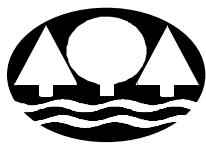


MPCA Air Quality Permits Guide

Part 2 Determining Compliance

Prepared by: Air Quality Staff



Minnesota Pollution Control Agency

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ACRONYMS
GLOSSARY

PREFACE TO THE GUIDE

The MPCA *Air Quality Permits Guide* is a three-part document intended to help you learn whether you need an air emission permit. If you do need one, the Guide will help you fill out an application.

***Part 1: Defining Your Facility* shows how to describe your equipment and quantify its emissions. After defining your facility, you may or may not need to apply for a permit.**

Part 2: Determining Compliance tells you how to prepare the compliance portion of your air emission permit application.

Part 3: Making Changes explains what air quality rules and regulations apply when making changes at your facility and how the change affects your air emission permit.

If you have not already done so, you may find it helpful to read MPCA's booklet, *Getting Started*, as a first step. It introduces you to Minnesota's air quality permit program and offers an overview of the permit application process.

Please take your time going through each part of the Guide. Do not expect to read all three parts in one day. You will find some things that do not apply to your facility. For this reason, you probably will not need to read every section in detail.

To help you define key terms, each part of the Guide contains a **glossary** and an **acronym list**. A **case study** at the end of each part of the Guide provides examples of how a fictitious facility, Blue Ox Woodworks, completed an air emission permit application. To answer your questions for help, **phone numbers** are given in the Focus section of each part. In addition, **ordering information** is offered in the Appendix of *Part 1* should you want copies of the air quality rules and regulations.

IMPORTANT NOTE: The MPCA has tried to make the *Air Quality Permits Guide* as complete as possible, however, it is not a substitute for the rules and regulations themselves. The Guide will be revised periodically, but it will not be updated each time a specific requirement is revised or added. It is *your* responsibility to find out which requirements apply to your facility.

FOCUS OF PART 2

In *Part 1: Defining Your Facility*, you learned how to determine which air quality rules and regulations apply to your facility. Now you are ready to complete the compliance portions of your permit application. *Part 2: Determining Compliance* shows you how to prepare your compliance plan, compliance certification, and if necessary, a compliance schedule. *Part 2* also discusses your compliance responsibilities and offers information about the legal protections that are available to you. Completed compliance forms for Blue Ox Woodworks are included in Section 7.0.

If you have not read *Getting Started* or *Part 1: Defining Your Facility*, please do so now. These parts of the Guide help you identify air emission sources and give you information about air quality rules and regulations that apply to your facility. This information is needed to complete the compliance portions of your permit application.

If you have any questions about subjects covered in *Part 2*, MPCA encourages you to call the numbers listed here for help.

MPCA Air Permit Technical Advisor
1-800-MinnAir (1-800-646-6247) or
(651) 282-5844

Responds to questions about rules or applying for air emissions permits

MPCA Air Permit Document Coordinator
(651) 282-5843

Can send a copy of the Air Quality Permitting Rules, application forms, fact sheets.

MPCA Small Business Technical Assistance Program
(651) 282-5847 or 1-800-657-3938

Helps business with fewer than 100 employees to understand the air quality rules and complete permit applications

Training Registration
1-800-571-7227

Provides information on available classes and training sessions

Air Quality Small Business Ombudsman
(651) 297-8615 or 1-800-985-4247

Provides confidential assistance to small businesses; helps to resolve complaints and disputes

Minnesota Technical Assistance Program (MnTAP), a nonregulatory assistance program located at the University of Minnesota
(612) 627-4646 or 1-800-247-0015

Assists with pollution prevention

TTY
(651) 282-5332 or 1-800-657-3864

Teletypewriter for persons with hearing impairment

**Minnesota Pollution Control Agency
Air Quality Permit Technical Advisor
520 Lafayette Road
St. Paul, Minnesota 55155**

Mailing Address

1.0 WHAT ARE YOUR COMPLIANCE RESPONSIBILITIES?

1.1 Compliance and your permit

It is your responsibility to know about and comply with the state and federal air quality rules and regulations that apply to your facility. You must identify these requirements in your permit application. When the MPCA issues your permit, it will contain emission limits and operational conditions that are based on the rules and regulations that apply to you. Therefore, if you comply with your permit, you are assumed to be in compliance with the underlying requirements that apply to your facility. Always keep in mind that it is your responsibility to ensure that your permit is accurate and up-to-date with any new and changing rules or regulations. You can track regulatory changes in the *Federal Register*, *The Minnesota State Register*, and with information updates from the MPCA's *Air Mail* newsletter.

1.2 What are the compliance elements of your application?

In the permit application, you are required to include a *compliance plan*, a *certification* of your compliance status, and in some cases, a *compliance schedule*. Each of these items is described briefly in Section 1.0. Sections 2.0 through 4.0 provide more detailed information on how to complete each of these parts of your application.

1.2.1 Compliance plan

All applications must include a compliance plan. In this plan, you describe how you propose to demonstrate that your facility will be in compliance with any air quality rules and regulations that apply. A compliance plan includes specific monitoring, recordkeeping, reporting, and operation and maintenance procedures that must be followed during the life of your permit. If you follow your compliance plan, both you and the MPCA should be able to determine whether you are in compliance with the terms and conditions of your permit. Because the compliance plan is an enforceable part of your permit, make sure that you propose a plan you can implement.

1.2.2 Compliance certification

In your permit application, you must tell the MPCA if you are in or out of compliance with the air quality rules and regulations that apply to you. This is called your *compliance certification*.

All certifications in your permit application, including the compliance certification, are legally binding. This assures the MPCA that the information you are providing in the application is true and complete. Under the 1990 Clean Air Act Amendments, including false information in your permit application is a felony, subject to criminal prosecution. This means you are personally

responsible for the accuracy of your application, including your compliance certification form. See section 3.0 for details on the compliance certification.

1.2.3 Compliance schedule

After you have completed the compliance certification form, you will know if you are not in compliance with any air quality rule or regulation that applies to your facility. If you are not in compliance for any reason, you must develop a compliance schedule as part of your permit application.

A compliance schedule, if needed, tells the MPCA how and when you plan to correct your violation(s). It also outlines how you will report your progress to the MPCA. You are encouraged to complete activities included in the compliance schedule before submitting your permit application. Any portion of the schedule that has not been completed when your permit is issued will be inserted into your permit. While you are making progress on your compliance schedule, you must continue to operate according to your compliance plan. Section 4.0 provides more information on the compliance schedule.

1.3 Your application is a starting point

The application process will help you understand your compliance responsibilities. By following your compliance plan and all other parts of your permit, you will be able to stay in compliance. In section 2.0, you are shown how to complete a compliance plan.

2.0 HOW DO YOU DEVELOP A COMPLIANCE PLAN?

2.1 What is a compliance plan?

In your permit application, you must develop a compliance plan. A compliance plan shows how you will stay in compliance with the rules and regulations that apply to your facility. It includes specific monitoring, testing, recordkeeping, reporting and operation and maintenance procedures that must be followed. Your plan will become an enforceable part of your permit. For this reason, it is important to develop a plan you can live with and which will be useful.

2.2 Why is your compliance plan important?

Your compliance plan is important for several reasons. After you receive your permit, you must certify your compliance status every year. In this annual compliance certification, you must certify whether your compliance status for the year was *continuous* or *intermittent*. You must also provide supporting information which shows how you determined your compliance status. It is important to design your compliance plan so that you can verify if you are in continuous compliance. By developing a good plan, you can track operations and make sure you are not violating any rule or regulation.

You must also provide supporting information that shows how you determined your compliance status. It is important to design your compliance plan so that you can verify if you are in continuous compliance. By developing a good plan, you can track operations and make sure you are not violating any rule or regulation.

Other side benefits are associated with your compliance plan. Monitoring data may help to reduce operating costs. For example, results from monitoring data could give you the information you need to increase the combustion efficiency of your boiler or increase the capture and reuse of solvents at your coating plant. Ongoing monitoring can also alert you to potential problems with pollution control equipment. By developing a routine maintenance program, you can also reduce the risk of costly breakdowns.

2.3 What are the elements of your compliance plan?

To develop a compliance plan, complete the Compliance Plan, Form CD-01. This form asks you for the following information:

- Air quality rules and regulations that apply to you (from Requirements Form GI-09)
- Emission units or stack/vents that you are subject to in the listed rules or regulations
- Emission units and pollution control equipment you will monitor or test
- Records you will maintain

- Performance tests and other emission measurement methods you will use
- What you will report to the MPCA
- Operation and maintenance (O&M) procedures you will follow

The Compliance Plan form includes basic instructions on how to monitor and record your pollution control equipment operations. The form also suggests operation and maintenance procedures. In addition, the form lists standard reporting and performance test requirements that must be followed.

2.4 What kinds of monitoring will you need to do?

Some air quality rules or regulations state exactly what must be done to demonstrate compliance. If a rule or regulation does not include specific compliance demonstration requirements, you have some flexibility to propose practices you think are appropriate. Any of the following monitoring methods can be proposed:

- Continuous monitoring of emissions
- Continuous monitoring of process or control equipment operations (e.g., continuous readout of the temperature for your thermal oxidizer)
- Performance testing (includes, but is not limited to, stack testing)
- Measurement of non-emission limits (e.g., periodic monitoring of the pressure drop across your baghouse)
- Records of fuel or raw materials usage (e.g., daily records of solvents used and recovered to calculate volatile organic compound emissions)
- Records of work practices, such as leak detection and repair or fugitive dust control (e.g., watering unpaved roads on a regular schedule)

Monitoring can involve the direct measurement of your emissions. For example, a stack test measures a sample of your emissions from the exhaust gas stream. Because it is done at one point in time, a stack test provides you with a snapshot of your actual emissions. On the other hand, a continuous emission monitor measures emissions at all times. Use of a continuous emission monitor is generally the most reliable way to measure emissions and determine whether you are in compliance. However, continuous emission monitors are expensive and not available for some air pollutants. **Note:** If you intend to show compliance with a requirement through the use of a continuous emission monitor, you will need to complete the Continuous Monitoring Systems Data form (ME-01).

It is not always necessary to directly measure your emissions. You can also monitor operations indirectly. Suppose you operate a grain elevator with a baghouse. You can monitor your

particulate matter emissions by checking the pressure drop across the baghouse. You know that as long as the pressure drop is within a certain range, emissions from your baghouse are likely to be within allowable limits. Manufacturer's information may help you determine an appropriate pressure drop range. If no reliable information is available, you may need to do a performance test that shows that you are in compliance with your emission limit when operating at that range.

Another example is monitoring the temperature of a thermal oxidizer used to control volatile organic compound emissions. For some emission sources, the amounts of emissions are directly proportional to the amount of raw materials you process, or *throughput*. Monitoring throughput can also be an acceptable alternative to direct measurement of emissions.

Monitoring procedures should be designed to provide reliable data. You should use test methods, units, and averaging periods that are consistent with the emission limits in a rule or regulation.

Monitoring techniques that are adequate for other operations may not meet your specific needs. You may decide to invest in a continuous emission monitor in order to have continuous data of your emissions. Or, you may decide that recordkeeping will be sufficient. As you develop the compliance plan, remember that you must certify your compliance status every year. Ask yourself: "If I follow my plan, will I have the information I need to certify compliance at any point in time?"

2.5 What do specific rules or regulations require you to do?

To develop a compliance plan, start with the air quality rules and regulations that apply to your facility. You have already identified these in Requirements Form GI-09. Many requirements tell you specifically how to establish monitoring, recordkeeping and reporting practices. Your compliance plan must include those practices that are spelled out in a rule or regulation. This section generally describes the monitoring, recordkeeping and reporting requirements relating to some air quality regulations. After reviewing this section, you will also want to review the rule or regulation to make sure you understand *all* requirements.

The following rules and regulations will be addressed in this section:

- National Emission Standards for Hazardous Air Pollutants (NESHAP)
- New Source Review (NSR)
- New Source Performance Standards (NSPS)
- Minnesota and National Ambient Air Quality Standards (MAAQS/NAAQS)

- Title IV Acid Rain Program
- Stratospheric Ozone Protection
- Minnesota Air Quality Rules

2.5.1 National Emission Standards for Hazardous Air Pollutants (NESHAP)

The 1990 Clean Air Act Amendments expanded the number of pollutants and emission source categories regulated under the NESHAP program. Prior to 1990, the Clean Air Act regulated nine hazardous air pollutants (HAPs) and affected only a small group of sources. The regulations for the nine HAPs are located in Part 61 of Title 40 of the Code of Federal Regulations (40 CFR Part 61) and are also listed in the GI-09(B) application form. The 1990 Clean Air Act Amendments regulated additional hazardous air pollutants and require emergency response planning for the accidental release of an additional 160 pollutants. The regulations covering the additional HAPs are located in 40 CFR Part 63 (NESHAPs for Source Categories) and Part 68 (Risk Management for Chemical Accidental Release Prevention).

You must comply with all parts of the NESHAPs program that apply to your facility. It may be possible for your facility to be subject to more than one HAP standard. Forms GI-09(A) and GI-09(B) will help you determine if you are subject to Part 61, 63 or 68. Note that Parts 63 and 68 will affect many facilities previously not regulated under the NESHAPs program.

The following section lists the NESHAPs requirements to be included in your compliance plan.

2.5.1.1 Part 61 Requirements

Under 40 CFR Part 61 and Minnesota Rules 7007, you need to submit an application to construct or modify your facility. This application must be submitted to the MPCA *before* you begin any construction or modification.

Part 61 Notifications

You must provide the following notifications to the MPCA:

- If a Part 61 NESHAP standard comes into effect and that standard affects your facility, notify the MPCA that your facility is subject to Part 61 within 30 days of the effective date of the standard.
- You must also notify the MPCA when you expect to begin operation. This start-up date is defined as the first time you fire or turn on your new or modified unit for any reason. Notify the MPCA 30 to 60 days before your anticipated start-up date.
- Follow-up with another notification within 15 days after your actual start-up date.

Part 61 Performance Testing

If any Part 61 NESHAP regulation requires a performance test, you must conduct the test within 90 days after the effective date of the Part 61 NESHAP standard. If start-up occurred after the effective date of the standard, you must conduct the test within 90 days of initial start-up. Submit results to the MPCA by the 31st day after the test. You should maintain your test result records on site for five years.

Other Part 61 test procedures are similar to Minnesota's performance test requirements. Minnesota's test requirements are described in Section 2.7. Under Part 61, you can apply to the EPA for a performance test waiver. Contact the EPA at (312) 353-2088 for more information on the waiver. Refer to 40 CFR Part 61 for specific NESHAP requirements concerning the use of continuous emission monitors.

Part 61 Reporting

If Part 61 NESHAP regulations apply to you, you must report the following information to the MPCA. If you first began operating your emission units before the effective date of the NESHAP, you must report the following information within 90 days of the effective date of the standard:

- Name, address and location of your facility
- Hazardous air pollutants (HAPs) that you emit
- Description of how you emit HAPs
- Weight of the HAPs processed per month for the last 12 months
- Description of your equipment which controls HAPs emissions
- Your compliance status with the HAPs standard

If you make any changes to your process which impacts your HAPs emissions, notify the MPCA within 30 days of making the change. You can apply for a waiver of this reporting requirement. Contact the MPCA for more information on this waiver if you want to pursue this option. These waivers are subject to EPA approval.

