



DEQ

State of Oregon
Department of
Environmental
Quality

Form Instructions

CP700 SERIES

Title V (40 CFR Part 70 and OAR 340, Division 218) of the Clean Air Act Amendments of 1990 requires that each permit contain compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit. With respect to monitoring, each permit must contain the following:

- All emissions monitoring and analysis procedures or test methods required under the applicable requirements.
- Where the applicable requirement does not require periodic testing or instrumental or non-instrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit. Such monitoring requirement must assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement.

In addition, Title VII (40 CFR Part 64 and OAR 340, Division 212) of the Clean Air Act Amendments of 1990 requires Compliance Assurance Monitoring (CAM) for some pollutant specific emissions units.

This Form Series CP700 provides forms for the owner/operator to describe the monitoring that will be included in the permit to satisfy the above requirements. The forms are summarized as follows:

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The owner/operator should select monitoring most appropriate to the given emissions unit. This determination of "appropriateness" should be based on careful consideration of the nature of the emissions unit, the applicable requirements (i.e., certain rules or ACDP conditions may specify the monitoring to be used), the pollutant(s) in question, the consistency or variability of the emissions, the devices and/or processes in the unit, the operating conditions of the unit, and the historical compliance record. The discussion below provides background information on monitoring.

Obtaining Assistance

For assistance in selecting appropriate monitoring, the owner/operator may refer to the following reference documents, available from the Department (503/229-5359) unless otherwise noted.

- DEQ *Oregon Title V Monitoring and Testing Guidance*. This document provides guidelines on choosing appropriate monitoring for emissions units and pollutants at the source. The latest version of this document is available upon request.
- DEQ *Continuous Monitoring Manual* provides DEQ policy on continuous monitoring compliance methods and the requirements associated with their use.
- DEQ *Source Sampling Manual* provides DEQ policy on sampling compliance methods and the requirements

associated with their use.

- EPA *Compliance Assurance Monitoring Technical Reference Document* provides guidance regarding enhanced monitoring under Title VII of the Clean Air Act. This document is available from EPA and is also on the OAQPS Technology Transfer Network.

Relationships to Other Forms

The owner/operator will complete one or more monitoring forms for the applicable requirements identified in Form AR403 and Form Series EU500, Emissions Unit Summary. A single form may be used to describe the monitoring for multiple emissions units if the same monitoring is used for the applicable requirements. If pollution prevention is used to help achieve compliance with an emissions limit, complete Form CP708, Pollution Prevention, in addition to one of the other monitoring forms. In addition, complete form CP711 to describe the Plant Site Emission Limit monitoring as required by OAR 340-222-0080.

Title V versus Title VII Monitoring

Title V monitoring requirements apply to all emissions units and applicable requirements at all major sources. Title VII compliance assurance monitoring (CAM) only applies to emissions units where compliance with an applicable requirement is achieved by means of an add-on pollution control device and the potential pre-controlled emissions would exceed 100 tons per year or 100% of the major source threshold for the pollutant, whichever is less. **CAM does not apply to:**

- Emission limits or standards proposed after November 15, 1990;
- Stratospheric ozone protection requirements;
- Acid Rain program requirements;
- Emission limitations or standards or other applicable requirements that apply solely under an emission trading program approved or promulgated by the Administrator under the Act that allows for trading emission within a source or between sources;
- Plant Site Emission Limits; and
- Emission limitations or standards for which the Oregon Title V Operating Permit specifies a continuous compliance determination method as defined in OAR 340-200-0020.

Form CP709 must be completed for any pollutant specific emissions unit subject to CAM.

Highest and Best in the Context of Periodic Monitoring

When the applicable requirement does not specify monitoring and CAM does not apply, the owner/operator may find that the Highest and Best requirements in OAR 340-226-0110 and 340-226-0120, including pollution prevention, operation and maintenance (O&M) requirements, and emissions action levels (EALs) may be helpful in determining appropriate periodic monitoring. The premise being that, if the device, processes and associated pollution control devices are maintained and operated properly, the emissions units will be in compliance with the applicable requirements. Therefore, monitoring for Highest and Best can also be used to provide a reasonable assurance of compliance with the applicable requirements. A discussion of Highest and Best has been provided in the *Application Guidebook* which addresses Highest and Best specifically in the context of monitoring.

Operation and Maintenance

O&M requirements set forth specific operational, maintenance, or work practice requirements appropriate to ensure the maximum efficiency and lowest possible emissions for each emission unit. O&M requirements should be used in circumstances in which they can be clearly identified and quantified, and will be effective. Normally, O&M is selected in cases where the owner/operator will monitor compliance with an emission limit or standard by **parametric monitoring, maintenance procedures, or recordkeeping.**

Where O&M requirements are appropriate, OAR 340-226-0120 indicates that work practices should be specified if

feasible and sufficient to ensure proper operation and maintenance. O&M work practices include operating equipment within a specified parameter range and following specified maintenance and record-keeping practices. Where work practices are not feasible or sufficient, the rule indicates that EALs should be used instead. Emission action levels may be used in combination with work practices where work practices alone are not sufficient to ensure Highest and Best.

