



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Air Management
Compliance Analysis & Coordination Unit
79 Elm Street
Hartford, Connecticut 06106-5127

Continuous Opacity Monitoring System Summary Report Instructions

Introduction

An owner or operator of a stationary source required to install and operate a continuous opacity monitoring system (COMS) per 22a-174-4(b) of the Regulations of Connecticut State Agencies (RCSA) is also required to submit written reports for each calendar quarter to the commissioner of Environmental Protection per 22a-174-4(d) of the RCSA. Such reports shall be submitted no later than thirty (30) days following the end of each calendar quarter.

Report Submittal

When complete, please submit the report with an original signature to the following address:

**Compliance Analysis and Coordination Unit
Bureau of Air Management
CT-DEP
79 Elm Street
Hartford, CT 06106-5127**

Part 1—Facility Information

Corporation Name - If the facility is a Title V source then indicate the name found on the first page of the Title V permit under Corporation. If the facility is a non-Title V source and is registered with the Connecticut Secretary of State, provide the name exactly as shown on the registration.

Premises Name - Indicate the name of the facility only if different from the corporation name.

Corporation Address - Indicate the mailing address of the corporation.

Premises Address - Indicate the site address of the facility.

Premises Contact Person - Indicate the name of the facility contact person who is responsible for environmental reporting.

Contact Phone/FAX/email - Indicate the phone number, FAX number, and email address of the contact person identified above.

Reporting Period Dates - Indicate the start date and end date of the three month period for which data is being reported.

Monitoring System Failures During This Reporting Period? - Answer yes or no. Details must be provided in Part 5 of the report.

Excess Emissions During This Reporting Period? - Answer yes or no. Details must be provided in Part 6 of the report.

Part 2—Certification

Refer to RCSA 22a-430-3, for guidance on who may sign the certification statement.

Part 3 - Performance Report

If the facility operates more than one unit the Part 3 form should be copied and completed for each unit.

Premises Name - Same as Part 1.

Unit and Monitor Information Section

Combustion Unit(s) Description - Provide a brief description of the combustion unit that is required to install and operate the opacity monitor. Include any associated control equipment.

Unit Number or ID - Indicate the unit number or unique identification for the unit (i.e., Unit 1). If the facility is a Title V source indicate the emission unit (e.g. EMU-3) or grouped emission unit (e.g. GEMU-2) number.

Unit Operating Hours - Indicate the total hours of unit operation, at any level, for the calendar quarter.

Sampling Location - Provide the location of the opacity monitor (e.g., stack).

Manufacturer / Model No. - Indicate the manufacturer and model number of the opacity monitor (e.g., United Sciences, 500C).

Serial Number - Provide the serial number of the opacity monitor.

Date of Certification - Provide the date that the opacity monitor with the above serial number was certified according to 40 CFR 60, Appendix B, Performance Specification 1.

Date of last QA Audit - Provide the date of the quality assurance audit conducted during the calendar quarter.

Monitor Data Availability Section

Section 22a-174-4(c)(5) requires that data for opacity emissions be available for no less than ninety-five percent (95%) of the total operating hours of the source in any calendar quarter. Note that monitoring downtime includes periods of when no data was collected and when the data collected was considered invalid. For Title V purposes all monitoring and non-monitoring equipment malfunctions are deviations.

Monitoring Equipment Malfunction - Provide the total number of minutes for when invalid data or no data was collected due to an opacity monitoring equipment malfunction. This category refers only to

the monitoring equipment (i.e. transmissometer), and not to accessory equipment such as the computer data logger or strip chart recorder. Periods of calibration, maintenance, or other quality assurance activities should not be listed under "malfunction".

Non-monitoring Equipment Malfunction - Provide the total number of minutes for when invalid data or no data was collected due to a non-monitoring equipment malfunction. This category refers to all equipment other than the opacity monitor that is necessary to transfer, interpret, and record data sent from the monitor (e.g., data logger).

Calibrations - Provide the total number of minutes for when invalid data or no data was collected during periods of automatic daily calibrations.

Other Known Causes - Provide the total number of minutes for all other known reasons for monitoring downtime or inaccuracy. This includes, but is not limited to, maintenance, quality assurance activities and out-of-control periods.

Unknown Causes - Provide the total number of minutes for when there is inaccurate or no data without an apparent explanation. For example, a data recorder fails and produces inaccurate data, and the reason for failure is not known, this would be categorized under "non-monitor equipment malfunction." However, if data is clearly inaccurate, and a data recorder failure is suspected but cannot be determined, it should be classified as "Unknown Causes".

Total COM downtime - The sum of all the minutes listed in the five categories of downtime.

Data Availability - Calculate data availability by using the equation found in 22a-174-4(c)(5). Data availability should be rounded to the nearest whole number using standard rounding procedures (e.g., 95.2% = 95%).