2.5.1.2 Part 63 and Part 68 Requirements

Much of the Part 63 and 68 NESHAP program is still being developed. You should pay close attention to the rule development and comply with the requirements as they are finalized. Part 63 and Part 68 rules will include notification, performance testing, recordkeeping, reporting and continuous emission monitoring requirements. The specific requirements can be found in 40 CFR Part 63, 40 CFR Part 68 and Section 112 of the Clean Air Act. Permit application form GI-09(A) contains a list of NESHAP standards that will be proposed and the dates the standards are expected to be finalized. For more information on MACT standards, see *Part 1*, Section 6.1.2.

Under Part 63, some notifications must be made to both the EPA Region V office in Chicago and the MPCA. The MPCA has not yet been delegated full authority by the EPA to implement Part 63 and 68 NESHAPs. If you have questions regarding the Part 63 NESHAP regulations, you can call the MPCA at (651)282-5844 or (800)646-6247, or the EPA Region V office at (312) 353-2088.

2.5.2 New Source Review

New Source Review regulations apply to the construction or modification of an emission source. If NSR applies to your facility and you cannot or choose not to accept synthetic minor permit limits, you will need to install Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) technologies on your affected emission units. Use of these technologies is required to minimize the impact of your emissions on the surrounding air. You may also need to do dispersion modeling to address impacts on soils, vegetation and visibility. These analyses require knowledge of control technologies, modeling and ecological assessment. If you think you need to do these analyses, contact the MPCA to confirm that they are indeed necessary and that you will do them according to acceptable methods.

Permit conditions to satisfy NSR requirements are established on a case-by-case basis. For this reason, compliance plan elements will vary widely among those who are subject to New Source Review. For further background on New Source Review, see *Part 1*, Section 6.1.3. Also, refer to the New Source Review regulations (40 CFR Part 52.21 and 52.24) and EPA's *New Source Review Workshop Manual* for more information on this program.

2.5.3 New Source Performance Standards

EPA has developed numerous New Source Performance Standards (NSPS, 40 CFR Part 60) that apply to specific categories of sources and emission units. Each NSPS includes emission limits, monitoring, reporting and recordkeeping requirements. These standards may affect your facility if you construct, modify or reconstruct any specific emission source or unit after the NSPS is *proposed*. If an NSPS that applies to you is finalized during the life of your permit, you must comply with the NSPS even if it is not yet incorporated into your permit. Again, refer to *Part 1*, Section 6.1.4 and Requirements Form GI-09(D) to see if any NSPS applies to your facility. The NSPS regulation that applies to one of Blue Ox Woodwork's boilers (40 CFR 60, Subpart Dc) is available from the MPCA in checklist form, and is included in Appendix 1-A.

You must also comply with the **General Provisions** of the NSPS program. These provisions include notification, testing, monitoring, reporting and recordkeeping procedures. Sections 2.5.3.1 and 2.5.3.2 describe the General Provisions requirements. To determine which NSPS General Provisions apply to your facility, refer to 40 CFR Subpart A (Sections 60.1 - 60.18).

NOTE: The MPCA has formatted the General Provisions and some additional NSPS regulations from the Code of Federal Regulations to make them easier to read. The available regulations are starred in Table D of Form GI-09(D). To obtain copies of the reformatted NSPS regulations, contact the Permit Document Coordinator at (651)282-5843.

2.5.3.1 Notifications and Recordkeeping under General Provisions

You must provide the following notifications to the MPCA:

- Dates of starting construction or reconstruction no later than 30 days after the date.
- Anticipated initial start-up date 30 to 60 days before initial start-up.
- Actual initial start-up date within 15 days of start-up.
- A description of any operational or physical change you make which may increase the emission rate for which the standard applies. You do not have to do this if the change is exempted under the NSPS definition of modification (see 40 CFR Part 60.14e).

Under the NSPS General Provisions, follow other notification and recordkeeping requirements if you do a performance test or install and operate a continuous monitoring system. Refer to 40 CFR Part 60.7 for more information on these requirements if they apply to you. These requirements are contained in Minnesota rules on performance testing and continuous emission monitoring.

2.5.3.2 Testing and monitoring under General Provisions

You must conduct a performance test to ensure that your emission source or pollution control equipment is operating effectively or your emissions are in compliance with NSPS limits *within 60 days* of achieving your maximum production rate, or *no later than 180 days* after initial start-up, whichever is earlier. You must follow all Minnesota performance test requirements (Minnesota Rules 7017), including the provisions specified in 40 CFR Part 60.8 and the NSPS subpart. If the NSPS requires use of any continuous monitoring devices, these devices must be installed and operational before you conduct any required performance tests. Refer to 40 CFR Part 60.13 for additional information on NSPS continuous monitoring requirements.

2.5.4 Other regulations

2.5.4.1 Ambient air quality standards

The Minnesota and National Ambient Air Quality Standards (MAAQS and NAAQS, respectively) are standards established to protect human health and the environment. All facilities must comply with these standards.

The MPCA primarily uses dispersion modeling to determine if you are in compliance with ambient air quality standards. Dispersion models are computer programs that analyze emission data from your facility to estimate the impacts of your emissions on the surrounding ambient air. You are not required to submit dispersion modeling for your permit application to be considered complete, unless your application is for certain types of new construction or modifications. If you are applying for a New Source Review permit or permit amendment, contact the MPCA to find out if you need to do dispersion modeling.

If your potential emissions of PM₁₀, SO₂, or NO_x are greater than 100 tons per year, you will need to do dispersion modeling during the first five-year term of your permit. You will most likely not need to demonstrate compliance again if you:

- completed dispersion modeling for your entire facility after January 1988
- followed the most recent EPA-approved modeling procedures when you did the modeling
- demonstrated compliance with the ambient air quality standards

If dispersion modeling results showed you are in compliance with the ambient air quality standards, you may ask to have the permit shield extended to these standards (see Section 5.3.2 for more information on the permit shield).

You may also elect to do modeling *before* your permit is issued if you want the permit shield extended to the ambient air quality standards in your initial permit. If you are interested in this option, contact the MPCA for information regarding required modeling procedures.

2.5.4.2 State Implementation Plan requirements

Some facilities located in nonattainment areas are subject to emission limits and other conditions under Minnesota's State Implementation Plan. You fall into this category if you were issued an Administrative Order by the MPCA which includes these requirements. Your compliance plan must show how you will comply with these State Implementation Plan conditions. For further information on these requirements, see *Part 1*, Section 6.1.1.1.

2.5.4.3 Title IV acid rain program

If your facility is an electric utility or if you generate and sell electricity, you may be subject to the federal acid rain program. This program is outlined in Title IV of the Clean Air Act and Parts 72 and 73 of Title 40 of the CFR. See Requirements Form GI-09(E) for more details on this program.

Your compliance plan must indicate how you will operate in compliance with acid rain regulations that apply to your facility. Refer to 40 CFR Part 75 for more information on monitoring, recordkeeping and reporting requirements of the acid rain program. Similar monitoring or reporting requirements associated with other regulations may apply to your facility. Even if you are in compliance with a federal acid rain requirement, do not assume that you have indirectly satisfied other regulatory requirements, too. For example, both the acid rain regulations and a New Source Performance Standard may require you to install a continuous emission monitor to track your sulfur dioxide emissions. Your compliance plan must show how you will comply with *both* sets of continuous emission monitoring requirements.

Clearly mark which portions of your compliance plan are intended to satisfy federal acid rain requirements. This is important because your acid rain permit will be a distinct portion of your operating permit.

2.5.4.4 Stratospheric ozone protection

Sections 606 through 612 of the Clean Air Act are intended to protect the stratospheric ozone layer. Section 606 requires phasing out use of certain ozone-depleting substances. Sections 608 and 609 specify proper procedures for maintaining and repairing appliances, heating, ventilation, and air conditioning (HVAC) systems or motor vehicles that contain ozone depleting materials.

If you are affected by Sections 608 and 609, you must certify to the EPA that the persons who

service this equipment are properly trained in the operation of recycling and recovery equipment and that they comply with rule requirements.

Refer to Requirements Form GI-09(F) to check if you are subject to any of the stratospheric ozone requirements. If any of these requirements apply to you, include specific steps in your compliance plan. Also, if you replace a regulated chloroflourocarbon chemical with a cleaning compound containing volatile organic compounds (VOCs), you may need a permit amendment that authorizes this change in your operations and which incorporates appropriate limits for VOCs.

2.5.4.5 Minnesota state air quality rules

Whether your facility needs a permit or not, you still have to comply with Minnesota state air quality rules. These rules cover the following areas:

- Fee collection
- Operating permit rule
- Opacity
- Emission standards
- Fugitive emissions
- Shutdowns and breakdowns
- Emission inventory
- Motor vehicle emissions
- Noise pollution
- Applicability and circumvention

Requirements Form GI-09(I) provides a general description of each of these Minnesota Rules. For further information, refer also to *Part 1*.

2.5.5 Compliance assurance monitoring

One regulation that may affect how you develop your compliance plan is the federal *compliance assurance monitoring* rule, or CAM rule. This rule can be found in 40 CFR Part 64. This rule applies to Part 70 sources.

The CAM rule applies to facilities that operate emission control devices subject to federally enforceable regulations promulgated prior to 1990. These regulations are not limited to EPA regulations, but include any regulation that pertains to the Part 70 Operating Permit. This includes New Source Performance Standards (NSPS), National Emission Standards for

Hazardous Air Pollutants (NESHAPs), and Minnesota rules contained in the State Implementation Plan.

To determine applicability, you need to answer the following questions pertaining to individual emissions units:

- Is the unit located at a major source required to obtain a Part 70 permit?
- Is the unit subject to an emission limitation or standard which is specified in a rule or regulation?
- Is a control device used to achieve compliance with that limitation or standard?
- Are the potential uncontrolled emissions of the controlled pollutant from the unit at least 100 percent of the major source threshold amount? (100 tons per year of particulate matter (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOC), carbon monoxide (CO), or lead; 10 tons per year of any hazardous air pollutant (HAP); or 25 tons per year of any combination of HAPs. The levels may be different in current or future nonattainment areas. Refer to 40 CFR Part 70.2 under the definition of “major source” for further detail.)

CAM applies if the answers to **all** of the above questions is “yes.”

Those emissions units with the potential to emit a regulated air pollutant equal to or greater than the major source threshold amount (**after** effects of control equipment are considered) shall make the required CAM submittals as follows:

1. If your initial Part 70 permit application has not been submitted by April 20, 1998, you need to submit CAM information as part of the initial application.
2. On or after April 20, 1998, you need to submit CAM information as part of any application for a major amendment to a Part 70 permit, but only with respect to those emissions units for which the proposed amendment is applicable.

You need to submit any information not submitted under the above deadlines as part of the application for the reissuance of the Part 70 permit.

For those emissions units where the potential to emit a regulated air pollutant is below the major source threshold amount after control equipment is taken into account, the information required by the CAM rule needs to be submitted with the next application for reissuance of a Part 70 permit.

It is not anticipated that Minnesota facilities subject to the CAM rule will be required to take any steps to implement CAM until reissuance of their Part 70 permit, unless they apply for a major amendment to their existing Part 70 permit.

You must submit the required information to the MPCA. The CAM submittal should include:

- information on indicators (gauges, meters, or other devices used to monitor operating parameters of control equipment)
- indicator ranges, or the process by which indicators are to be established
- performance criteria
- justification for the proposed monitoring
- control device operating data recorded during a performance test, supplemented by engineering assessments or manufacturer's recommendations to justify the proposed indicator range
- a test plan and schedule for obtaining data if performance test date are not available
- an implementation plan, if monitoring requires installation, testing, or other activities prior to implementation

The next step is review and approval by the MPCA. If additional information or corrections are required, the MPCA will notify you that the CAM submittal must be revised or supplemented.

If the CAM submittal is determined to be complete and acceptable, the MPCA will establish permit terms for the affected emissions units.

After approval and incorporation of the CAM requirements into the permit, you must implement the monitoring data upon issuance of the permit, unless the permit specifies a later date.

The CAM rule does not apply to:

1. Units subject to federal regulation issued after 1990. In situations where some portions of a facility operate control devices in order to comply with emission standards issued prior to 1990, only those portions of the facility must comply with the requirements of the CAM rule.
2. Situations where continuous compliance monitoring is already specified in an operating permit. The CAM rule exempts the Permittee from additional monitoring requirements and directs the Permittee to use the continuous compliance monitoring data to fulfill the CAM rule monitoring and certification requirements.
3. Stratospheric ozone protection requirements.

4. Acid Rain Program requirements.
5. Emission limitations or standards that apply solely under an emissions trading program.
6. Municipally-owned utility peak-shaving units where
 - the unit is exempt from all Acid Rain Program monitoring requirements, and
 - the unit operates for the sole purpose of providing electricity during periods of peak electrical demand or emergency situations, and
 - the unit will be operated consistent with that purpose throughout the permit term, and
 - emissions from the unit are less than 50 tons per year.

2.5.6 Pending regulations

Some additional air quality rules and regulations that are not yet final may apply to you in the future. Refer to Requirements Form GI-09 for further information on these regulations. Check the status of these and other regulations that may apply before completing your compliance plan.

2.6 What if you operate pollution control equipment?

Some air quality regulations require you to use pollution control equipment. You will need to complete the Control Equipment Information Form (GI-05A).

Even if not required by a rule, you may want to use control equipment to reduce your emissions and stay in compliance. In either case, you need to state how you will monitor and maintain your pollution control equipment in your compliance plan.

You will use Compliance Plan Form CD-01 to describe your monitoring and recordkeeping methods for all types of pollution control equipment.

2.6.1 Monitoring your control equipment

For each type of control equipment, the most common and reliable monitoring method is described in the Compliance Plan form. In some cases, more than one method is shown. For instance, to monitor a thermal oxidizer, you may measure the combustion temperature of the oxidizer. You may also measure the inlet and outlet temperatures of the oxidizer. The form is intended to help you satisfy *minimum* monitoring requirements. You are free to propose monitoring alternatives that are at least as reliable and accurate as what is outlined in the form.

2.6.2 Recordkeeping for your control equipment

It is important to document your monitoring activities through careful recordkeeping. Even if you are in compliance, you will not have any proof of this without proper records. In the application, you must specify how frequently you will do recordkeeping. Your permit will summarize all the recordkeeping you need to do.

The Compliance Plan form indicates how often you should record your pollution control equipment operations. Again, the form suggests a minimum standard. Generally, you will need to record monitoring data at least once each day that you are in operation. For example, record the pressure drop of your baghouse or cyclone every day that you are operating. For some types of control equipment, you may have a continuous hard copy readout of your control equipment operations. This is common for thermal and catalytic oxidizers.

If you need to do manual recordkeeping, it is helpful to develop a daily recordkeeping log to include all the data to be recorded. Make sure that this information is readily available on site for review by MPCA inspectors. Plan to keep your records on site at least five years. In general, it is recommended that you maintain a file at your facility that includes all records, performance test reports, notifications, inspection letters, and other MPCA correspondence.

2.7 Performance testing guidelines

2.7.1 When you may need to test

The compliance plan form provides some emissions testing guidelines. You may need to conduct a *performance test* if this is specified by a rule or regulation that applies to you. You may also need to test to determine the accuracy of your continuous emission monitor. The most common type of performance test is a *stack test* that measures emissions from a facility stack. Performance tests can also include the measurement of fugitive emissions or emissions from other (nonstack) sampling points, such as a duct or a vent.