In general, specify O&M requirements based on the monitoring selected for a particular emissions unit.

- O&M work practices based on the parameter or practice in question generally will be most appropriate for the following types of monitoring:
 - operation and maintenance monitoring (Form CP703)
 - maintenance activities (Form CP705)
 - recordkeeping (Form CP710)

- EALs generally will be most appropriate for the following monitoring:
 - continuous emissions monitoring (Form CP701)
 - stack testing (Form CP702)
 - periodic visible emissions monitoring (Form CP704)

Work Practices

Work practices may represent a combination of physical or chemical operating parameters, inspection or monitoring requirements, and maintenance procedures. The owner/operator is to propose the O&M requirements on appropriate compliance monitoring forms.

The O&M work practices should be specified to ensure the highest reasonable efficiency and effectiveness to minimize emissions as described above. The work practices to be specified will depend on the air pollution control equipment or emission reduction process to be regulated. Potential operating parameters to be specified include temperature, pressure, pressure drop, liquid flow, fuel flow, voltage, current, combustion parameters, raw materials, additives, material recovery, product characteristics, or other appropriate parameters.

The owner/operator should indicate the minimum, maximum or range of values allowed for the parameters specified. In addition, specify the monitoring or testing frequency. For example, the parameter for a wet scrubber might be a minimum water flow rate and a continuous monitoring frequency. If appropriate, the values could be specified for a range of production levels. For example, the minimum water flow rate could be higher for a higher level of production.

Possible maintenance procedures include inspection, component replacement, cleaning, or other appropriate procedures. Specify the maintenance procedure and schedule. For example, the procedure for a baghouse might be an inspection or replacement schedule for the bags.

Work practices may not be feasible or sufficient under a number of circumstances, even though O&M requirements are appropriate. The owner/operator may not be able to specify the parameter values or maintenance procedures over the full range of production rates. The owner/operator may not be able to correlate parameters or procedures to the efficiency and effectiveness of the device or process, or there may be several parameters which interact in complex ways. The parameters may not be sensitive enough to prevent O&M problems. For example, a leak in a single bag in a baghouse may not be detected by monitoring pressure drop.

Emission Action Levels (EALs)

If O&M requirements are appropriate but cannot be expressed in terms of work practices, then the EAL may be used. An EAL is a level of emissions that acts as a warning that there may be a problem in the operation or maintenance of the emissions unit or its controls. If emissions equal or exceed the established EALs, corrective action must be taken by the owner/operator.

The EAL is intended to help ensure that emission control equipment is operated efficiently and effectively without discouraging the owner/operator from installing better controls than required. By setting an EAL, the owner/operator has a clear definition of efficient and effective operation. Because an EAL excursion itself is not a violation of a standard, the owner/operator is not penalized for voluntary over control. If appropriate corrective action is taken when there is an EAL excursion, there would be no violation or enforcement, provided the emissions did not exceed an applicable emission standard. Failure to take required corrective action or maintain required documentation is a class two violation.

The EAL should be specified to ensure the highest reasonable efficiency and effectiveness to minimize emissions as described above. An EAL could be specified as percent opacity, concentration, mass emission rate, or destruction efficiency. The EAL would be set at a level more stringent than the applicable emission standard at a level that the facility is capable of routinely meeting. For example, the emission standard for an emissions unit with a baghouse control may be 20% opacity. An EAL for the emissions unit with a continuous opacity monitor on the baghouse exhaust might be set in the range of 2% to 5% opacity, depending on the design and capability of the baghouse, since no visible emissions can be seen from most baghouses most of the time.

Whenever emissions equal or exceed the EAL(s), the owner/operator must:

- investigate the problem;
- take corrective action to reduce emissions to a level below the EAL; and
- document the action taken.

The owner/operator also must maintain records of O&M monitoring for five years. This recordkeeping should include documentation of each excursion of the EAL, the cause of the excursion, and the corrective action taken. No reporting to DEQ is required except upon DEQ request.

As stated above, EALs are to be set considering operational variability and the capability of control devices. If the owner/operator is unable to meet an EAL after taking reasonable corrective action, this would indicate that the EAL is set too low. In this case, the EAL may be revised through an administrative permit amendment.

If O&M parameters, procedures or emission action levels are used for periodic monitoring, provide the information on Form CP703.

Current and Future Monitoring Systems

In some cases, monitoring systems may not be fully installed and/or operational by the time the Permit is issued. This is true of monitoring systems that will be used for future changes in operations or equipment (e.g., control devices) that will be added in the future. For these situations, provide a schedule for submitting detailed information, conducting performance specification tests, and submitting quality assurance plans. In general, the DEQ expects these monitoring schedules will not exceed beyond the following time periods:

- six months from Permit issuance date for modifications to existing monitoring systems;
- twelve months (1 year) from Permit issuance date for newly installed monitoring systems on existing emissions units; and
- the date an approved facility modification is completed for new monitoring systems associated with future facility modification.

