit for a particular parameter where emissions averaging is being used to demonstrate compliance with that

parameter, report the Averaging Group ID that was established in the AVERAGING GROUP CONFIGURATION record.

Nature of the Deviation
Element Name: NatureoftheDeviation

Report the appropriate code for the deviation from Table 17.

Table 17
Nature of the Deviation

Type of Deviation	Code
Emission limit exceeded	ELEX
Operating limit exceeded	OLEX
Work practice standard not met	WPNM
Testing requirement not met	TRNM
Monitoring requirement not met	MRNM

Description of the Deviation
Element Name: DescriptionoftheDeviation

Provide a brief description of the deviation.

- For each reported deviation, give the date (or range of dates), the cause (if known), and briefly describe any corrective actions taken.

- For emission limit or operating limit exceedances (codes ELEX and OLEX), report the parameter (e.g., Hg, HCl, milliamps), the limit that was exceeded, and either the date of the emission test that exceeded the limit or the beginning and ending dates of the 30- or 90- boiler operating day rolling average that exceeded the limit as applicable. Each 30- or 90- boiler operating day rolling average that exceeds the applicable limit is an "excess emission" (as defined in §63.10042) that must be reported.

- For a failure to meet a work practice standard, testing requirement, or monitoring requirement (codes WPNM, TRNM, and MRNM), specify which standard or requirement was not met.

- For continuous monitoring systems, report the percent monitor data availability (PMA) at the end of the quarter, and the lowest PMA value recorded during the quarter.

- For periods when an unmonitored bypass stack was used, report the total number of hours of bypass stack usage during the quarter.