Generally, you will not need to test prior to completing your permit application. One exception is if you want to test to determine suitable monitoring parameters to be included in your compliance plan. You may decide to do this if no other information is available to help you determine a parameter range. An example is selecting a pressure drop range for monitoring emissions from a baghouse. You may want to conduct a performance test to show that you can operate within a parameter range and not violate your emission limit. Another exception is if you want to develop a unique emission factor for one or more of your processes.

2.7.2 Testing at worst case conditions

In general, you must conduct a performance test at *worst case* conditions for each pollutant. Your compliance plan should describe the conditions at which you will conduct your performance tests. Worst case conditions are those which result in maximum emissions. Often, your maximum production rate is your worst case condition. There may be different worst case conditions for different pollutants. For facilities with multi-product batch processes, it is not always possible to define a worst case condition or a maximum production rate. In these cases, the compliance plan should include testing conditions that will demonstrate compliance for your normal operating conditions. If your emission unit is not tested at the worst case, you will need to meet operational limits based on the actual conditions of the test. For example, if you test and demonstrate compliance while operating at a certain throughput level, you will be limited to operating below this level in the future. If you want to operate at a higher throughput level, you must retest to demonstrate compliance at the higher level.

You must also follow the test methods specified by a regulation. New Source Performance Standards often require you to follow a particular test method. If you need to meet New Source Performance Standards, you may not use an alternative test method without written approval from the EPA.

2.7.3 MPCA test procedures

The MPCA must approve all performance test procedures. When you conduct a performance test, follow the specific notification and reporting procedures outlined in the Compliance Plan form. For example, you must submit a test plan to the MPCA at least 30 days before the test is done. The test plan outlines the operating conditions and test methods you must follow when testing. You may also need to meet with MPCA staff at least seven working days before the test for a pre-test meeting. Note that additional test requirements may be spelled out in your permit, in federal regulations, *Minnesota Rules*, or any enforceable document that applies to you.

2.7.4 Testing your continuous emission monitor

If you intend to use a continuous emission monitor, you must conduct a *certification test* to demonstrate its accuracy. The certification test must follow the procedures listed in 40 CFR pt. 60, Appendix B. Your permit will define other procedures you must follow to operate your continuous emission monitor.

2.8 What reporting do you need to do?

The Compliance Plan form requires you to outline what and how often you will report to the MPCA. If you are required to monitor any emission unit, you must report at least semi-annually. The only exception is the continuous emission monitoring report that must be submitted quarterly.

You may propose more frequent reporting. Minimum requirements that must be listed in your compliance plan include those listed in Table 2-1:

Table 2-1
COMPLIANCE PLAN REPORTING REQUIREMENTS

Requirement	Minimum Reporting Frequency
Compliance certification	Annually
Summary of all monitoring	Semiannually
Compliance schedule progress reports (if compliance schedule is required)	Semiannually
Reporting of any deviation of any permit condition that could endanger human health or the environment	Verbally - As soon as possible Written - due 2 days after discovery
Reporting of any other deviations from permit conditions	Semiannually
Continuous emission monitoring: excess emission/CEM downtime reports	Quarterly

2.9 What kinds of operation and maintenance do you need to do?

Maintaining your equipment in good operating condition will minimize your emissions and help you stay in compliance. You must develop an operation and maintenance (O&M) plan for each of your air pollution control equipment devices. Keep the O&M plan on site. Your O&M plan must describe your procedures for inspections and preventive maintenance.

The Compliance Plan form lists some general O&M guidelines and recommended O&M practices for specific types of control equipment. Tailor your operation and maintenance plan to your facility. Write the plan in a way that will be useful to the people who will be performing the inspections and maintenance. You may want to refer to manuals or service bulletins issued by the manufacturers of your control equipment. However, you should not just copy the manufacturer's manual as a substitute for your own O&M plan.

In recent years, air emission permits issued by the MPCA required you to submit an operation and maintenance plan after the permit was issued or with your compliance plan in your permit application. If you prepared an operation and maintenance plan to satisfy a permit condition in the past, it is likely your old plan may be easily adapted to meet the new application requirements. Be sure your plan meets the minimum guidelines outlined in the compliance plan form.

2.10 What situations require special attention?

2.10.1 What if you are proposing synthetic minor limits in your application?

If you are applying for a *synthetic minor* permit, you will have to keep records that show you are complying with your permit's limits. For more information on applying for a synthetic minor permit, see *Part 1*, Section 5.3.2.1. Generally, daily records should be maintained. You may also need to do monthly calculations of your emissions. If your operations show a deviation from a synthetic minor limit, you must report it to the MPCA each quarter. For example, suppose you have a synthetic minor limit in your permit that limits the amount of solvents you may use each month. You maintain a monthly rolling average of the total quantity of solvents you use. If your records show that you are exceeding the amount of material you can use, this represents a deviation that must be reported.

2.10.2 What if you are operating under alternative operating scenarios?

In your permit application, you may propose to operate under different *alternative operating scenarios*. For example, if you would like to use both solvent-based and water-based inks in your printing press, you may want to propose alternative operating scenarios in your permit. *Part 1*, section 7.1.1, provides further information on alternative operating scenarios. In your application, complete a separate compliance plan for each scenario under which you are operating. Your plans must show that you will not violate any air quality regulation under any of your proposed scenarios and what monitoring you will do to demonstrate that.

2.10.3 What if you use emission trading in your permit?

You also have the option to propose emission trading in your permit application. Emission trading allows you to trade increases and decreases of a pollutant as long as you do not exceed your total facility emission limit. Emission trading is described briefly in *Part 1*, Section 7.1.2. If emission trading is proposed in your application, your compliance plan must allow you to document that your trades will not result in violating any regulation that applies to you.

2.11 Putting it all together

You should tailor your compliance plan to your specific operations. It should not be a copy of a manufacturer's manual and it should not include information irrelevant to your operation.

Follow the suggested monitoring, recordkeeping and operation and maintenance procedures provided for you in the Compliance Plan form. The MPCA recommends that you build on the suggested procedures as much as possible. You are free to propose alternative procedures as long as your plan can be used to demonstrate compliance with your permit. Section 3.0 covers your compliance certification.

MPCA staff will review your proposed compliance plan. The MPCA may need to modify your plan to ensure that it is complete and enforceable. You will have a chance to discuss any changes with MPCA staff while the permit is drafted.

3.0 WHAT IS YOUR COMPLIANCE CERTIFICATION?

In your permit application, you must certify whether you are in compliance with the air quality rules and regulations that apply to your facility. Serious consequences may result from making an improper certification. If you certify that you are in compliance with a rule or regulation and the MPCA later discovers that this is not true, you will be subject to enforcement action. You may even be subject to criminal proceedings. On the other hand, if you certify that you are out of compliance with a requirement, you will not necessarily be subject to enforcement action, depending on the severity and duration of the noncompliance. It is in your best interest to provide an accurate certification to avoid criminal liability for false statements.

The instructions on the Compliance Certification Form CD-02 will help you work through your certification. Your starting point is a list of rules and regulations that apply to you as shown in Requirements Form GI-09. When filling out the compliance forms, focus only on the regulations that apply to your operations.

3.1 What steps are involved?

In your certification, state your compliance status for two different dates: the date of application and the date of permit issuance. In some cases, your compliance status will change between the date of application and the date your permit was issued. For example, if you are violating a regulation that requires you to hold a permit at the time of application, you are out of compliance. However, when you obtain your permit, you will be in compliance with the permitting requirement.

3.2 How do you know if you are in compliance?

You need to understand the rules and regulations that apply to you in order to determine your compliance status. For some rules and regulations, the Compliance Plan form lists some shorthand methods to determine your status. For example, you are instructed to check “Noncompliance” with Minnesota’s notifications rule (Minn. R. 7019.1000) if, on the date of application you have had any shutdown or breakdown in the past for which you should have notified the MPCA. The form also indicates when it is acceptable to indicate that your compliance status is unknown or that the requirement does not apply.

The compliance certification form asks how you determined your compliance status. You can do this by listing specific monitoring, testing, recordkeeping, reporting or operation and maintenance procedures. You may need to calculate your potential or actual emissions to determine your compliance status with certain rules or regulations. Use AP-42 factors or other reliable engineering techniques to calculate your past emissions. In some cases, you may be able

to estimate your emissions based on fuel or other material usage records. For information on calculating your emissions, refer to *Part 1*, Section 5.1.

A relationship must exist between the way you determine compliance and the corresponding rule or regulation. For example, suppose you operate an asphalt plant that needs to meet a New Source Performance Standard (NSPS) particulate matter limit of 0.04 grains per dry standard cubic foot. You use a wet scrubber at the plant to control emissions. You monitor your emissions through recordkeeping of the water pressure and flow rate of your scrubber for each day that your plant is in operation. You conducted a stack test six months ago that showed you are operating in compliance with the NSPS limit. On the compliance certification form, you can state that you determined your compliance status on the basis of recordkeeping of your scrubber operations and the results of a stack test.

3.3 How do you look at your compliance history?

To determine your compliance status, you must know the history of your operations. If you violated a rule or regulation in the past and have not corrected it, you must show on the form that you are still not in compliance with that requirement.

The time frame you need to consider will vary depending on the date that each regulation became effective. You may need to satisfy some requirements retroactively. For example, a New Source Performance Standard (NSPS) may require an initial stack test upon start-up of a new emission unit. If you determine that you need to meet this NSPS, but did not conduct the stack test upon start-up, you are not in compliance. You must do a stack test to satisfy this regulation.

Many NSPS rules also require that you notify the MPCA when you begin construction and do initial start-up (see Section 2.5.3). Again, if you did not submit notifications in the past, you are not in compliance with the NSPS. Before you are considered to be in compliance, you must submit the notifications even though they are overdue.

3.4 What do you do with your compliance status conclusions?

If you are in compliance with all requirements that apply to your facility, document your conclusions and complete the compliance certification form. Be sure to include a clear description of the steps that were taken to determine the compliance status for each requirement. If you discover that you are not in compliance with an air quality rule or regulation at the time you apply for a permit, include a compliance schedule in your permit application. Section 4.0 discusses how to develop a compliance schedule.

4.0 HOW DO YOU DEVELOP A COMPLIANCE SCHEDULE?

4.1 What is a compliance schedule?

After you complete the compliance certification form, you should know if you are in violation of any rule or regulation that applies to you. If you are in violation when you apply for your permit, develop a compliance schedule to correct the violation. Your compliance schedule shows how and when you will come into compliance. If you are in compliance with all rules and regulations that apply to you when applying for a permit, do not prepare a compliance schedule. You also do not need to develop a compliance schedule if your only violation is a failure to hold a permit. You will be in compliance with this requirement when your permit is issued.

Your compliance schedule begins the day you submit your application. You should comply with your schedule as soon as you submit it. The schedule should be achievable and needs to show the MPCA that you are striving to attain compliance in the shortest period of time possible. Your schedule must also specify how often you will report on your progress to the MPCA. If you have not completed all parts of the compliance schedule when your permit is issued, the remaining portion of the schedule will be inserted into your permit.

You are encouraged to take steps immediately to correct any violations. If violations are corrected before you submit the permit application, you do not need to develop a compliance schedule or certify noncompliance with the associated rule or regulation. If you choose to begin your corrective action early, it is important to document your activities. Remember that if your corrective action includes performance testing, this must be done in compliance with state requirements (see section 2.7 for more information).

4.2 What does your compliance schedule contain?

Your compliance schedule must include the following elements:

- Steps you will take to achieve compliance
- Dates when you will achieve these steps
- How your progress toward compliance will be measured
- Proposed schedule for submitting progress reports to the MPCA

Remember that your schedule must be enforceable. This means that it must be possible to measure your progress through appropriate monitoring, recordkeeping and reporting practices. Indefinite timeframes are not enforceable.

For example, suppose that the sulfur emissions from your boiler exceed what is allowed by Minnesota rules. To come into compliance, you develop a compliance schedule. In your schedule, you propose to switch to a fuel that contains less sulfur. You need two months to set up a contract with a new fuel supplier. In your schedule you state that you will discontinue buying the dirtier fuel by a specified date. You also provide the MPCA with a copy of your new contract to buy cleaner fuel. Thereafter, you commit to maintain on-site records of fuel supplier certifications as proof of your low-sulfur fuel purchases.

Or, suppose you need to install pollution control equipment to comply with an emission limit. Your compliance schedule will consist of several steps. For example, you first determine the most appropriate control equipment for your operations, select a vendor, purchase and finally install the equipment. All of this may take several months. You also need to do a performance test showing that you are in compliance by using the control equipment. Your schedule should indicate the dates when you will:

- Determine the control equipment you need and select a vendor
- Purchase the control equipment
- Install the equipment
- Submit a test plan
- Set up a pre-test meeting
- Conduct the performance test
- Submit your test results
- Fulfill other performance test requirements

4.3 What kind of reporting will you need to do?

Your compliance schedule must include a time frame for submitting progress reports to the MPCA. These reports must be submitted at least every six months. Unless you propose otherwise in your application, progress reports will be due on *January 30* and *July 30* while the schedule is in effect. The progress reports must include the following information:

- Any monitoring data that is required. You must also state if the monitoring data still indicates a violation.
- The deadlines in your schedule for achieving compliance, including intermediate milestones.
- The dates when such milestones or compliance were achieved.
- An explanation why any requirement or deadline was not met. If this happens, you must also state what you did as a result of missing any deadline to get back on schedule and to limit emissions.

4.4 Your compliance schedule and your permit

MPCA staff will review your proposed compliance schedule in your application. The MPCA may need to modify your schedule to ensure that it is enforceable. You will have a chance to discuss the schedule and any language changes with MPCA staff while the permit is drafted. The full compliance schedule will be inserted into your draft permit. You will be asked to certify as to how much of the schedule you have completed so that only the uncompleted portion of your compliance schedule is inserted into your permit.

5.0 WHAT IF YOU ARE NOT IN COMPLIANCE?

As you work through the compliance forms, you will find out whether you are complying with the air quality rules and regulations that apply to your facility. Perhaps you should have had a permit in the past, but did not. You may wonder what enforcement action to expect for these violations. This section describes in a general way MPCA's enforcement authority. In addition, application and permit "shields" in MPCA rules that may protect you from enforcement action are also covered.

5.1 Enforcement waiver for failure to obtain air emission permits in the past

What if you should have had an air emission permit in the past, but have not? Depending on your circumstances, you may be eligible for an enforcement waiver for this violation.

Minnesota's operating permit rule provides for a one-time waiver from enforcement action that could otherwise result from not having obtained a permit in the past, provided you submit a timely and complete permit application. The MPCA created this provision in order to encourage permit application submittals from those who have never had an air quality permit. The waiver only pertains to *permitting* violations, i.e., the failure to obtain a permit when required.

You may be eligible for an enforcement waiver if you should have obtained a permit in the past under previous **state** permit rules. Some exceptions exist with the enforcement waiver. First, the waiver does not extend to any violations of **federal** permitting requirements, such as the obligation to hold a New Source Review (Prevention of Significant Deterioration or Nonattainment Area) permit. Second, even if you are now able to accept synthetic minor conditions to keep you from needing an NSR permit, you may still be subject to enforcement action. Third, the waiver does not apply if you should have obtained permit amendments for *any* kind of air emission permit in the past (including a state permit). Fourth, the waiver does not apply if you submitted an incomplete application or missed your application deadline.

5.2 If you are not eligible for the waiver, what enforcement action can you expect?

What if you are not eligible for the waiver? If you filed a timely and complete permit application by the deadlines outlined in Part 1 and have not violated any federal program requirements, you may receive a letter of warning or a notice of violation. (These enforcement actions are described briefly in section 5.6.) However, no monetary penalty will be assessed for failing to obtain a state-only permit amendment in the past under the prior permit rule. Most facilities that are not eligible for the waiver are in this category.