Part 4 - Opacity Emission Summary

Report

If the facility operates more than one unit the Part 4 form should be copied and completed for each unit.

Facility Name - Same as Part 1.

Unit Information Section

Unit Number or ID - Indicate the unit number or unique identification for the unit (i.e., Unit 1). If the facility is a Title V source indicate the emission unit (e.g. EMU-3) or grouped emission unit (e.g. GEMU-2) number.

Unit Operating Hours - Indicate the total hours of unit operation, at any level, for the calendar quarter.

Questions 1 through 3 - Provide a yes or no answer to the three questions regarding excess emissions during the calendar quarter. Do not leave this section blank.

Excess Emissions Summary Section

Excess emissions are any periods of opacity greater than the limits established under 22a-174-18(b)(2). All periods of excess emissions must be reported regardless of any excepted activities listed under 22a-174-18(j). For each category given report all excess emissions of the 20% (six-minute block average) limit and the 40% (one-minute block average) limit even if the periods of excess emissions overlap. For Title V purposes, all periods of excess emissions are considered deviations.

Startup/Shutdown - Provide the total number of minutes that the unit exceeded each of the limits due to a unit startup or shutdown. Startup as defined in 22a-174-18(a) means "the setting in operation of an affected source for any purpose." Excess emissions that occur during startup that are caused by an air pollution control equipment failure or a process problem should be reported either as a control equipment malfunction or as a process malfunction. All other excess emissions during start-up should be reported under "startup/shutdown". Shutdown as defined in 22a-174-18(a) means "the cessation of operation of an affected source for any purpose." Excess emissions that occur during shutdown that are

caused by an air pollution control equipment failure should be reported as a control equipment malfunction. All other excess emissions occurring during periods of shutdown should be reported under "startup/shutdown".

Malfunctions: Malfunction as defined in 22a-174-18(a) means "any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused by poor maintenance or careless operation are not malfunctions". Therefore, any activity or event that can be foreseen and avoided falls outside the definition of malfunction.

Malfunction: Control Equipment - Provide the total number of minutes that the unit exceeded each of the limits due to a malfunction of the unit's control equipment (e.g., ESP). Be sure that the malfunction was reasonably unpreventable and not due to poor maintenance procedures.

Malfunction: Operational/Process - Provide the total number of minutes that the unit exceeded each of the limits due to a malfunction of the unit's operational or process equipment (e.g., boiler tube leak, ID fan malfunction, fuel jam). This category is intended to cover on-site equipment failures other than control equipment. When distinguishing between process and control equipment, any equipment necessary for the process would be considered process equipment, even though it may have a role in emissions control (e.g., I.D. fan).

Commissioner-approved stack testing - Provide the total number of minutes that the unit exceeded each of the limits due to Commissioner-approved stack testing.

Intentional Soot blowing - Provide the total number of minutes that the unit exceeded each of the limits due to soot blowing. Soot blowing should be conducted in accordance with good engineering practices.

Fuel Switching - Provide the total number of minutes that the unit exceeded each of the limits due to a fuel switching. Fuel switching should be

conducted in accordance with good engineering practices.

Sudden load change - Provide the total number of minutes that the unit exceeded each of the limits due to a sudden load change. Load changes, sudden or scheduled, should be conducted in accordance with good engineering practices.

Other Known Causes - Provide the total number of minutes that the unit exceeded each of the limits due to other known causes. The "other known causes" category is intended to cover other causes of excess emissions not already covered. For example, excess emissions that occur during control equipment maintenance, preventable equipment failures or periods of careless operation would fall into this category.

Unknown Cause - Provide the total number of minutes that the unit exceeded either or both of the limits due to unknown causes. Any excess emission that cannot be classified into any of the above categories should be reported here. For example, if data indicated a value greater than the limit and the operator suspected but could not determine that it was a control equipment malfunction it should be classified as an "unknown cause".

Total duration of excess emissions - Calculate the sum of column (1) for the 20% limit and column (2) for the 40% limit.

NOTE: For any excess emissions listed under startup/shutdown, malfunction, commissioner-approved stack testing, intentional soot blowing, fuel switching or sudden load changes the facility must have records to support the reasons for why the periods of excess emissions meet the requirements to be included as an excepted activity. These records shall be submitted with this report if requested by the Commissioner or his designee.

The Calculation of Excess Emissions as a Percentage of Operating Time.

Column (a) - Provide the unit operating hours converted to minutes.

Column (b) - Provide the total number of minutes of excess emissions for both limits combined.

Column (c) - Provide the total number of minutes of when excess emissions of the one-minute and six-minute limit overlap. For example, if a six-minute average violation occurs during the time period of 10:06 and 10:12 and two one-minute average violations occur at 10:10 and 10:11, column (c) would list two minutes for this overlap.

Column (d) - Calculate the adjusted total number of excess emissions for both limits combined by subtracting column (c) from column (b).