FORM CP701 – CONTINUOUS MONITORING SYSTEM

Complete this form if there are or will be any continuous monitoring systems at the facility. This form applies to continuous emissions monitoring systems (CEMS), continuous opacity monitoring systems (COMS), and continuous parameter monitoring systems (CPMS). Information for multiple systems may be provided on a single form.

1. Provide the information requested in the table for the continuous monitoring systems at the facility:

- Enter the emissions unit identification (ID) number or label.
- Enter the pollutant or parameter being monitored.
- Briefly describe the sample location (e.g., common stack for multiple boilers or ducts leading to common stack);
- Provide a brief description of the emissions limit or standard (e.g., 25 ppm @ 15% O₂). If the monitoring is for highest and best and not for a specific standard, enter “Form CP703” and provide the parameter or emission action levels on that form.
- Enter the averaging time for the emissions limit or standard. If not specified in the applicable requirement, propose an averaging time.
- If the monitoring is required by a specific air quality program, enter the program code(s) listed below. Otherwise enter “Title V”

Program Code	Description
ACDP	Air Contaminant Discharge Permit, including New Source Review and Prevention of Significant Deterioration
OAR	Oregon Administrative Rules (include rule citation)
Acid Rain	Federal Acid Rain Program (40 CFR Parts 72 and 75)
NSPS	Federal New Source Performance Standards (40 CFR Part 60)
NESHAP	Federal National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61 and 63)

2. Continuous monitoring systems used for Title V sources must comply with at least the DEQ’s Continuous Monitoring Manual, which requires the owner/operator to develop and implement a Quality Assurance Plan (QAP) for the CMS. The owner/operator may prepare a single QAP covering all CMS at the facility. Answer the questions related to the QAP(s) in the space provided.

FORM CP702 – STACK TESTING

Complete this form if there will be any stack testing performed at the facility. This form applies to both compliance testing and emission factor verification testing as explained in the *Oregon Title V Monitoring and Testing Guidance* document.

1. Provide the information requested in the table for the stack testing to be performed at the facility:

- Enter the emissions unit identification (ID) number or label.
- Enter the pollutant or parameter being tested.
- Provide a brief description of the emissions limit or standard (e.g., 25 ppm @ 15% O₂) or emission factor being verified.
- Enter the test method (see below).
- If the testing is required by a specific air quality program, enter the program code(s) listed below. Otherwise enter “Title V”

Program Code	Description
ACDP	Air Contaminant Discharge Permit, including New Source Review and Prevention of Significant Deterioration
OAR	Oregon Administrative Rules (include rule citation)
Acid Rain	Federal Acid Rain Program (40 CFR Parts 72 and 75)
NSPS	Federal New Source Performance Standards (40 CFR Part 60)
NESHAP	Federal National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61 and 63)

2. A source test plan is not required to be submitted with the Oregon Title V Operating Permit application, but be aware that a test plan is required to be submitted at least 15 days before the test date. In addition, if the testing is for a new unit, the testing must be performed within 60 days of achieving the maximum production rate but no later than 180 days after startup. Test plans are to be prepared in accordance with the DEQ’s Source Sampling Manual.

Table CP702: Stack Testing Methods

Method	Pollutant/Parameter	Technique	Typical Process Applicability
EPA Method 1,2	Flow	Type S pilot tube, hotwire anemometer	All
EPA Method 3	CO ₂ , O ₂	Orsat, Fyrite	All
EPA Method 3A	CO ₂ , CO ₂	Analyzer	All
EPA Method 4	Moisture	Impingers	All
ODEQ Method 4	Moisture	Wet bulb-dry bulb	Stack temp. < 400 F
ODEQ Method 5	Particulate matter	Gravimetric	SIP combustion sources
ODEQ Method 7	Particulate matter	Gravimetric	Particle dryers, veneer dryers, press vents
ODEQ Method 8	Particulate matter	High volume	Material handling sources
EPA Method 5	Particulate matter	Gravimetric	NSPS combustion sources
EPA Method 5A	Particulate matter		NSPS asphalt processing and roofing
EPA Method 5B	Particulate matter		NSPS high sulfur combustion sources
EPA Method 5D	Particulate matter		NSPS positive pressure fabric filters
EPA Method 5E	Particulate matter		NSPS wool fiberglass insulation
EPA Method 5F	Particulate matter		NSPS high sulfur combustion sources
EPA Method 17		In-stack filter	Combustion sources
EPA Method 6, 6A, 6B, 8	Sulfur Dioxide	Impinger	All