Because of its delegated authority from EPA to enforce federal air programs, the MPCA has less flexibility in how it enforces federal violations. However, even in these cases, many enforcement responses will not result in penalties.

The MPCA believes that very few cases of permitting violations will result in monetary penalties. In any year, up to 200 letters of warning and notices of violation are issued for air quality infractions, and penalties are collected in only a few dozen cases. Do not let the fear of penalties or enforcement action prevent you from applying for a permit.

5.3 What shields do you have against enforcement action?

Minnesota's permit rule features two additional provisions that protect you from enforcement action in some situations. These are the *application shield* and the *permit shield*.

5.3.1 Application shield

Federal regulations and state rules include an *application shield* to protect you from enforcement action for not having a permit while you are waiting for your permit to be issued. If your facility was in operation on or before October 18, 1993, you are protected by the application shield as long as you have submitted a timely and complete permit application. If you comply with all air quality rules and regulations that apply to you, and your application correctly lists these requirements, the application shield protects you from the time you apply until your permit is issued.

Note that the application shield does not apply if you miss your permit application deadline or if your application is incomplete. It also does not apply if you fail to provide any information requested by the MPCA on schedule. The application shield does not restrict the MPCA's or the EPA's authority to take enforcement action for any other past violations, including permitting violations.

5.3.2 Permit shield

Another protection provided by Minnesota's permit rule is the *permit shield*. The permit shield protects you from enforcement action if for some reason there is a mistake in your permit that causes you to violate a regulation that applies to you.

For example, suppose your permit states you cannot use any fuel oil at your facility with a sulfur content that exceeds 1% sulfur by weight. During a review of your permit, MPCA staff discovers that this limit is incorrect due to MPCA miscalculations during the processing of the permit application. The correct limit is 0.5% sulfur by weight. Because the sulfur content of the

fuel oil burned at your facility has averaged 0.8% sulfur, you have not violated the existing permit limit of 1%. However, you are in violation of the correct (0.5%) limit. In this case, because you have complied with the 1% limit that is in your permit, the MPCA will not take any enforcement action for this violation. The MPCA will amend your permit to include the correct limit and you must comply with the 0.5% limit in the future.

It is important to note that if a regulation that applies to you is not included in your permit, the permit shield does not apply. For example, suppose that MPCA staff discovers that your permit does not specify that one of your boilers is subject to a New Source Performance Standard. In this case, the shield does not apply. The permit shield also does not protect you if you provide inaccurate information that is inserted into your permit. You are ultimately responsible for complying with all rules and regulations that apply to you, whether or not they are in the permit. You must also assume responsibility for tracking new and changing rules or regulations that may apply to you in the future. Again, you can track these developments in the *Federal Register*, *The Minnesota State Register*, and with information updates from the MPCA's *Air Mail* newsletter.

The permit shield can be applied to all new or reissued operating permits and to major permit amendments. The permit shield does not apply to most administrative amendments and does not apply to any minor and moderate permit amendments (see *Part 3* for more information on permit amendments). Your permit will state what requirements fall under the permit shield. *NOTE:* Do not assume that all permit conditions are covered by the permit shield.

5.4 What are the MPCA and EPA enforcement roles?

Like most states, Minnesota has been delegated the authority from the U.S. Environmental Protection Agency (EPA) to enforce federal air programs. The MPCA also has authority from the Minnesota State Legislature to enforce state rules and statutes. To enforce state and federal rules and regulations, the MPCA issues permits and conducts periodic inspections of facilities to ensure that rules and regulations and permit conditions are being met. MPCA staff also reviews monitoring information, such as stack test or continuous emission monitoring reports, to determine if facilities are in compliance. Any violation of a permit, rule, statute or regulation is potential grounds for enforcement action.

The EPA oversees the MPCA's enforcement program. In some cases, the EPA may elect to enforce permit requirements. In practice, however, most enforcement actions are carried out by the MPCA directly.

5.5 If you face enforcement action, will you pay a fine?

You may associate enforcement action with monetary penalties, court trials or even jail terms. In practice, the MPCA employs several different types of enforcement actions to move facilities into compliance with air quality regulations. These actions range from a formal letter documenting a violation to litigation. Most of the MPCA's enforcement actions will not result in monetary penalties. MPCA enforcement programs are not funded with penalty dollars and the agency has no vested interest in increasing the penalties. The overall goal of the MPCA's enforcement program is to ensure compliance and to promote a "level playing field" for all businesses.

5.6 What are some of the MPCA's enforcement actions?

The MPCA's most common enforcement actions are the *letter of warning* and the *notice of violation*. Neither of these actions assesses a penalty. Other enforcement actions that assess penalties are available to the MPCA, but are used much less frequently. These actions include *administrative penalty orders*, *compliance agreements*, and *stipulation agreements*. All of these enforcement actions are described briefly below.

5.6.1 Letter of Warning

A *letter of warning (LOW)* is usually issued by MPCA staff to notify state sources of alleged minor violations discovered during annual inspections, compliance follow-up, or through review of a company's submittals. The letter often requests you to perform corrective action within a set time frame. Suppose that during an inspection, MPCA staff noted some dust emissions through leaks in your ductwork. If warranted, the inspector may follow up with a letter of warning that requires a *corrective action* to repair your ductwork within 30 days. No monetary penalties are assessed for a letter of warning.

5.6.2 Notice of Violation

A *notice of violation (NOV)* is the MPCA's formal notice to a facility alleging violations of state rules, permit conditions or federal regulations. At a minimum, the notice of violation requests a company to submit information that documents corrective action has been completed and compliance achieved. No monetary penalties are assessed for a notice of violation.

5.6.3 Administrative Penalty Order

An *administrative penalty order (APO)* contains a penalty amount and a schedule of corrective action. The maximum penalty that can be assessed with an administrative penalty order is

\$10,000. You are required to complete all corrective actions in the APO within 30 days. There are three types of administrative penalty orders: *forgivable*, *nonforgivable*, or *combination*. A *forgivable APO* assesses a penalty but "forgives" it if corrective action is completed within the 30-day timeframe. In a *nonforgivable APO*, the penalty is not forgiven. The penalty payment and the corrective action must be completed within 30 days. In a *combination APO*, a portion of the penalty is forgiven if corrective action is completed on schedule. The remaining portion of the penalty must still be paid within the 30 day period.

5.6.4 Compliance and Stipulation Agreements

Compliance and stipulation agreements represent settlements that are negotiated between the permittee and the MPCA. Both agreements can contain extensive corrective actions that may be in place for several years. A stipulation agreement includes a penalty for past noncompliance. The MPCA has the authority to assess civil penalties of up to \$10,000 per day per violation. There is no upper limit on the penalty amount for these agreements. In a compliance agreement, no penalties are assessed for past violations. However, for both compliance and stipulation agreements, penalties may be assessed for violating the conditions of the agreement.

5.7 Enforcement provisions under the 1990 Clean Air Act

The 1990 Clean Air Act Amendments broadened the enforcement actions available to the EPA. The most significant change is that any willful violation of a federal regulation or permit requirement is now a criminal violation. This means that you could face criminal charges for knowingly falsifying any information in your permit application.

EPA can now issue administrative penalty orders up to \$200,000 and field citations up to \$5,000 for lesser violations without going to court. The EPA is also authorized to pay up to \$10,000 for information leading to a criminal conviction or the assessment of civil penalties for Clean Air Act violations. This reward is available only for violations of federal air regulations and is administered entirely by the EPA; **the MPCA is not involved with this program.**

The 1990 Clean Air Act Amendments also extends the authority of citizens to bring suits against violators. This means that a citizen may sue a facility for not obtaining and complying with its air permit. *Citizen suits* have long been authorized by the Clean Air Act, but now these suits can result in the assessment of penalties.

The 1990 Clean Air Act Amendments also required states, as part of their permit and enforcement programs under Title V, to adopt some of EPA's criminal authorities into state law. Environmental crimes under Minnesota law are contained in Minn. Stat. section 609.671. It is

now a felony to knowingly cause a violation of a standard or permit limit which regulates the emissions of a hazardous air pollutant. It is a misdemeanor to knowingly violate an applicable requirement, an air quality permit condition or state air quality statute or rule, or to fail to pay your air emission fee. It is a felony to knowingly make false statements or omit material information in your filings with the MPCA. It is also a felony to knowingly tamper with or fail to install a monitoring device. Some of these criminal provisions were adopted by the Minnesota Legislature before 1993; the rest were added in 1993 in order to fully comply with the 1990 Clean Air Act Amendments.

5.8 What next?

By now, you should have a basic understanding of the enforcement risks associated with violating state and federal air quality rules and regulations. This information is provided so that you are aware of the possible consequences of not complying with air quality rules or regulations. The best way to avoid enforcement action is to have a solid understanding of your facility's operations and your compliance responsibilities. This will help you comply with your permit. Section 6.0 continues the case study from *Part 1* and describes how Blue Ox Woodworks filled out its compliance forms.

6.0 BLUE OX CASE STUDY

Phyllis identified all air quality rules and regulations that apply to Blue Ox Woodworks and has completed the Requirements Form GI-09. She is now ready to complete the compliance forms.

6.1 Compliance plan

Phyllis decided to work on Compliance Plan Form CD-01 first. Using the Requirements form as her guide, she filled out one compliance plan form for each rule or regulation applying to Blue Ox Woodworks.

From the Requirements form, Phyllis knows that boiler #2 is subject to a New Source Performance Standard (40 CFR 60.4 Subpart Dc). She called the MPCA to obtain a printed copy of this NSPS regulation, and found that it is available in a checklist format. After reading through the NSPS checklist several times, she found out which parts apply to her boiler. To comply with the NSPS, Phyllis stated on the form that she will obtain vendor certifications to show that the sulfur content of her fuel will not exceed 0.5%. She filled in the required recordkeeping procedures from the NSPS regulation. She also summarized the reporting that she will do based on the MPCA's procedures listed in the Guide. Phyllis' completed checklist is included as Appendix 1-A.

Phyllis found that boiler #2 is also subject to particulate matter and opacity limits (Minnesota R. 7011.0515). Phyllis did not know what would be required to comply with these limits so she called the MPCA's Small Business Assistance Program for help. MPCA staff told her that the agency may require Blue Ox to do a performance stack test to show compliance with the particulate and opacity limits. Phyllis was also told that she does not need to follow any other procedures on a routine basis to show compliance with these limits. Phyllis then contacted the MPCA's performance testing staff. They told her what performance test methods she needs to follow if she needs to conduct a test in the future.

Phyllis included information in her plan about the planned removal of the wood-fired boiler (boiler #1). Boiler #1 is regulated by Minnesota R. 7011.0510. Phyllis included the removal of the boiler in case she ever needs to propose *netting* under New Source Review rules. Under New Source Review, a facility can receive an emissions credit for the removal of equipment. The emissions credit must be documented in a permit and federally-enforceable permit conditions must be accepted. The emissions credit can be saved and applied towards emissions increases associated with facility modifications in the future. (For a further information on netting, see the *New Source Review Workshop Manual [Draft]*. Appendix 2-A in Part 1 explains

where to get this book.) In her compliance plan, Phyllis stated that she would complete the removal of boiler #1 within 90 days of receiving her permit. She made an additional note to inform the MPCA of the boiler's removal within 15 days.

The woodworking equipment at Blue Ox is subject to Minnesota's Industrial Process Equipment Rule. The rule allows particulate matter emissions significantly higher than what the control equipment (baghouses) is capable of achieving. Phyllis decided to accept lower limits than what the rule allows, so that Blue Ox can be a synthetic minor source. The proposed limits are hourly limits based on the baghouse manufacturer's guaranteed emissions.

Phyllis then considered the rules that apply to her spray paint booth and cure oven. Based on her potential to emit calculations for volatile organic compounds and hazardous air pollutants, she decided to apply for status as a synthetic minor source under both New Source Review regulations and Minnesota's state permit rule. Phyllis referred to her proposed synthetic minor limits. After calculating the efficiency of her thermal oxidizer, she determined that she could limit her total volatile organic compound emissions from the painting operations to 95.12 tons per year and combined hazardous air pollutant emissions to 24 tons per year. To do this, Phyllis will limit her usage of coatings and solvents. She will maintain records of material usage on a 12-month rolling sum basis. For the first year, she proposed an alternative recordkeeping method. She specified specific usage limits of solvents and coatings for each month. Phyllis plans to use more materials during March through November when the demand for Blue Ox's products is the greatest due to the construction season. (For more information on proposing synthetic minor limits, see *Part 1*, Section 5.3.2.1.)

Phyllis will continue to use her Inferno Control System thermal oxidizer to control VOC emissions from the spray booth. To ensure that the VOC destruction efficiency is maintained at a minimum of 90%, the temperature must be maintained at a minimum of use 1400°F. A continuous monitoring system will be used to document the temperature; data from the monitor will be recorded on a hard-copy readout that she will keep at the plant to document that she is operating in compliance. To show that she can operate within her synthetic minor limits, Phyllis will conduct a performance test on the emissions from the spray booth once within the first three years of receiving her permit. The test will measure collection and control efficiency of volatile organic compounds and hazardous air pollutants. She called MPCA staff again to ask about the appropriate test methods.

Phyllis will also continue to use the panel filters in the spray booth to control particulate emissions. They are maintained such that they collect the particulate with a 90% efficiency.

Phyllis then reviewed reporting requirements listed in the compliance plan form. Phyllis noted in her compliance plan that if Blue Ox's thermal oxidizer temperature or solvent and coating usage ever exceeds her permit limits, she will report that to the MPCA on a semiannual basis. For more information on reporting deviations, see *Part 2*, Section 2.8.

Phyllis' emergency generator is subject to an opacity standard (Minnesota Rules 7011.2300). Since she uses the generator so infrequently, she could not think of any regular reporting or monitoring that could be done to show compliance with the standard. She decided that she would be willing to do a performance test on the generator if required by the MPCA.

Phyllis then looked at the information in the form regarding the operation of pollution control equipment. For her three baghouses, she will take daily records of the pressure drop readings. To determine an appropriate pressure drop range for her baghouse, Phyllis reviewed past pressure drop records and consulted with the baghouse manufacturer. She will maintain the pressure drop within the range of 2 - 4 inches of water column. If she records any values outside this range, she will report it to the MPCA each semiannually. Again, she indicated that she would conduct a stack test on any of the baghouses if required by the MPCA.

Phyllis reviewed her compliance plan forms and determined that they were complete. She was ready to move on to Compliance Certification Form CD-02.

Blue Ox's CD-01 is included in Appendix 2-A.

6.2 Compliance certification

To fill out the Compliance Certification form, Phyllis carefully reread the Guide and the form. She found out that she needs to determine her compliance status on the date of application and the date of permit issuance. She then worked through each air quality requirement, referring to Requirements Form GI-09. Phyllis wrote in "Not Applicable" for the requirements that do not apply to Blue Ox. This allowed her to focus on the requirements that do apply. She followed the guidance on the form for determining her compliance status for a specific rule or regulation. To make sure she understood what she was certifying, she read the requirements that applied to Blue Ox Woodworks.