Column (e) - Calculate the total duration of excess emissions as a percentage of operating time by dividing column (d) by column (a) and multiplying by 100. The total duration should be rounded to same number of significant figures in the limit (0.5) using standard rounding procedures (e.g., 0.46% = 0.5%).

Part 5 - Monitoring and Non-Monitoring Equipment Malfunction Details

NOTE: The form used for Part 5 of this report is identical to the form used in Part 3 of the Title V Semi-Annual Monitoring Report with the exception of the forms title and part number. Title V sources can use either form because the information is identical.

Emission Unit(s) - Indicate the unit number or unique identification for the unit (i.e., Unit 1). If the facility is a Title V source indicate the emission unit (e.g. EMU-3) or grouped emission unit (e.g. GEMU-2) number.

Permit Condition Number - Only complete this column if the source holds a valid Title V permit. Indicate the combination of numbers and letters that describes the permit condition, e.g. III.A.7.a.

Monitoring System Failure Period Start Date, Time - Enter the date (*mm/dd/yyyy*) and time (*hh:mm*; 24 hr clock) the failure started.

Monitoring System Failure Period End Date, Time - Enter the date (*mm/dd/yyyy*) and time (*hh:mm*; 24 hr clock) the failure ended.

Description and Cause of Monitoring Failure - Provide a brief description and cause of the monitoring or non-monitoring equipment failure. For example, a lamp fault would be considered a monitoring equipment failure and a hard drive failure of the data acquisition systems PC would be considered a non-monitoring equipment failure.

Corrective Actions Taken to Remedy Monitoring System Failure - Provide a brief description of the corrective actions taken to remedy the monitoring or non-monitoring system failure.

Measures Taken to Prevent Future Monitoring System Failures - Provide a brief description of the measures taken to prevent future failures. For example, quality assurance procedures might be modified, routine checks might be implemented, spare parts could be kept on hand to reduce downtime, etc.

Part 6 - List of Excess Emissions

NOTE: The form used for Part 6 of this report is identical to the form used in Part 4 of the Title V Semi-Annual Monitoring Report with the exception of the forms title and part number. Title V sources can use either form because the information is identical.

Again, all periods of excess emissions must be reported regardless of any excepted activities listed under 22a-174-18(j). The word deviation is use interchangeably with the phrase excess emissions in this part because all periods of excess emissions are deviations. It should alleviate duplicative reporting for Title V sources.

Emission Unit(s) - Indicate the unit number or unique identification for the unit (i.e., Unit 1). If the facility is a Title V source indicate the emission unit

(e.g. EMU-3) or grouped emission unit (e.g. GEMU-2) number.

Permit Condition Number - Only complete this column if the source holds a valid Title V permit. Indicate the combination of numbers and letters that describes the permit condition (e.g. III.A.7.a).

Deviation Period Start Date, Time - Enter the date (*mm/dd/yyyy*) and time (*hh:mm*; 24 hr clock) the deviation started.

Deviation Period End Date, Time - Enter the date (*mm/dd/yyyy*) and time (*hh:mm*; 24 hr clock) the deviation ended.

Description, Cause or likely cause of Deviation - Provide a brief description and cause or likely cause of the deviation. For example, the deviation may have been caused by

Measured Value of Deviation - Indicate quantitatively the degree to which the limit was exceeded. For example if the opacity monitor measured a value of 54% during soot blowing for a one-minute average. The value reported would be 54%.

Description and Date(s) of Actions Taken to Correct Deviation - Provide a brief description and date(s) of actions taken to correct the deviation. For example, the emission unit that was the source of the deviation might have been immediately shut down and had its control equipment repaired before the unit was restarted.

Description and Date(s) of Measures Taken to Prevent Future Deviations - Provide a brief description and date(s) of the measures taken to prevent future deviations. For example, if no operation and maintenance plan exists for the control equipment, a plan could be developed and followed. Additionally, spare parts could be kept on hand to reduce downtime if a problem occurs.

Attachments

COMS Data - As required by 22a-174-4(d)(4) the data obtained from the opacity monitor for the

preceding calendar quarter must be submitted with the quarterly report. All one-minute and six-minute averages must be submitted in electronic format (preferably Excel compatible). Files may be compressed and submitted on diskette or CD. Files may be e-mailed to the Department. If the files were e-mailed attach some form of verification that the files were electronically submitted.

Quarterly quality assurance audit - The audit report is must be submitted as an attachment to the quarterly report per 22a-174-4(d)(4). If a copy of the audit report has been previously submitted to the Department then a copy of the results (not the whole report) should be included as an attachment.

Excepted Activities list - Owners or operators shall maintain records of the occurrence and duration of any startup, shutdown or malfunction in the operation of the unit and any malfunction of the air pollution control equipment. Records shall be maintained for the occurrence and duration of any soot blowing, fuel switching, load changes and Commissioner-approved stack testing. These records will be required to be submitted to support excepted activities claims if requested by the commissioner.