Method	Pollutant/Parameter	Technique	Typical Process Applicability
EPA Method 6C	Sulfur Dioxide	Analyzer	All
EPA Method 7, 7A, 7B, 7C, 7D	Oxides of Nitrogen	Impinger	All
EPA Method 7E, 20	Oxides of Nitrogen	Analyzer	All (Method 20 for gas turbines)
EPA Method 9, 22	Visible emissions	Observation	All
EPA Method 10	CO	Analyzer	All
EPA Method 12	Lead	M-5 train	All
EPA Method 13A, 13B, 14	Fluoride	Impinger	Aluminum industry
EPA Method 15, 16, 16B	Reduced sulfur	GC	Refineries, Pulp mills
EPA Method 11, 15A, 16A	Reduced sulfur	Impinger	Pulp mills
EPA Method 18	VOC	GC	Coating Processes
EPA Method 19	SO ₂ , NO _x , CO, VOC, PM, and PM ₁₀	Fuel Factor	Gas turbines, coal fired boilers
EPA Method 21	VOC	Analyzer	Leak detection
EPA Method 23	Dioxin/Furans	Impinger/GC/M5	Municipal waste combustors
EPA Method 24	VOC	Gravimetric	VOC content in coating materials
EPA Method 25	Non-methane organic compounds	Cannister	
EPA Method 25A, 25B	VOC	Analyzer	Combustion sources, press vents, dryers, thermal oxidizer efficiencies
EPA Method 26	HCl	Impinger	Municipal waste combustors, combustion sources
EPA Method 27	Vapor tightness	Pressure-Vacuum	Gasoline delivery tanks
EPA Method 201, 201A	PM ₁₀	Size separator, gravimetric	Combustion sources in non-attainment areas

FORM CP703 – OPERATION AND MAINTENANCE

Complete this form if there will be any operation and maintenance (O&M) monitoring that involves parameter or emission action levels.

1. Provide the information requested in the table for the O&M monitoring to be performed at the facility:
 - Enter the emissions unit identification (ID) number or label.
 - Enter the pollutant or parameter being monitored.
 - Enter the parameter or emission action level or range. This may be a maximum, minimum, or range of values. For example O&M monitoring for a thermal oxidizer that controls VOC emissions may have a minimum parameter action level established at 1200°F. If the temperature were to fall below the action level, the operator would be required to take corrective action.
 - Describe the sample location.
 - Enter the monitoring frequency (e.g., continuous, once a shift, once a day, etc.)
 - Enter an averaging time, if applicable. This is usually applicable for continuous monitoring systems.
 - In most cases, the O&M monitoring will require the completion of at least two forms – CP703 and one other monitoring form. Provide a cross reference to the monitoring form that describes the monitoring (e.g., CP701 for continuous parameter monitoring systems).

2. If the monitoring is not described on another CP700 form, provide a detailed description of the monitoring here.

FORM CP704 – PERIODIC VISIBLE EMISSIONS MONITORING

Complete this form if periodic visible emissions monitoring will be performed at the facility.

Provide the information requested in the table for the periodic visible emissions monitoring to be performed at the facility:

- Enter the emissions unit identification (ID) number or label.
- Enter the method (e.g., EPA Method 9 or 22).
- Enter the observation period. In general, the observation period should not be less than 6 minutes.
- Enter the frequency for performing the visible emissions observation (e.g., daily, weekly, monthly, etc.) In general, it is expected the initial monitoring will be frequent and then the frequency can taper off as a compliance history is developed. Refer to the *Oregon Title Monitoring and Testing Guidance* document for more guidance.
- Will the observations be performed by a certified observer (yes or no). Method 9 observations require a certified observer; whereas, Method 22 observations only require someone familiar with visible emission monitoring.

FORM CP705 – MAINTENANCE ACTIVITIES

Complete this form if maintenance activities will be performed at the facility to assure compliance with an applicable requirement.

Provide the information requested in the table for monitoring maintenance activities performed at the facility:

- Enter the emissions unit identification (ID) number or label.
- Describe the maintenance activity that will assure compliance with the emission limit or standard.
- Enter the frequency for performing the maintenance activity. The owner/operator will be required to maintain records showing that the maintenance activity was performed at the specified frequency.

FORM CP706 – FUEL SAMPLING AND ANALYSIS

Complete this form if fuel sampling and analysis will be performed at the facility.

Provide the information requested in the table for the fuel sampling and analysis to be performed at the facility:

- Enter the emissions unit identification (ID) number or label.
- Enter the fuel type (e.g., #2 distillate fuel oil)
- Describe the sampling and analysis protocol or indicate that the fuel vendor will provide a certificate of analysis. If the fuel is to be sampled and analyzed by the owner/operator (or contract laboratory), the analytical methods should be specified in this section.
- Enter the frequency for performing the sampling and analysis (e.g., each shipment, daily, monthly).

FORM CP707 – MATERIAL BALANCE

Provide the information requested in the table for the material balances performed at the facility:

- Enter the emissions unit identification (ID) number or label. This may be the entire facility.
- Enter the pollutant. Usually the material balance approach is used for VOC, but it may be used for specific HAPs or other pollutants, if feasible.
- List the materials or class of materials used in the material balance.
- Describe the material balance protocol, including any special considerations, such as accounting for waste materials delivered offsite, control efficiencies if control devices are used, and procedures for tracking material usage (e.g., purchase records or actual usage records).
- Enter the frequency for performing the material balance calculations. This must be at least monthly.