Phyllis determined that she is out of compliance with the federal and state New Source Performance Standards for boiler #2. She installed the boiler without keeping any records of her fuel use and did not submit construction and start-up notifications. She also violated the state rule that requires the company to hold a permit. In addition, Phyllis learned that she must notify the MPCA when her equipment has a shutdown or breakdown. Her thermal oxidizer broke down several times in the past and Phyllis did not report this to the MPCA.

Phyllis concluded that when she gets her permit, she will no longer be violating some of these requirements. For example, she will be in compliance with the state permit rule when she obtains her permit. She will report any future shutdowns and breakdowns. The only violations that Phyllis feels she will not be able to correct before she receives her permit are the NSPS fuel usage and recordkeeping violations. To come into compliance with the NSPS requirements, Phyllis must develop a compliance schedule. Before signing the Certification form, Phyllis carefully reviewed what she had written and made sure that the information was correct. She then moved on to Compliance Schedule Form CD-03.

See Appendix 2-B for a copy Phyllis' Form CD-02.

6.3 Compliance schedule

To resolve the NSPS violations, Phyllis will find out if her current fuel vendor can provide certifications to show that the fuel delivered to Blue Ox contained less than 0.5% sulfur by weight. If her fuel supplier does not have this information, Phyllis will test the fuel in her tank to determine its sulfur content. If the test results show that the sulfur level exceeds 0.5%, she will get rid of the old fuel and find a new supplier. In the compliance schedule, Phyllis provided specific dates outlining when she would accomplish each of these steps. She also plans to obtain vendor certifications with each shipment of oil in the future.

Reviewing the NSPS requirements again, Phyllis learned that she needed to provide the MPCA with notifications of boiler construction and start-up. Rather than include that in her schedule, she wrote a letter to the MPCA providing that information the next day. See Appendix 2-C for a copy of the Compliance Schedule form.

Phyllis read through the schedule and determined that she would have no problem complying with it. She planned to contact her fuel vendor as soon as she completed her permit application.

6.4 Operation and maintenance plan

Phyllis wrote an operation and maintenance plan for her pollution control equipment. To develop the plan, she referred to an EPA document on O&M procedures for pollution control equipment. The EPA document is *Ohio EPA's Operation and Maintenance (O&M) Guidelines for Air Pollution Control Equipment*, published in February 1993.

The Ohio O&M guide has several sample inspection forms for different types of pollution control equipment. Phyllis reviewed the sample forms for a baghouse and thermal oxidizer. She decided that the sample forms were much too detailed for her operations. She simplified the Ohio inspection forms to correspond to Blue Ox Woodworks. She consulted with her employees

to make sure that they were comfortable with the inspection forms and other O&M procedures outlined in her plan. She then kept this plan on site.

See Appendix 2-D for a copy of the plan.

Appendix 1-A

New Source Performance Standard for Blue Ox's Boiler



I. Introduction

An owner or operator may fill in this form in replacement of a highlighted copy of the New Source Performance Standard (NSPS) located in 40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

NSPS PROVISION	<input checked="" type="checkbox"/> if APPLICABLE
Location and Language	
Section 60.40c Applicability and delegation of authority.	<input type="checkbox"/>
(a) The affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr).	<input type="checkbox"/>
Section 60.41c Definitions.	
<p>As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.</p> <p>Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.</p> <p>Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society for Testing and Materials in ASTM D388-77, "Standard Specification for Classification of Coals by Rank" (incorporated by reference-see Section 60.17); coal refuse; and petroleum coke. Synthetic fuels derived from coal for the purpose of creating useful heat, including but not limited to solvent-refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are included in this definition for the purposes of this subpart.</p> <p>Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.</p> <p>Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.</p> <p>Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.</p> <p>Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.</p> <p>Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396-78, "Standard Specification for Fuel Oils" (incorporated by reference-see Section 60.17).</p> <p>Dry flue gas desulfurization technology means a sulfur dioxide (SO₂) control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.</p> <p>Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.</p>	

Emerging technology means any SO₂ control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under Section 60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR Parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means (1) a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane, or (2) liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835-86, "Standard Specification for Liquefied Petroleum Gases" (incorporated by reference-see Section 60.17).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO₂ emissions (nanograms per joule [ng/J], or pounds per million Btu [lb/million Btu] heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396-78, "Standard Specification for Fuel Oils" (incorporated by reference-see Section 60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of particulate matter (PM) or SO₂.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood

or other forest residues.

Section 60.42c Standard for sulfur dioxide.	<input type="checkbox"/>
(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the initial performance test is completed or required to be completed under Section 60.8 of this part, whichever date comes first, the owner the operator of an affected facility that combusts only coal shall neither: (1) cause to be discharged into the atmosphere from that affected facility any gases that contain SO ₂ in excess of 10 percent (0.10) of the potential SO ₂ emission rate (90 percent reduction); nor (2) cause to be discharged into the atmosphere from that affected facility any gases that contain SO ₂ in excess of 520 ng/J (1.2 lb/million Btu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 90 percent SO ₂ reduction requirement specified in this paragraph and the emission limit is determined pursuant to paragraph (e)(2) of this section.	<input type="checkbox"/>
(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the initial performance test is completed or required to be completed under Section 60.8 of this part, whichever date comes first, the owner or operator of an affected facility that:	<input type="checkbox"/>
(1) Combusts coal refuse alone in a fluidized bed combustion steam generating unit shall neither:	<input type="checkbox"/>
(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO ₂ in excess of 20 percent (0.20) of the potential SO ₂ emission rate (80 percent reduction); nor	<input type="checkbox"/>
(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO ₂ in excess of 520 ng/J (1.2 lb/million Btu) heat input. If coal is fired with coal refuse, the affected facility is subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 90 percent SO ₂ reduction requirement specified in paragraph (a) of this section and the emission limit determined pursuant to paragraph (e)(2) of this section.	<input type="checkbox"/>
(2) Combusts only coal and that uses an emerging technology for the control of SO ₂ emissions shall neither:	<input type="checkbox"/>
(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO ₂ in excess of 50 percent (0.50) of the potential SO ₂ emission rate (50 percent reduction); nor	<input type="checkbox"/>
(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO ₂ in excess of 260 ng/J (0.60 lb/million Btu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO ₂ reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.	<input type="checkbox"/>
(c) On and after the date on which the initial performance test is completed or required to be completed under Section 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO ₂ in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under this paragraph.	<input type="checkbox"/>
(1) Affected facilities that have a heat input capacity of 22 MW (75 million Btu/hr) or less.	<input type="checkbox"/>
(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a Federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.	<input type="checkbox"/>
(3) Affected facilities located in a noncontinental area.	<input type="checkbox"/>

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.	<input type="checkbox"/>
(d) On and after the date on which the initial performance test is completed or required to be completed under Section 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO ₂ in excess of 215 ng/J (0.50 lb/million Btu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.	<input checked="" type="checkbox"/>
(e) On and after the date on which the initial performance test is completed or required to be completed under Section 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO ₂ in excess of the following:	<input type="checkbox"/>
(1) The percent of potential SO ₂ emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that:	<input type="checkbox"/>
(i) Combusts coal in combination with any other fuel,	<input type="checkbox"/>
(ii) Has a heat input capacity greater than 22 MW (75 million Btu/hr), and	<input type="checkbox"/>
(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and	<input type="checkbox"/>
2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel: $E_s = (K_a H_a + K_b H_b + K_c H_c) / (H_a + H_b + H_c)$ where: E_s is the SO ₂ emission limit, expressed in ng/J or lb/million Btu heat input, K_a is 520 ng/J (1.2 lb/million Btu), K_b is 260 ng/J (0.60 lb/million Btu), K_c is 215 ng/J (0.50 lb/million Btu), H_a is the heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [million Btu] H_b is the heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (million Btu) H_c is the heat input from the combustion of oil, in J (million Btu).	<input type="checkbox"/>
(f) Reduction in the potential SO ₂ emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:	<input type="checkbox"/>
(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO ₂ emission rate; and	<input type="checkbox"/>
(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO ₂ control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.	<input type="checkbox"/>
(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.	<input checked="" type="checkbox"/>
(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under Section 60.48c(f)(1), (2), or (3), as applicable.	<input checked="" type="checkbox"/>
(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 million Btu/hr).	<input checked="" type="checkbox"/>

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 million Btu/hr).	<input checked="" type="checkbox"/>
(3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 million Btu/hr).	<input type="checkbox"/>
(i) The SO ₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.	<input checked="" type="checkbox"/>
(j) Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.	<input checked="" type="checkbox"/>
Section 60.43c Standard for particulate matter.	<input type="checkbox"/>
(a) On and after the date on which the initial performance test is completed or required to be completed under Section 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 million Btu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:	<input type="checkbox"/>
(1) 22 ng/J (0.05 lb/million Btu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.	<input type="checkbox"/>
(2) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.	<input type="checkbox"/>
(b) On and after the date on which the initial performance test is completed or required to be completed under Section 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 million Btu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:	<input type="checkbox"/>
(1) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or	<input type="checkbox"/>
(2) 130 ng/J (0.30 lb/million Btu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.	<input type="checkbox"/>
(c) On and after the date on which the initial performance test is completed or required to be completed under Section 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 million Btu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.	<input type="checkbox"/>
(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.	<input type="checkbox"/>

Section 60.44c Compliance and performance test methods and procedures for sulfur dioxide.	<input type="checkbox"/>
(a) Except as provided in paragraphs (g) and (h) of this section and in Section 60.8(b), performance tests required under Section 60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in Section 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.	<input type="checkbox"/>
(b) The initial performance test required under Section 60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO ₂ emission limits under Section 60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.	<input type="checkbox"/>
(c) After the initial performance test required under paragraph (b) and Section 60.8, compliance with the percent reduction requirements and SO ₂ emission limits under Section 60.42c is based on the average percent reduction and the average SO ₂ emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO ₂ emission rate are calculated to show compliance with the standard.	<input type="checkbox"/>
(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 are used to determine the hourly SO ₂ emission rate (E _{ho}) and the 30-day average SO ₂ emission rate (E _{ao}). The hourly averages used to compute the 30-day averages are obtained from the continuous emission monitoring system (CEMS). Method 19 shall be used to calculate E _{ao} when using daily fuel sampling or Method 6B.	<input type="checkbox"/>
(e) If coal, oil, or coal and oil are combusted with other fuels:	<input type="checkbox"/>
<p>(1) An adjusted E_{ho} (E_{hoo}) is used in Equation 19-19 of Method 19 to compute the adjusted E_{ao} (E_{aoo}). The E_{hoo} is computed using the following formula:</p> $E_{hoo} = [E_{ho} - E_w(1 - X_k)] / X_k \text{ where:}$ <p>E_{hoo} is the adjusted E_{ho}, ng/J (lb/million Btu) E_{ho} is the hourly SO₂ emission rate, ng/J (lb/million Btu) E_w is the SO₂ concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9, ng/J (lb/million Btu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume E_w=0. X_k is the fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19.</p>	<input type="checkbox"/>
(2) The owner or operator of an affected facility that qualifies under the provisions of Section 60.42c(c) or (d) [where percent reduction is not required] does not have to measure the parameters E _w or X _k if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19.	<input type="checkbox"/>

<p>(f) Affected facilities subject to the percent reduction requirements under Section 60.42c(a) or (b) shall determine compliance with the SO₂ emission limits under Section 60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:</p>	<input type="checkbox"/>
<p>(1) If only coal is combusted, the percent of potential SO₂ emission rate is computed using the following formula:</p> <p>$\%Ps = 100(1 - \%Rg/100)(1 - \%Rf/100)$ where:</p> <p>$\%Ps$ is the percent of potential SO₂ emission rate, in percent $\%Rg$ is the SO₂ removal efficiency of the control device as determined by Method 19, in percent $\%Rf$ is the SO₂ removal efficiency of fuel pretreatment as determined by Method 19, in percent</p>	<input type="checkbox"/>
<p>(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:</p>	<input type="checkbox"/>
<p>(i) To compute the $\%Ps$, an adjusted $\%Rg$ ($\%Rgo$) is computed from E_{aoo} from paragraph (e)(1) of this section and an adjusted average SO₂ inlet rate (E_{aio}) using the following formula:</p> <p>$\%Rgo = 100 [1.0 - E_{aoo}/E_{aio}]$ where:</p> <p>$\%Rgo$ is the adjusted $\%Rg$, in percent E_{aoo} is the adjusted E_{ao}, ng/J (lb/million Btu) E_{aio} is the adjusted average SO₂ inlet rate, ng/J (lb/million Btu)</p>	<input type="checkbox"/>
<p>(ii) To compute E_{aio}, an adjusted hourly SO₂ inlet rate (E_{hio}) is used. The E_{hio} is computed using the following formula:</p> <p>$E_{hio} = [E_{hi} - E_w (1 - X_k)] / X_k$ where:</p> <p>E_{hio} is the adjusted E_{hi}, ng/J (lb/million Btu) E_{hi} is the hourly SO₂ inlet rate, ng/J (lb/million Btu) E_w is the SO₂ concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19, ng/J (lb/million Btu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume $E_w = 0$. X_k is the fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19.</p>	<input type="checkbox"/>
<p>(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under Section 60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under Section 60.46c(d)(2).</p>	<input type="checkbox"/>

(h) For affected facilities subject to Section 60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO ₂ standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under Section 60.48c(f)(1), (2), or (3), as applicable.	<input checked="" type="checkbox"/>
(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO ₂ standards under Section 60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour averaged firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.	<input type="checkbox"/>
(j) The owner or operator of an affected facility shall use all valid SO ₂ emissions data in calculating %Ps and E _{ho} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under Section 60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating %Ps or E _{ho} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.	<input type="checkbox"/>
Section 60.45c Compliance and performance test methods and procedures for particulate matter.	<input type="checkbox"/>
(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under Section 60.43c shall conduct an initial performance test as required under Section 60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods.	<input type="checkbox"/>
(1) Method 1 shall be used to select the sampling site and the number of traverse sampling points. The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry square cubic meters (dscm) [60 dry square cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.	<input type="checkbox"/>
(2) Method 3 shall be used for gas analysis when applying Method 5, Method 5B, of Method 17.	<input type="checkbox"/>
(3) Method 5, Method 5B, or Method 17 shall be used to measure the concentration of PM as follows:	<input type="checkbox"/>
(i) Method 5 may be used only at affected facilities without wet scrubber systems.	<input type="checkbox"/>
(ii) Method 17 may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 2.1 and 2.3 of Method 5B may be used in Method 17 only if Method 17 is used in conjunction with a wet scrubber system. Method 17 shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.	<input type="checkbox"/>
(iii) Method 5B may be used in conjunction with a wet scrubber system.	<input type="checkbox"/>
(4) For Method 5 or Method 5B, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 °C (320 °F).	<input type="checkbox"/>
(5) For determination of PM emissions, an oxygen or carbon dioxide measurement shall be obtained simultaneously with each run of Method 5, Method 5B, or Method 17 by traversing the duct at the same sampling location.	<input type="checkbox"/>
(6) For each run using Method 5, Method 5B, or Method 17, the emission rates	<input type="checkbox"/>

expressed in ng/J (lb/million Btu) heat input shall be determined using:	
(i) The oxygen or carbon dioxide measurements and PM measurements obtained under this section,	<input type="checkbox"/>
(ii) The dry basis F-factor, and	<input type="checkbox"/>
(iii) The dry basis emission rate calculation procedure contained in Method 19 (appendix A).	<input type="checkbox"/>
(7) Method 9 (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions.	<input type="checkbox"/>
(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under Section 60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.	<input type="checkbox"/>
Section 60.46c Emission monitoring for sulfur dioxide	<input type="checkbox"/>
(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO ₂ emission limits under Section 60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO ₂ concentrations and either oxygen or carbon dioxide concentrations at the outlet of the SO ₂ control device (or the outlet of the steam generating unit if no SO ₂ control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under Section 60.42c shall measure SO ₂ concentrations and either oxygen or carbon dioxide concentrations at both the inlet and outlet of the SO ₂ control device.	<input type="checkbox"/>
(b) The 1-hour average SO ₂ emission rates measured by a CEM shall be expressed in ng/J or lb/million Btu heat input and shall be used to calculate the average emission rates under Section 60.42c. Each 1-hour average SO ₂ emission rate must be based on at least 30 minutes of operation and include at least 2 data points representing two 15-minute periods. Hourly SO ₂ emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.	<input type="checkbox"/>
(c) The procedures under Section 60.13 shall be followed for installation, evaluation, and operation of the CEMS.	<input type="checkbox"/>
(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 (Appendix B).	<input type="checkbox"/>
(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 (Appendix F).	<input type="checkbox"/>
(3) For affected facilities subject to the percent reduction requirements under Section 60.42c, the span value of the SO ₂ CEMS at the inlet to the SO ₂ control device shall be 125 percent of the maximum estimated hourly potential SO ₂ emission rate of the fuel combusted, and the span value of the SO ₂ CEMS at the outlet from the SO ₂ control device shall be 50 percent of the maximum estimated hourly potential SO ₂ emission rate of the fuel combusted.	<input type="checkbox"/>