FORM CP708 – POLLUTION PREVENTION**Background**

OAR 340-226-0110 encourages the owner/operator of a facility to take into account the overall impact on risk when selecting a control method. In doing so, consider risks to all environmental media and from all products and processes. Overall risk may be reduced through the use of pollution prevention techniques as opposed to the installation of additional emissions control devices. DEQ encourages the use of the following behavior hierarchy to control emissions of regulated air pollutants:

1. Modify the process, raw materials, or product to reduce the toxicity and/or quantity of air contaminants generated [the pollution prevention approach];

2. Capture and reuse air contaminants;
3. Treat to reduce the toxicity and/or quantity of air contaminants released; or
4. Otherwise control emissions of air contaminants.

Purpose

This form may serve three purposes:

- to allow the owner/operator to demonstrate to the DEQ and the public that the facility is adopting pollution prevention and risk reduction techniques as a business practice;
- to allow the owner/operator to achieve compliance with an applicable requirement with the help of pollution prevention; and
- to allow the owner/operator to offset certain performance- and technology-based standards that otherwise might apply to the emissions unit in question.

To achieve the first purpose, the owner/operator need only provide some basic descriptive information. To achieve the latter two purposes, the owner/operator must provide additional information substantiating the emissions reductions achieved through the pollution prevention measures and justifying the offset of the standards, as appropriate.

Complete one form for *each* emissions unit for which pollution prevention efforts will be demonstrated.

All owners/operators completing this form should answer at least the first three questions.

1. Enter the emissions unit identification (ID) number or label.
2. Provide a complete description of the pollution prevention measures adopted, including any modifications in the process, raw materials used, or product produced that reduce the toxicity and/or quantity of emissions.
3. Provide any information that the owner/operator wants considered regarding the overall impact of the pollution prevention measures compared to pollution control alternatives. Less impacts on other environmental media may be achieved even though air quality impacts may not be reduced significantly.

Example: The pollution prevention measure may eliminate or reduce risks to surface water or land posed by pollution control devices such as wet scrubbers or baghouses.

Example: Pollution prevention measures may also reduce risks posed by raw materials, intermediate or finished products, or production processes.

If the owner/operator is simply using the form for its first purpose, as listed above, no additional information is necessary. For either of the other two purposes, proceed.

If the pollution prevention measures are proposed or used as a means of achieving compliance with an applicable requirement, answer questions 4 and 5. Otherwise, skip to question 6.

4. Describe how the pollution prevention measures help to achieve compliance with the applicable requirement(s).
 - a. If the requirement is a specified mass emission rate per unit of input and the pollution prevention measure is to substitute a less polluting input, provide calculations showing the mass emission rate per unit of the less polluting input.

Example: An owner/operator paves a dusty road. The mass emission rate (pounds per vehicle mile travelled) is reduced.
 - b. If the requirement is a percent reduction in emissions and the pollution prevention measure is a modification of the process which reduces the amount of emissions generated, provide calculations showing the percent reduction in emissions generated as compared to the amount generated from the process as normally configured.

Example: An owner/operator changes half of the solvent-based coatings used in a process to water-based coatings. This pollution prevention measure reduces VOC emissions by 50 percent.

5. Describe how compliance with the applicable requirement through use of the pollution prevention measures will be monitored. This may include monitoring, testing, inspection, recordkeeping, or other activities that enable compliance to be verified. Thus, this form will need to be associated with another form from Form Series CP700 to monitor compliance for the emissions unit in question. Complete and attach the appropriate CP700 form from the following list.
- Form CP701, Continuous Monitoring System
 - Form CP702, Stack Testing
 - Form CP703, Operation and Maintenance Monitoring
 - Form CP704, Periodic Visible Emissions Monitoring
 - Form CP705, Maintenance Activities
 - Form CP706, Fuel Sampling and Analysis
 - Form CP707, Material Balance
 - Form CP709, Compliance Assurance Monitoring
 - Form CP710, Recordkeeping
6. Will the pollution prevention create permanent emission reductions, creating unassigned emissions? If so, provide calculations showing the amount of the reduction..

If the pollution prevention measures are to be used to obtain an offset of performance- and technology-based standards, proceed to question 7. If not, no further information is required.

7. It is possible that certain pollution prevention measures will affect the DEQ's determination of applicable technology-based or performance-based emission standards such as BACT, LAER, or destruction efficiency. These emission standards may be based on a percent reduction from uncontrolled emissions that in turn are proposed to be reduced by pollution prevention. If the owner/operator believes that the pollution prevention measures should affect the DEQ's determination of applicable technology-based or performance-based emission standards for this emissions unit, provide the following information:
- specify the applicable requirement; and
 - describe how the pollution prevention measures affect the determination of the requirement.

FORM CP709 – COMPLIANCE ASSURANCE MONITORING

Because CAM is a specific requirement, this form must be completed in addition to any other monitoring forms. In many cases, there will be overlap between the forms, but this form must be completed when applicable.

On October 22, 1997, EPA promulgated Compliance Assurance Monitoring (CAM) rules as codified in 40 CFR Part 64. [Federal Register/Vol. 62, No. 204/Wednesday, October 22, 1997/Rules and Regulations/Pages 54900 through 54947]. The CAM approach is intended to address the requirement in title VII of the 1990 Clean Air Act Amendments that EPA promulgate enhanced monitoring and compliance certification requirements for major sources and the related requirement in title V that operating permits include monitoring, compliance certification, reporting and recordkeeping provisions to assure compliance. This approach establishes monitoring for the purpose of: (1) documenting continued operation of the control measures within ranges of specified indicators of performance (such as emission, control device parameters, and process parameters) that are designed to provide a reasonable assurance of compliance with applicable requirements; (2) indicating any excursions from these ranges;

and (3) responding to the data so that excursions are corrected.

Applicability

Except for backup utility units, the Compliance Assurance Monitoring (CAM) requirements apply to a pollutant-specific emissions unit at a major source that is required to obtain an Oregon Title V Air Operating Permit if the unit satisfies all of the following criteria:

- The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than:
 - New Source Performance Standard (NSPS) and National Emissions Standards for Hazardous Air Pollutant (NESHAP) emission limitations or standards proposed by EPA after November 15, 1990;
 - stratospheric ozone protection requirements under title VI of the Act;
 - acid rain program requirements;
 - emission limitations or standards or other applicable requirements that apply solely under an emissions trading program approved or promulgated by EPA under the Act that allows for trading emissions within a source or between sources.
 - an emissions cap or plant site emissions limit (PSEL); and
 - emission limitations or standards for which the permit already specifies a continuous compliance determination method.
- The unit uses a control device to achieve compliance with any such emission limitation or standard; and
- The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this rule, “potential pre-control device emissions” has the same meaning as “potential to emit,” except that emission reductions achieved by the applicable control device are not taken into account.

Compliance Assurance Monitoring Plan

For each affected pollutant-specific emissions unit, the owner/operator must develop a CAM plan by completing Form CP709. The CAM plan is designed to identify indicators of control device performance, corrective action trigger levels, monitoring equipment, monitoring performance criteria, data collection criteria, and implementation schedules, if necessary. Depending on the emissions unit, applicable requirement, and control equipment, there are several monitoring approaches that will satisfy CAM. These include actual emissions monitoring, predictive emissions monitoring systems, visible emissions monitoring, control device parameter monitoring, process monitoring, inspection and maintenance activities, or a combination thereof. The owner/operator will have to decide which is most appropriate for their situation. In many cases, the current permit already has CAM type monitoring requirements as part of Oregon’s highest and best practicable treatment and control regulations. In those cases, the owner/operator is encouraged to use the same approach for developing the CAM plan. EPA has developed a CAM Technical Reference document that includes examples of CAM for different types of emissions units and control devices.

Once the CAM plan is approved, elements of the plan will become permit conditions. If, at a later time, DEQ determines the owner or operator has not used acceptable procedures in response to a parameter range excursion or emissions exceedance, DEQ may require that a Quality Improvement Plan (QIP) be developed and implemented within a reasonable time period. However, the QIP is not required to be submitted with the initial CAM plan.

Provided below are specific instructions for completing Form CP709.

1. Enter the emissions unit identification number or label and descriptive name (e.g., EU6, particle dryer)
2. Enter the regulated pollutant (e.g., particulate matter)
3. Enter the applicable requirement rule number and brief summary (e.g., OAR 340-226-0210(1)(b), 0.1 gr/dscf)
4. Enter the control device identification number or label and descriptive name (e.g., CD6, wet scrubber)
5. Check off which indicators of control device performance are to be used in the CAM plan. More than one may be used. Provided below is a discussion of each option but the owner or operator is encouraged to review EPA's guidance for examples that may be suitable.

Actual emissions: If a continuous emissions monitoring system (CEMS) is already required by regulation, the owner or operator is required to use it as an indicator of control device performance to satisfy the CAM requirements. For example, 40 CFR Part 60, subpart D requires continuous monitoring of sulfur dioxide. If the emissions unit is subject to subpart D, the CEMS would also be used for CAM to avoid creating additional control device monitoring requirements.

Predicted emissions: Another approach may be to use existing predictive emissions monitoring systems (PEMS) or develop a PEMS to satisfy the CAM requirements. This approach would most likely provide information on the process operations and the control device operating parameters in addition to the stack emissions. In some cases, this type of monitoring could potentially allow the owner or operator to optimize production efficiency while preventing excess emissions. Like a CEMS, a PEMS also provides a record for verifying actual compliance with the emission limit.

Process parameters: Although the CAM rule is applicable only to those units with control equipment, it may be necessary to monitor process parameters such as total throughput where necessary to stay within the rated capacity for a control device. An example of this is residual oxygen for a boiler with a multiclone control device. In this case, the multiclone is rated to remove a percentage of the particulate emissions entering the unit and ensure compliance during "normal" operations. However, if there is a boiler upset, as indicated by abnormal oxygen readings in the boiler exhaust gases, the particulate matter loading may overwhelm the multiclone and excess emissions could occur. In this situation, it would be appropriate to monitor both the process (e.g., boiler residual oxygen) and the control equipment.