<p>(4) For affected facilities that are not subject to the percent reduction requirements of Section 60.42c, the span value of the SO₂ CEMS at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.</p>	<input type="checkbox"/>
<p>(d) As an alternative to operating a CEMS at the inlet to the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEM at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by using Method 6B. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B shall be conducted pursuant to paragraph (d)(3) of this section.</p>	<input type="checkbox"/>
<p>(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average SO₂ input rate.</p>	<input type="checkbox"/>
<p>(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.</p>	<input type="checkbox"/>
<p>(3) Method 6B may be used in lieu of CEMS to measure SO₂ at the inlet or outlet of the SO₂ control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable SO₂ and carbon dioxide measurement train operated at the candidate location and a second similar train operated according to the procedures in Section 3.2 and the applicable procedures in section 7 of Performance Specification 2 (Appendix B). Method 6B, Method 6A, or a combination of Methods 6 and 3 or Methods 6C and 3A are suitable measurement techniques. If Method 6B is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).</p>	<input type="checkbox"/>
<p>(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to Section 60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, as described under Section 60.48c(f) (1), (2), or (3), as applicable.</p>	<input checked="" type="checkbox"/>
<p>(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this</p>	<input type="checkbox"/>

section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.	
Section 60.47c Emission monitoring for particulate matter.	<input type="checkbox"/>
(a) The owner or operator of an affected facility combusting coal, residual oil, or wood that is subject to the opacity standards under Section 60.43c shall install, calibrate, maintain, and operate a CEMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system.	<input type="checkbox"/>
(b) All CEMS for measuring opacity shall be operated in accordance with the applicable procedures under Performance Specification 1 (appendix B). The span value of the opacity CEMS shall be between 60 and 80 percent.	<input type="checkbox"/>
Section 60.48c Reporting and recordkeeping requirements.	<input type="checkbox"/>
(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by Section 60.7 of this part. This notification shall include:	<input checked="" type="checkbox"/>
(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.	<input checked="" type="checkbox"/>
(2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under Section 60.42c, or Section 60.43c.	<input type="checkbox"/>
(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.	<input type="checkbox"/>
(4) Notification if an emerging technology will be used for controlling SO ₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of Section 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.	<input type="checkbox"/>
(b) The owner or operator of each affected facility subject to the SO ₂ emission limits of Section 60.42c, or the PM or opacity limits of Section 60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS using the applicable performance specifications in appendix B.	<input type="checkbox"/>
(c) The owner or operator of each coal-fired, residual oil-fired, or wood-fired affected facility subject to the opacity limits under Section 60.43c(c) shall submit excess emission reports for any calendar quarter for which there are excess emissions from the affected facility. If there are no excess emissions during the calendar quarter, the owner or operator shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period. The initial quarterly report shall be postmarked by the 30th day of the third month following the completion of the initial performance test, unless no excess emissions occur during that quarter. The initial semiannual report shall be postmarked by the 30th day of the sixth month following the completion of the initial performance test, or following the date of the previous quarterly report, as applicable. Each subsequent quarterly or semiannual report shall be postmarked by the 30th day following the end of the reporting period.	<input type="checkbox"/>

(d) The owner or operator of each affected facility subject to the SO ₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under Section 60.42c shall submit quarterly reports to the Administrator. The initial quarterly report shall be postmarked by the 30th day of the third month following the completion of the initial performance test. Each subsequent quarterly report shall be postmarked by the 30th day following the end of the reporting period.	<input checked="" type="checkbox"/>
(e) The owner or operator of each affected facility subject to the SO ₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under Section 60.43c shall keep records and submit quarterly reports as required under paragraph (d) of this section, including the following information, as applicable.	<input checked="" type="checkbox"/>
(1) Calendar dates covered in the reporting period.	<input checked="" type="checkbox"/>
(2) Each 30-day average SO ₂ emission rate (ng/J or lb/million Btu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.	<input checked="" type="checkbox"/>
(3) Each 30-day average percent of potential SO ₂ emission rate calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.	<input type="checkbox"/>
(4) Identification of any steam generating unit operating days for which SO ₂ or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.	<input type="checkbox"/>
(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.	<input type="checkbox"/>
(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.	<input type="checkbox"/>
(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.	<input type="checkbox"/>
(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.	<input type="checkbox"/>
(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 (appendix B).	<input type="checkbox"/>
(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.	<input type="checkbox"/>
(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), or (3) of this section, as applicable. In addition to records of fuel supplier certifications, the quarterly report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the quarter.	<input checked="" type="checkbox"/>
(f) Fuel supplier certification shall include the following information:	<input type="checkbox"/>
(1) For distillate oil:	<input checked="" type="checkbox"/>
(i) The name of the oil supplier; and	<input checked="" type="checkbox"/>
(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in Section 60.41c.	<input checked="" type="checkbox"/>
(2) For residual oil:	<input type="checkbox"/>

(i) The name of the oil supplier;	<input type="checkbox"/>
(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;	<input type="checkbox"/>
(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and	<input type="checkbox"/>
(iv) The method used to determine the sulfur content of the oil.	<input type="checkbox"/>
(3) For coal:	<input type="checkbox"/>
(i) The name of the coal supplier;	<input type="checkbox"/>
(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);	<input type="checkbox"/>
(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and	<input type="checkbox"/>
(iv) The methods used to determine the properties of the coal.	<input type="checkbox"/>
(g) The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.	<input checked="" type="checkbox"/>
(h) The owner or operator of each affected facility subject to a Federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under Section 60.42c or Section 60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.	<input type="checkbox"/>
(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.	<input checked="" type="checkbox"/>

Appendix 2-A

Blue Ox Compliance Forms: Compliance Plan (CD-01)

<p style="text-align: center;">5a)</p> <p style="text-align: center;">Citation</p>	<p style="text-align: center;">5b)</p> <p style="text-align: center;">Requirement</p>	<p style="text-align: center;">5c)</p> <p style="text-align: center;">Requirement Type (For MPCA Use)</p>
<p>Minn. R. 7011.0510, subp. 1</p>	<p>Total Particulate Matter: Less than or equal to 0.6 pounds per million Btu heat input.</p>	
<p>Minn. R. 7011.0510, subp. 2</p>	<p>Opacity: Less than or equal to 20 percent opacity, except for one six-minute period per hour of not more than 60 percent opacity.</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Boiler will be removed within 90 days of permit issuance.</p>	
<p>Minn. R. 7007.0800, subp. 2</p>	<p>Notification of the date of Equipment Removal: Due 15 days after equipment has been removed.</p>	

5a) Citation	5b) Requirement	5c) Requirement Type (For MPCA Use)
40 CFR Section 60.42c	Sulfur Content of Fuel: Less than or equal to 0.5 percent by weight	
40 CFR Section 60.44c(h)	Performance Test: Obtain fuel supplier certifications for each shipment of oil, showing the sulfur content of the fuel burned.	
40 CFR Section 60.48c(g)	Record the amount of each fuel combusted each day.	
40 CFR Section 60.48c(d)	Quarterly Report: Must be postmarked by the 30th day following the end of the reporting period.	
Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200	Fuel Burned: Limited to natural gas or distillate oil with a sulfur content of 0.5 percent or less by weight	
Minn. R. 7011.0515, subp. 1	Total Particulate Matter: Less than or equal to 0.4 pounds per million Btu heat input.	
Minn. R. 7011.0515, subp. 2	Opacity: Less than or equal to 20 percent opacity, except for one six-minute period per hour of not more than 60 percent opacity.	

5a) Citation	5b) Requirement	5c) Requirement Type (For MPCA Use)
Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200	Volatile Organic Compounds: Less than 185 tons/year (usage in coating materials) based on a 12-month rolling sum.	
Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200	Volatile Organic Compounds: Less than 10 tons/year based on a 12-month rolling sum, of cleaning solvents used.	
To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200	Single Hazardous Air Pollutants: less than or equal to 9 tons/year (usage) of any individual hazardous air pollutant, based on a 12-month rolling sum.	
To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200	Total Hazardous Air Pollutants: less than or equal to 24 tons/year (usage) of hazardous air pollutants (combined), based on a 12-month rolling sum.	
Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200	Recordkeeping: The permittee shall keep daily records of the weight used of each VOC and HAP containing material. The record shall include the VOC or HAP content for each material used.	
Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200	By the 15th day of each month, calculate and record the quantity of Volatile Organic Compounds used during the previous month and the previous 12 months (12-month rolling sum).	

<p>To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>By the 15th day of each month, calculate and record the quantity of each individual hazardous air pollutant used during the previous month and the previous 12 months (12-month rolling sums).</p>	
<p>To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>By the 15th day of each month, calculate and record the total quantity of hazardous air pollutants used during the previous month and the previous 12 months (12-month rolling sum).</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>By the 15th day of each month, calculate and record the quantity of cleaning solvents used during the previous month and the previous 12 months (12-month rolling sum).</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Volatile Organic Compounds: Greater than or equal to 54 percent control efficiency.</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Total Particulate Matter: Greater than or equal to 72 percent control efficiency</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Particulate matter < 10 microns: Greater than or equal to 72 percent control efficiency.</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1</p>	<p>Performance Test: Due 3 years after permit issuance, to measure overall control efficiency for volatile organic compounds.</p>	

To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1	Performance Test: Due 3 years after permit issuance to measure overall control efficiency for volatile hazardous air pollutants	
Minn. R. 7017.2030	Performance Test Notification (written): due 30 days before Performance Test	
Minn. R. 7017.2030, subp. 2 and subp. 3	Performance Test Plan: Due 30 days before Performance Test	
Minn. R. 7017.2030, subp. 4	Performance Test Pre-meeting: Due 7 days before Performance Test	
Minn. R. 7017.2035, subp. 1 and subp. 2	Performance Test Report: Due 45 days after Performance Test	
Minn. R. 7017.2035, subp. 2	Performance Test Report - Microfiche Copy: Due 105 days after Performance Test	

<p style="text-align: center;">5a)</p> <p style="text-align: center;">Citation</p>	<p style="text-align: center;">5b)</p> <p style="text-align: center;">Requirement</p>	<p style="text-align: center;">5c)</p> <p style="text-align: center;">Requirement Type (For MPCA Use)</p>
<p>Minn. R. 7011.2300, subp. 1</p>	<p>Opacity: Less than or equal to 20% opacity once operating temperatures have been attained.</p>	
<p>Minn. R. 7011.2300, subp. 2</p>	<p>Sulfur Dioxide: Less than or equal to 0.5 pounds per million Btu heat input.</p>	

<p style="text-align: center;">5a)</p> <p style="text-align: center;">Citation</p>	<p style="text-align: center;">5b)</p> <p style="text-align: center;">Requirement</p>	<p style="text-align: center;">5c)</p> <p style="text-align: center;">Requirement Type (For MPCA Use)</p>
<p>Minn. R. 7011.0715, subp. 1(A)</p>	<p>Total Particulate Matter: Less than or equal to 0.059 grains per dry standard cubic foot, or the allowable concentration at the actual exhaust rate, as described in Minn. R. 7011.0735.</p>	
<p>Minn. R. 7011.0715, subp. 1(B)</p>	<p>Opacity: Less than or equal to 20% opacity</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21</p>	<p>Total Particulate Matter: Less than or equal to 6.54 pounds per hour</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Particulate matter < 10 microns: Less than or equal to 6.54 pounds per hour.</p>	

<p style="text-align: center;">5a)</p> <p style="text-align: center;">Citation</p>	<p style="text-align: center;">5b)</p> <p style="text-align: center;">Requirement</p>	<p style="text-align: center;">5c)</p> <p style="text-align: center;">Requirement Type (For MPCA Use)</p>
<p>Minn. R. 7011.0715, subp. 1(A)</p>	<p>Total Particulate Matter: Less than or equal to 0.062 grains per dry standard cubic foot, or the allowable concentration at the actual exhaust rate, as described in Minn. R. 7011.0735</p>	
<p>Minn. R. 7011.0715, subp. 1(B)</p>	<p>Opacity: Less than or equal to 20% opacity</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21</p>	<p>Total Particulate Matter: Less than or equal to 5.24 pounds per hour</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Particulate matter < 10 microns: Less than or equal to 5.24 pounds per hour</p>	

<p style="text-align: center;">5a)</p> <p style="text-align: center;">Citation</p>	<p style="text-align: center;">5b)</p> <p style="text-align: center;">Requirement</p>	<p style="text-align: center;">5c)</p> <p style="text-align: center;">Requirement Type (For MPCA Use)</p>
<p>Minn. R. 7011.0715, subp. 1(A)</p>	<p>Total Particulate Matter: Less than or equal to 0.066 grains per dry standard cubic foot, or the allowable concentration at the actual exhaust rate, as described in Minn. R. 7011.0735</p>	
<p>Minn. R. 7011.0715, subp. 1(B)</p>	<p>Opacity: Less than or equal to 20% opacity</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21</p>	<p>Total Particulate Matter: Less than or equal to 4.37 pounds per hour</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Particulate matter < 10 microns: Less than or equal to 4.37 pounds per hour</p>	

<p style="text-align: center;">5a)</p> <p style="text-align: center;">Citation</p>	<p style="text-align: center;">5b)</p> <p style="text-align: center;">Requirement</p>	<p style="text-align: center;">5c)</p> <p style="text-align: center;">Requirement Type (For MPCA Use)</p>
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Maintain temperature of thermal oxidizer at a minimum of 1400 degrees Fahrenheit.</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Monitor thermal oxidizer temperature using a continuous hard-copy readout</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>If the temperature is not at least 1400 degrees, take corrective action as soon as possible to achieve the minimum temperature.</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Keep a record of the date and type of all corrective actions taken.</p>	
<p>Minn. R. 7007.0800, subp. 2 and subp. 14</p>	<p>Calibrate the temperature gauge annually, or as often as required by manufacturing specifications, and maintain a written record of the calibration and any action resulting from the calibration.</p>	

Minn. R. 7007.0800, subp. 2 and subp. 14	Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housings, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	
Minn. R. 7007.0800, subp. 2 and subp. 14	Inspect monthly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any actions resulting from the inspection.	