Control device parameters: The CAM rule is designed primarily to monitor the performance of control device equipment with the presumption that proper operation of the control equipment will ensure compliance with the emission limitation. Most CAM plans will include monitoring of one or more control device parameters such as pressure drop, temperature, water flow, or voltage, depending on the control technology. Opacity may also be used as a performance parameter for control devices used to meet particulate matter emissions limits; especially if a continuous opacity monitoring system (COMS) is already required. If opacity is used, identify the appropriate action level just like any other parameter. In many cases, the action level may be the visual emissions limit (e.g., 20% opacity), but the averaging time could be different than that specified for the visual emissions limit.

Inspection and maintenance activities: In some cases, the performance of a control device does not vary so it is not necessary to monitor a control device parameter frequently. Instead, a routine inspection and maintenance program may be appropriate. For example, it may be more appropriate to inspect the physical characteristics of a multiclone once a year instead of routinely monitoring the pressure drop, which could vary more due to fluctuations in gas flow rates rather than actual performance. However, since it is only possible to perform inspections when the unit is not operating and it is possible that the multiclone could break (lose a cyclone), it may be appropriate to combine the inspection and maintenance program with a continuous or periodic visible emission monitoring program.

6. Values: For each of the control device performance indicators identified in item 5, specify the indicator range or operating condition that reflects proper operation and maintenance of the control device (and associated capture system, if applicable). Once these ranges or operating conditions are established, the

owner or operator will be required to take corrective action anytime there is an indicator range or operating condition excursion or exceedance. The indicator ranges or designated conditions may be:

- a single maximum or minimum value (e.g., maintaining condenser temperatures a certain number of degrees below the condensation temperature of the applicable compound(s) being processed) or multiple levels that are relevant to distinctly different operating conditions (e.g., high versus low load levels)
- expressed as a function of process variables (e.g., an indicator range expressed as minimum to maximum pressure drop across a venturi throat in a particulate scrubber)
- expressed as maintaining the applicable parameter in a particular operational status or designated condition (e.g., position of a damper controlling gas flow to the atmosphere through a by-pass duct).
- established as independent between more than one indicator.

Basis: Enter the basis for the indicator ranges or operating conditions. This could be a source test, manufacturer's design criteria, engineering assessment, statistical analysis of existing data, or some other basis. If the indicator ranges or operating conditions are based on a source test, verify that the emissions unit and/or control device have not been altered since the test in such a manner as to make the values measured during the test unrepresentative of current operations.

Procedure for establishing indicator ranges: If the owner or operator is unable to establish indicator ranges or operating conditions at this time, provide the reason and describe the procedure for establishing the indicator ranges or operating conditions in the future. Depending on the control device, the procedure for establishing indicator ranges could be, but are not limited, to one of the following:

- maximum steam rate based on the steam rate measured during a future source test plus 10%
- minimum control device temperature based on the temperature measured during a future source test minus 50 degrees
- minimum and maximum oxygen level based on the average of three months of monitoring data plus or minus one standard deviation.

The procedure must be precise so that when the test is performed or a minimum amount of data is gathered, there will be no doubt as to what the indicator range or operating condition will be.

Test Plan and Schedule: Prepare a test plan and schedule for establishing the indicator ranges. This can be provided as an attachment. The indicator ranges or operating conditions must be established as expeditiously as possible, but no later than six months after the permit is issued.

7. For each monitoring device that will be used for compliance assurance monitoring (e.g., continuous emissions monitors, temperature sensors, pressure gauges, etc.), provide the following information:

Location and installation specifications: Describe the location and installation specifications of the monitoring device that allow for obtaining data which are representative of the emissions or parameters being monitored. For non-instrumental monitoring approaches such as an inspection and maintenance program, this information will not be applicable so it can be left blank. For other monitoring approaches that include actual monitoring equipment, the location of the monitoring equipment or sensor can be shown on a diagram of the emissions unit and control equipment and attached to form CP709. Where a diagram is not feasible, provide a description of the monitoring device location. Also describe any other installation specifications such as initial calibrations that may have been or will be performed as a result of other applicable requirements (e.g., 40 CFR 60.13) or the manufacturer's recommendations.

Describe the procedure by which the owner or operator will verify the operational status of any new or modified monitoring equipment. At a minimum, consider the manufacturer's requirements or recommendations for installation, calibration, and start-up of the equipment. When monitoring is required by another requirement such as an NSPS, the owner and operator must also meet those requirements.

QA/QC: Describe any quality assurance and control practices that are necessary to ensure the continuing validity of the data. For continuous emissions or opacity monitoring systems or predictive emissions monitoring systems, consider the QA/QC requirements in 40 CFR 60.13. For other types of monitoring, ongoing quality control measures must be adequate to ensure that the monitoring remains operational and can provide readings suitable for the purpose of measuring changes in control performance that indicate possible exceptions to compliance. At a minimum, consider the manufacturer's requirements or recommendations for developing quality assurance practices.