5a) Citation	5b) Requirement	5c) Requirement Type (For MPCA Use)
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Pressure Drop: Greater than or equal to 2 inches of water column and less than or equal to 4 inches of water column</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Read and record the pressure drop once each day of operation</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>If the pressure drop is not within the specified range, take corrective action as soon as possible to achieve the required operating range.</p>	
<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>	<p>Keep a record of the date and type of all corrective actions taken.</p>	
<p>Minn. R. 7007.0800, subp. 2 and subp. 14</p>	<p>Calibrate the pressure drop gauge annually, or as often as required by manufacturer's specifications, and maintain a written record of the calibration</p>	

Minn. R. 7007.0800, subp. 2 and subp. 14	Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housings, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	
Minn. R. 7007.0800, subp. 2 and subp. 14	Inspect monthly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any actions resulting from the inspection.	

<p style="text-align: center;">5a)</p> <p style="text-align: center;">Citation</p>	<p style="text-align: center;">5b)</p> <p style="text-align: center;">Requirement</p>	<p style="text-align: center;">5c)</p> <p style="text-align: center;">Requirement Type (For MPCA Use)</p>
<p>Minn. R. 7007.0800, subp. 2 and subp. 14</p>	<p>Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housings, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.</p>	
<p>Minn. R. 7007.0800, subp. 2 and subp. 14</p>	<p>Inspect monthly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any actions resulting from the inspection.</p>	

Appendix 2-B

Blue Ox Compliance Forms: Compliance Certification (CD-02)



MINNESOTA POLLUTION CONTROL AGENCY
 AIR QUALITY
 520 LAFAYETTE ROAD
 ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **CD-02**
COMPLIANCE CERTIFICATION
 5/11/98

1) AQ Facility ID No.: 99009999 2) Facility Name: Blue Ox Woodworks

3)

3a) Requirement That is Basis of Certification	3b) Compliance Status On the Date of Application (Check One)	3c) Briefly Describe the Non-Compliance (If You Checked Non-Compliance in the Previous Column)	3d) How Did You Determine if You Were In or Out of Compliance? (Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)	3e) Compliance Status On the Day You Receive Your Permit (Check One)
# 1b from GI-09, National Emission Standards for Hazardous Air Pollutants (40 CFR pt. 63 and 1990 Clean Air Act, as amended, Section 112)	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Not Applicable		The facility is a major source of HAPs by PTE, but we can and will accept synthetic minor limits	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Not Applicable
# 1c from GI-09, Case-by-case MACT (1990 Clean Air Act, as amended, Section 112(g)(2)(B))	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable		does not apply	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable

Requirement That is Basis of Certification	Compliance Status On the Date of Application <small>(Check One)</small>	Briefly Describe the Non-Compliance <small>(If You Checked Non-Compliance in the Previous Column)</small>	How Did You Determine if You Were In or Out of Compliance? <small>(Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)</small>	Compliance Status On the Day You Receive Your Permit <small>(Check One)</small>
# 2b from GI-09, National Emission Standards for Hazardous Air Pollutants (40 CFR pt. 61; Minn. R. 7011.9900 - 7011.9990)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable		does not apply	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable
#3b from GI-09, New Source Review (40 CFR pt. 52)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Unknown <small>You may check "Unknown" if you checked "Unknown" under item 2b in the GI-09 form.</small> <input type="checkbox"/> Not Applicable		We will be accepting synthetic minor limits to remain a non-major source under New Source Review.	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Not Applicable <small>If you checked "Unknown" or "Non-Compliance" in column 2 and will be receiving a permit with synthetic minor limits to avoid New Source Review, check "Compliance" here.</small>

Requirement That is Basis of Certification	Compliance Status On the Date of Application (Check One)	Briefly Describe the Non-Compliance (If You Checked Non-Compliance in the Previous Column)	How Did You Determine if You Were In or Out of Compliance? (Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)	Compliance Status On the Day You Receive Your Permit (Check One)
# 4a from GI-09, National Ambient Air Quality Standards; Increment and Visibility Requirements (1990 Clean Air Act, Sections 109 and 160-169(B))	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable You must check "Non-Compliance" if you submitted an NSR application and did not complete any required analysis of ambient air, increment, or visibility.		does not apply	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable You must check "Non-Compliance" if you will not have completed any required analysis of ambient air, increment by the time your permit is issued.
# 5d from GI-09, Standards of Performance for New Stationary Sources (40 CFR pt. 60)	<input type="checkbox"/> Compliance <input checked="" type="checkbox"/> Non-Compliance <input type="checkbox"/> Not Applicable	Have not yet sent in notifications. Have kept no records of sulfur content of fuel. Have kept no records of quantity of fuels used. Have not kept vendor certifications.	After reading the regulations, we realized we have not done any of the requirements.	<input type="checkbox"/> Compliance <input checked="" type="checkbox"/> Non-Compliance <input type="checkbox"/> Not Applicable

Requirement That is Basis of Certification	Compliance Status On the Date of Application <small>(Check One)</small>	Briefly Describe the Non-Compliance <small>(If You Checked Non-Compliance in the Previous Column)</small>	How Did You Determine if You Were In or Out of Compliance? <small>(Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)</small>	Compliance Status On the Day You Receive Your Permit <small>(Check One)</small>
# 6c from GI-09, Acid Rain Program under Title IV (40 CFR pt. 72; 40 CFR pt. 73; and 1990 Clean Air Act, as amended, Sections 401-416)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable		does not apply	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable
# 7b from GI-09, Stratospheric Ozone Protection (1990 Clean Air Act, as amended, Sections 601-618)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable		does not apply	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable
# 11b) from GI-09, Air Quality Emission Fees (Minn. R. 7002.0025 - 7002.0095)	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <small>Check "Compliance" here unless you have an overdue emission fee bill (including late fees).</small>		We have never received an emission fee bill	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <small>Check "Compliance" here unless you have an overdue emission fee bill that you have not paid and do not intend to pay the bill and/or associated late fees by the time you get a permit.</small>

Requirement That is Basis of Certification	Compliance Status On the Date of Application (Check One)	Briefly Describe the Non-Compliance (If You Checked Non-Compliance in the Previous Column)	How Did You Determine if You Were In or Out of Compliance? (Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)	Compliance Status On the Day You Receive Your Permit (Check One)
# 11b) from GI-09, Air Emission Permits (Minn. R. 7007.0050 - 7007.1850)	<input type="checkbox"/> Compliance You may check "Compliance" if you are in compliance with all state and federal permitting requirements (including the requirement to obtain a state permit and/or permit amendment(s) under Minnesota's prior air permitting rules), and you have submitted a complete permit application by the deadline listed in Minn. Rules 7007.0350. <input checked="" type="checkbox"/> Non-Compliance Check "Non-Compliance" if any of the above conditions are not true.	We should have had a permit in the past. We will be in compliance when we receive a permit.	By comparing past and present operations and emission rates with permitting thresholds	<input checked="" type="checkbox"/> Compliance You may check "Compliance" here if, by applying for and obtaining a permit, you have satisfied all state and federal permitting requirements that apply to your facility. <input type="checkbox"/> Non-Compliance
# 11b) from GI-09, Minnesota and National Ambient Air Quality Standards (Minn. R. 7009.0010 - 7009.0080)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Unknown You may only check "Unknown" if your facility has never modeled ambient air impacts or done ambient air testing.			<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Unknown You may only check "Unknown" if your facility has never modeled ambient air impacts or done ambient air testing.

Requirement That is Basis of Certification	Compliance Status On the Date of Application (Check One)	Briefly Describe the Non-Compliance (If You Checked Non-Compliance in the Previous Column)	How Did You Determine if You Were In or Out of Compliance? (Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)	Compliance Status On the Day You Receive Your Permit (Check One)
# 11b) from GI-09 Circumvention (Minn. R. 7011.0020)	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance Check "Compliance" if you are not currently concealing or diluting your emissions.		We are not concealing or diluting emissions	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance Check "Compliance" if you are not currently concealing or diluting your emissions.
# 11b) from GI-09, Emission Standards for Visible Air Contaminants (Minn. R. 7011.0100 - 7011.0120)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Unknown Check "Unknown" if you have neither certified monitors , nor have personnel who are certified in EPA Method 9 (visible emission reading).			<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Unknown Check "Unknown" if you have neither certified monitors , nor have personnel who are certified in EPA Method 9 (visible emission reading).
# 11b) from GI-09, Preventing Particulate Matter from Becoming Airborne (Minn. R. 7011.0150)	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance Check "Non-Compliance" if you have received an order or a permit condition from the MPCA to control fugitive dust and you are not complying with either the permit or the order.		We have never received an order from the MPCA to control fugitive dust	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance Check "Non-Compliance" if you have received an order or a permit condition from the MPCA to control fugitive dust and you will not be complying with it when you receive your permit.

Requirement That is Basis of Certification	Compliance Status On the Date of Application (Check One)	Briefly Describe the Non-Compliance (If You Checked Non-Compliance in the Previous Column)	How Did You Determine if You Were In or Out of Compliance? (Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)	Compliance Status On the Day You Receive Your Permit (Check One)
# 11b) from GI-09, Continuous Monitors (Minn. R. 7017.1000)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable Check "Not Applicable" if you don't have and will not be getting any continuous emission monitoring systems at your facility to measure opacity , SO ₂ , NO _x , emissions, or the oxygen or CO ₂ content of effluent gases.			<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable Check "Not Applicable" if you don't have and will not be getting any continuous emission monitoring systems at your facility to measure opacity , SO ₂ , NO _x , emissions, or the oxygen or CO ₂ content of effluent gases.
# 11b) from GI-09, Performance Tests (Minn. R. 7017.2001 - 7017.2060)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable Check "Not Applicable" if you have never conducted an air emission performance test.		Have never done a performance test	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable Check "Not Applicable" if you will not conduct an air emission performance test before you get your permit.

Requirement That is Basis of Certification	Compliance Status On the Date of Application (Check One)	Briefly Describe the Non-Compliance (If You Checked Non-Compliance in the Previous Column)	How Did You Determine if You Were In or Out of Compliance? (Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)	Compliance Status On the Day You Receive Your Permit (Check One)
# 11b) from GI-09, Notifications (Minn. R. 7019.1000)	<input type="checkbox"/> Compliance <input checked="" type="checkbox"/> Non-Compliance Check "Non-Compliance" if you had any shutdown or breakdown in the past that you should have notified the MPCA about.	Have not notified MPCA in the past about periodic breakdowns of our thermal oxidizer	Did not notify MPCA	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance If you intend to notify the MPCA about shutdowns and breakdowns you may have between the date of application and the date of permit issuance, you may check "Compliance".
# 11b) from GI-09, Reports (Minn. R. 7019.2000)	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Not Applicable Check "Not Applicable" if you don't have and will not be getting any continuous monitoring systems at your facility.		We were not required by the MPCA to install the continuous temperature monitor on the thermal oxidizer; it came with the unit.	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Not Applicable Check "Not Applicable" if you don't have and will not be getting any continuous monitoring systems at your facility.
# 11b) from GI-09, Emission Inventory (Minn. R. 7019.3000 - 7019.3100)	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance Check "Non-Compliance" if the MPCA has sent an emission inventory form to you to fill out and you didn't fill it out and return it.		We have never received an emission inventory form from the MPCA	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance

Requirement That is Basis of Certification	Compliance Status On the Date of Application (Check One)	Briefly Describe the Non-Compliance (If You Checked Non-Compliance in the Previous Column)	How Did You Determine if You Were In or Out of Compliance? (Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)	Compliance Status On the Day You Receive Your Permit (Check One)
# 11b) from GI-09, Motor Vehicles (Minn. R. 7023.0100 - 7023.0120)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable If your facility does not operate a motor vehicle fleet, check "Not-Applicable."		do not operate a fleet	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable If your facility will not operate a motor vehicle fleet during the term of your permit, check "Not-Applicable."
# 11b) from GI-09, Noise Pollution Control (Minn. R. 7030.0010 - 7030.0080)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Unknown You may only check "Unknown" if noise pollution has never been tested for your facility.		Have never had noise levels tested.	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Unknown You may only check "Unknown" if noise pollution has never been tested for your facility.
#1a from GI-09(I) Air Pollution Episodes (Minn. R. 7009.1000 -7009.1110)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable		We will not be allowed to emit 250 tons of any pollutant after our permit is issued.	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable

Requirement That is Basis of Certification	Compliance Status On the Date of Application (Check One)	Briefly Describe the Non-Compliance (If You Checked Non-Compliance in the Previous Column)	How Did You Determine if You Were In or Out of Compliance? (Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)	Compliance Status On the Day You Receive Your Permit (Check One)
#2a, b, and c from GI-09(I) Standards of Performance for Stationary Sources (Minn. R. 7011.0500 - 7011.0620 and 7011.0800 - 7011.3450)	<input type="checkbox"/> Compliance <input checked="" type="checkbox"/> Non-Compliance <input type="checkbox"/> Not Applicable	We have not been in compliance with NSPS Subpart Dc, which is incorporated by reference.	We did not turn in any of the required notifications, and have not kept the required records.	<input type="checkbox"/> Compliance <input checked="" type="checkbox"/> Non-Compliance <input type="checkbox"/> Not Applicable
#3c from GI-09(I) Minnesota Acid Deposition Control Requirements (Minn. R. 7021.0050)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable		The facility does not generate electricity.	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable
# 4a, c, and d from GI-09(I) Standards of Performance for Industrial Process Equipment (Minn. R. 7011.0700 - 7011.0735)	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Unknown <small>You may only check "Unknown" if you have never done opacity or emissions testing at your facility.</small> <input type="checkbox"/> Not Applicable		We have baghouses controlling emissions from the sources subject to this rule. Based on the information we have from the baghouse vendor, we have no reason to believe we have violated this standard.	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input type="checkbox"/> Unknown <small>You may only check "Unknown" if you have never done opacity or emissions testing at your facility.</small> <input type="checkbox"/> Not Applicable

Requirement That is Basis of Certification	Compliance Status On the Date of Application (Check One)	Briefly Describe the Non-Compliance (If You Checked Non-Compliance in the Previous Column)	How Did You Determine if You Were In or Out of Compliance? (Monitoring, Reporting, Recordkeeping, Emission Calculations, Performance Test Data, Operation and Maintenance Methods)	Compliance Status On the Day You Receive Your Permit (Check One)
#5b from GI-09(I) Waste Combustors (Minn. R. 7011.1201 - 7011.1290)	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable		We do not operate a waste combustor.	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable
Any condition listed in your facility's most recent MN Air Emission Permit	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable		Have never had an Air Emissions Permit	<input checked="" type="checkbox"/> Not Applicable
*Any other air quality requirement that applies to your facility that has not been identified above List below:	<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable			<input type="checkbox"/> Compliance <input type="checkbox"/> Non-Compliance <input checked="" type="checkbox"/> Not Applicable

* These boxes are intended for rules which have been promulgated but not yet added to the form, requirements from enforcement actions or SIP order requirements.