Data frequency and averaging period: Describe the data collection system, including the method (e.g., strip chart, data logger, computer, manual, etc.), frequency, and averaging period. The CAM rule requires the monitoring frequency (including associated averaging periods) be designed to obtain data at such intervals that are, at a minimum, commensurate with the time period over which an excursion from an indicator range is likely to be observed based on the characteristics and typical variability of the pollutant-specific emissions unit (including the control device and associated capture system). For emissions units with the potential to emit more than 100 tons per year of the regulated pollutant, the data collection frequency must be at least 4 or more data values equally spaced over each hour of operation; unless the owner or operator can demonstrate that less frequent data collection is warranted. For emissions units with the potential to emit less than 100 tons per year of the regulated pollutant, the data collection frequency must be at least once per day. Many types of control devices are subject to rapid changes in performance and thus the frequency design criterion could result in frequent, near continuous collection of parametric data that are subsequently averaged over an appropriate period of time (often consistent with the required minimum time for conducting a compliance test). EPA has developed guidance for compliance assurance monitoring, including example monitoring approaches. Guidance is available at: <http://www.epa.gov/ttn/emc/cam.html>

8. Justification: Provide a justification for the proposed monitoring approach. The justification can rely on any available information, including appropriate reference materials and guidance documents. If an existing requirement already establishes monitoring for the pollutant-specific emissions unit, the justification can rely in part on the existing requirement. For the types of monitoring specified below, no extensive justification should be necessary because the CAM rule creates a rebuttable presumption that the monitoring satisfies the requirements. When an owner or operator relies on one of the following monitoring approaches, all that initially should be necessary is an explanation of why the monitoring is applicable to the unit in question.
- presumptively acceptable or required monitoring approaches, established by the permitting authority in a rule that constitutes part of the applicable implementation plan required pursuant to title I of the Act, that are designed to achieve compliance with this part for particular pollutant-specific emissions units;
 - continuous emission, opacity or predictive emission monitoring systems that satisfy applicable monitoring requirements and performance specifications of 40 CFR 51.214 and appendix P; 40 CFR 60.13 and appendix B; 40 CFR 63.8 and any applicable performance specifications required pursuant to the applicable subpart of part 63; 40 CFR part 75; and subpart H and appendix IX of part 266;
 - excepted or alternative monitoring methods allowed or approved pursuant to 40 CFR part 75;
 - monitoring included for standards exempt from the CAM rule to the extent such monitoring is applicable to the performance of the control device (and associated capture system) for the pollutant-specific emissions unit; and
 - presumptively acceptable monitoring identified in guidance by EPA (see EPA guidance documents).
11. If the proposed CAM will not be operational when the permit is issued, provide the reason for the delay and propose an implementation schedule. In general, DEQ expects the compliance assurance monitoring will be affective on the day that the permit is issued. This does not necessarily mean the indicator ranges must be established prior to issuance of the permit because the permit can include the procedure for establishing them within some acceptable time period (generally, not to exceed six months). In some situations, it may not be possible to obtain the monitoring equipment before the permit is issued. In those limited cases, the permit will have to include an implementation schedule for installing, testing, and operating the proposed monitoring.

FORM CP710 – RECORDKEEPING

Provide the information requested in the table for recordkeeping performed at the facility. This form does not pertain to records used for monitoring compliance with the Plant Site Emissions Limits. Those records should be identified on Form CP711.

- Enter the emissions unit identification (ID) number or label.
- Enter the parameter. Examples: fuel type, fuel usage, species of wood being dried, etc.
- Describe how the information will be obtained and recorded. For example, the operator may read a fuel meter and log the reading into a computer.
- Specify the frequency for recording the information. In the example above, the operator may read the meter daily.

FORM CP711 – PLANT SITE EMISSIONS LIMIT MONITORING

Provide the information requested in the table for monitoring compliance with the PSELs.

- Enter an emissions unit identification (ID) number or label in column one. More than one row will be used for each emissions unit if there are multiple devices/processes or pollutants for the emissions unit.
- List the devices or processes within the emissions unit separately in column 2 if the monitoring method, process parameter, or emissions factor is different for each device/process.
- Enter the pollutant emitted from the device/process. More than one row will be used for each device/process if there is more than one pollutant emitted from the device/process.
- Enter the monitoring abbreviation from the list below:
 - CEMS – continuous emission monitoring system
 - MB – material balance
 - EF – calculated emissions using an emission factor and process/production parameter.
- If the emissions are calculated using an emission factor, enter the process parameter to be recorded. Otherwise, leave this blank.
- If the emissions are calculated using an emission factor, enter the emission factor. Otherwise, leave this blank. Include the units for the emission factor, which should line up with the process parameter units in the previous column.

Repeat steps above for all emission units/devices/pollutants.