Appendix 2-C

Blue Ox Compliance Forms: Compliance Schedule (CD-03)



MINNESOTA POLLUTION CONTROL AGENCY
 AIR QUALITY
 520 LAFAYETTE ROAD
 ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **CD-03**
COMPLIANCE SCHEDULE
 5/11/98

1) AQ Facility ID No.: 99009999 2) Facility Name: Blue Ox Woodworks

3)

3a) Emission Unit or Stack/Vent ID Number	3b) Citation of Requirement With Which You Are Not in Compliance	3c) What Corrective Action(s) Will You Take, and By When?
002	40 CFR 60.42c(d), Minn. R. 7011.0570	Contact fuel oil vendor to determine sulfur content of fuels we've purchased, within 30 days of permit issuance.
002	40 CFR 60.42c(h), 40 CFR 60.44c(h), Minn. R. 7011.0570	Will maintain records of vendor certifications - within 45 days of permit issuance
002	40 CFR 60.48c(d), Minn. R. 7011.0570	Will begin submitting quarterly reports - within 45 days of permit issuance
002	40 CFR 60.48c(g), Minn. R. 7011.0570	Will begin keeping records of the amount of fuel combusted daily - immediately
002	40 CFR 60.7(a)(1), (2), and (3)	Will submit notification of dates of construction and startup - immediately

Appendix 2-D

Blue Ox Compliance Forms: Operation and Maintenance Plan

Blue Ox Woodworks Operation and Maintenance Plan

As part of our air quality permit application, we have put together a maintenance plan for our pollution control equipment. Our facility has three baghouses for our woodworking equipment. Coating emissions are controlled by a thermal oxidizer and a wall filter in our spray booth.

We maintain the following parts on site for repairs:

Baghouses:	Filter bags Pressure gauges Gaskets Valves
Wall filters:	Filters
Thermal Oxidizer:	Valves Gauges Temperature sensor Paper charts Recording pens

We can obtain other parts on short notice from regional suppliers.

All baghouses will be checked as outlined in the following pages. The wall filter will be checked daily and the filters will be replaced when necessary. The thermal oxidizer will be checked both daily and quarterly as outlined on the inspection forms. All necessary maintenance will be performed as needed.

Blue Ox Woodworks
Baghouse O & M Procedures

Inspection Frequency	Component	Procedure
Daily	Opacity	Check exhaust for presence of visible emissions.
	Pressure Drop	Check & record pressure drop. Opt. range should remain within 2-4 inches of water. If out of range check system for leaks or clogging.
	Shaker Mechanism	Check for proper operation.
	System Fan	Check for bolt tension, wear and lubrication.
	Dust-Removal System	Check to ensure that dust is being removed.
Weekly	Rotating Equipment & Drives	Check for signs of jamming, leakage and wear.
	Filter Bags	Check for tears, holes, abrasion, proper fastening, bag tension and accumulation on surface or folds.
	Damper Valves	Check all isolation, bypass and cleaning damper valves for synchronized and proper operation. Lubricate as necessary.
	Cell Plates	Clean surface, check for warping and leaks.
	Cleaning System	Check cleaning sequence & cycle times for proper valve and timer operation. Check compressed air lines, including oilers and filters.
	Hoppers	Check for bridging or plugging. Inspect valves for proper function.
Monthly	Shaker Mechanism	Check integrity of system and for loose bolts.
	Fans	Check for corrosion and material buildup; check bearings and shaft for wear and V belt drives and chains for tension and wear.
Quarterly	Inlet Plenum	Check baffle plate for wear (replace as necessary). Check for dust deposits and clean-side dust deposits.
	Access Door and Airlock	Check all gaskets for wear and proper alignment.
	Shaker Mechanism	Inspect shaker bars, connecting rods and hangers for wear.
Semi-Annually	Motors & Fans	Lubricate all electric motors, speed reducers, fans and similar equipment.

Blue Ox Woodworks
Daily Baghouse Inspection Form

Baghouse:	Date and Time:
Component	Comments/Corrective Actions
Dust Emissions	Yes No
Pressure Drop	_____ inches water
Shaker Mechanism	Proper Operation: Yes No
System Fan (bolt tension, wear and lubrication)	
Dust-Removal System	Proper Operation: Yes No
Name of Inspector:	Signature of Inspector:

Blue Ox Woodworks
Weekly Baghouse Inspection Form

Baghouse:	Date and Time:
Component	Comments/Corrective Actions
Rotating Equipment and Drives	Lubricated: Yes No Any signs of jamming, leakage or wear? Yes No
Filter Bags (bag tension, proper fastening on cell plate, fallen or torn bags, holes in bag, abrasion dust accumulations on bags).	Note if bags replaced or adjusted:
Damper Valves	Operating Properly: Yes No If no, what was adjusted? Lubricated: Yes No
Cell Plates (warping, leakage or cracks)	
Hoppers (bridging or plugging)	Valves operating correctly? Yes No
Cleaning Hoppers (compressed air lines, oilers and filters)	Proper valve and timer operation? Yes No
Name of Inspector:	Signature of Inspector:

Blue Ox Woodworks
Monthly, Quarterly, and Semi-Annual Baghouse Inspection Form

Baghouse:	Date and Time:
Component	Comments/Corrective Actions
Monthly Shaker Mechanism (integrity of system, loose bolts)	Integrity of system OK? Yes No
Fans	Any corrosion, material buildup or shaft/ drive/ chain wear? Yes No
Quarterly Inlet Plenum	Any baffle wear, dust deposits or clean-side dust deposits? Yes No
Access Door and Airlock	Any gasket wear? Yes No Proper alignment? Yes No
Shaker Mechanism	Any wear on shaker bars, connecting rods or hangers? Yes No
Semi- Annual Motors and Fans	Lubricated: Yes No
Name of Inspector:	Signature of Inspector:

Blue Ox Woodworks
Thermal Oxidizer Daily Inspection Form

Baghouse:	Date and Time:
Component	Comments/Corrective Actions
Temperature	Any temperature alarms? Yes No Combustion temp.: range ____F reading ____F
Recorders	Operational? Yes No

Any operational problems and corrective actions?

Name of Inspector:	Signature of Inspector:
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Blue Ox Woodworks
Thermal Oxidizer Quarterly Inspection Form

Baghouse:	Date and Time:
Component	Comments/Corrective Actions
Refractory	Any cracks, spalling or corrosion? Yes No
Burner	Any warpage, corrosion or fouling? Yes No
Combustion Chamber	Any fouling, corrosion or leaks? Yes No
Pressure Seals	Any problems with packing glands? Yes No
Shell Condition	Any thermal shock/weld conditions? Yes No
Auxiliary Fuel Piping Train	Is it OK? Yes No
Interlocks, Electrically Operated Valves, Dampers, Valves, Gauges, Recorders and Thermocouples	Are they operating correctly? Yes No
Name of Inspector:	Signature of Inspector:

Blue Ox Woodworks
Thermal Oxidizer Corrective Action Summary

Problem	Symptoms	Corrective Actions
Burner Fouling	High CO Emissions. Insufficient Combustion Air. Flame Instability. Flame Out.	Clean Burner Tips. Prefilter Ambient Air. Filter Process Stream. Stop Using Process Combustion Air. Improve Fuel Source.
Preignition in Heat Exchanger	Decrease O ₂ in Carrier Gas. Bypass - Leakage from Flume Side to Flue Gas Side. Unexplained Increase in Outlet Hydrocarbon Conc.	Reduce Preheat Temperature. Retube Heat Exchanger.
Thermal Expansion of Heat Exchanger	Tube Failure. Inleakage/ Bypass to Flue Gas Side.	Retube. Conform to Mfg. Recommended Preheat Schedule. Limit Max. Temperatures.
Thermal Expansion of Oxidizer	Refractory Failure Shell Failure from Heat Stress.	Repair Refractory. Limit Max. Temperature/ Preheat Rates. Limit Thermal Cycling
Inleakage in Rich System	Decreased Conc. of Fume Below UEL. Potential for Explosion.	Periodic Integrity Check of Transport System. UEL Monitors.
Inleakage in Lean System	Decreased Conc. of Fume Below 25% LEL. Reduced Capture Volume at Source.	Periodic Integrity Check of Transport System. LEL Monitors.
Inleakage in Heat Exchanger	Increased Stack Hydro-Carbon Conc. Tube Failure.	Retube Heat Exchanger. Limit Temperature Excursions.

Blue Ox Woodworks

Thermal Oxidizer Corrective Action Summary (continued)

Problem	Symptoms	Corrective Actions
Heat Exchanger Fouling	Decreased Preheat Temp. Increased Stack Temp.	Prefilter Carrier Gases. Reduce Heat Exchanger Temperature. Eliminate Preheat Heat Exchangers. Clean Heat Exchangers.
Refractory Failure	Cracks, Spalling, Crumbling	Reduce Recycling. Limit Peak Temperature. Post Shutdown Purge to Remove Corrosive Gases.
Draft Control	Increased Pressure Drop. Decreased Throughput Capacity. Decreased Capture Capacity	Reduce Fouling. Reduce Combustion Temperature. Reduce Transport Air Inleakage.
Temperature Control	Irregular Combustion Temperature.	Feedback Temp. Control System. Dual Temperature Sensors.
Slagging	Deposits in Oxidizer. Refractory Failure. Increased Draft Losses	Prefilter Carrier Gases. Prefilter Ambient Combustion Air.
Flame Safety	Flame Out Due to Interlock Protection. Irregular Flame.	Inspect/ Replace Sensor. Relocate Sensor's Position.
Self Fueling	Increased Temperature with no Auxiliary Fuel Control.	Vent to Bypass. Vent to Flare.

Acronyms

APO	Administrative Penalty Order
AQ	Air Quality
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAS	Chemical Abstracts Services
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
EAW	Environmental Assessment Worksheet
EIS	Environmental Impact Statement
EPRO	Environmental Review and Planning Office
EPA	Environmental Protection Agency
EQB	Environmental Quality Board
HAPs	Hazardous Air Pollutants
LAER	Lowest Achievable Emission Rate
LOW	Letter of Warning
MAAQS	Minnesota Ambient Air Quality Standards
MACT	Maximum Achievable Control Technology
MnTAP	Minnesota Technical Assistance Program
MPCA	Minnesota Pollution Control Agency
MSDS	Material Safety Data Sheet
NAAQS	National Ambient Air Quality Standards
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NOV	Notice of Violation
NSPS	New Source Performance Standard
NSR	New Source Review
POTW	Publicly Owned Treatment Works
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RACT	Reasonable Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan

Glossary

acfm - actual cubic feet per minute. A measurement of the rate of exhaust (volume per unit of time) from an emission unit or emission facility.

actual emissions - amount of pollutants that are emitted from a stationary source, emission unit, or emission facility over a given period of time.

affected facility - facility or emission unit subject to a New Source Performance Standard (NSPS). The affected facilities for each NSPS are outlined in that NSPS.

affected source - emission source that is subject to Title IV (Acid Rain). (Minn. R. 7007.0100, subp. 4)

affected state - any state located adjacent to Minnesota and whose air can be affected by Minnesota's activities, or any state that is within 50 miles of a permitted source (Minn. R. 7007.0100, subp. 5)

affected unit - an emission unit that is subject to Title IV (Acid Rain) (Minn. R. 7007.0100, subp. 6)

air toxics - any pollutant, other than the six criteria pollutants, that scientists believe have the potential to cause adverse environmental or health effects.

administrative penalty order - an enforcement action used by the MPCA that requires violations to be corrected within 30 days; penalties can be assessed up to \$10,000.

administrative permit amendment - amendment to correct typographical errors; change company name or ownership or mailing address and other simple changes to a permit that do not change emissions. An administrative permit amendment does not require formal application, and can be initiated by either the permittee or the MPCA.

air emission permit - legal document that describes a facility and also how the facility is meeting federal and state air quality regulations. A permit also authorizes construction and operation of a facility.

alternative operating scenarios - terms and conditions in an air emission permit that allow planned changes to a facility's operating conditions. These must be identified by the permittee when applying for a permit (Minn. R. 7007.0800, subp. 11)

ambient air quality standards -

Minnesota (MAAQS) - air quality standards established by the state of Minnesota that apply to outside air in Minnesota.

National (NAAQS) - air quality standards established by EPA that apply to outside air throughout the country.

applicable requirements - all air quality rules and regulations that apply to emission units in a facility (Minn. R. 7007.0100 subp. 7).

application shield - with some exceptions, allows an existing facility that is operating on the effective date of the permit rule and has submitted a complete and timely application to continue operating before the facility's air emission permit is issued (Minn. R. 7007.0350, subp. 3).

attainment area - geographic area considered to have air quality as good as or better than the national ambient air quality standards as defined in the Clean Air Act. An area can be an attainment area for one pollutant and a nonattainment area for others (see *nonattainment area*).

begin actual construction - start of on-site physical construction or other activities in preparation for a planned modification to a facility. Examples include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures (Minn. R. 7005.0100, subp. 3a).

Best Available Control Technology (BACT) - emission limitation based on the maximum degree of emission reduction that can be achieved through application of production processes and available methods, systems and techniques while also considering energy, environmental and economic impacts, and other costs.

bottleneck - physical or operational limitation that is part of the design of an emission facility or emission unit. Bottlenecks prevent operation of equipment at 100% of capacity, and can be considered in potential to emit (PTE) calculations when determining if a permit is needed.

Clean Air Act - federal law that regulates air pollution in the United States.

Clean Air Act Amendments - revisions made in 1990 to the Federal Clean Air Act.

carbon monoxide (CO)- colorless, odorless gas that is toxic because of its tendency to reduce the oxygen-carrying capacity of the blood.

Code of Federal Regulations - regulations published by the Executive departments and agencies of the federal government. The Code of Federal Regulations (CFR) is revised annually as a set of paperback books, and is available in libraries. Title 40 of the CFR contains all federal rules and regulations relating to Protection of the Environment.

completeness review

administrative - MPCA review confirming that a permit application is submitted on standard forms and is properly organized.

technical - MPCA review confirming that the technical details of a permit application are complete and accurate.

compliance agreement - a negotiated settlement between a facility and the MPCA that includes a schedule of corrective action (*see stipulation agreement*).

compliance assurance monitoring (CAM) - the methods used to determine continuous compliance with standards and limitations that apply to a facility.

compliance certification - portion of a permit application that outlines a facility's compliance status for all air quality rules and regulations that apply. A responsible official must certify that the compliance certification is accurate and complete (*see responsible official*). Compliance certifications are also required on an annual basis after the permit is issued.

compliance plan - plan in an air emission permit that shows how a facility will be in compliance with the air quality rules and regulations that apply to the facility. A compliance plan includes specific monitoring, record keeping, reporting, and operation and maintenance procedures that must be followed during the life of a permit.

compliance schedule - negotiated agreement between a facility and a government agency that specifies dates and procedures by which a facility will reduce emissions, and thereby, comply with a regulation.

construction - any fabrication, erection, or installation of an emission facility, emission unit or stationary source (Minn. R. 7005.0100, subp. 5; also see *begin actual construction*).

construction permit - permit to construct (not operate) a source (see *installation and operation permit*).

continuous compliance - compliance status of a facility when monitoring data show the facility to be operating within emission limits and standards throughout a specified reporting period.

corrective action - activities undertaken to correct air quality violation(s).

criteria pollutants - six pollutants (ozone, carbon monoxide, total suspended particulates, sulfur dioxide, lead, and nitrogen oxide) determined by the US EPA to be hazardous to human health. The term "criteria pollutants" comes from the requirement that EPA must describe the characteristics and potential health and welfare effects of these pollutants. It is on the basis of these criteria that air quality standards are established.

dscfm - dry standard cubic feet per minute. A measurement of the volume of air per unit of time exhausted from an emission unit or emission facility (see *acfm*), corrected to account for the temperature and moisture content being different from "standard conditions."

deviation - departure from permit limits or conditions that may or may not endanger human health or the environment. Facilities are required to report deviations in their air permits within schedules contained in Minn. R. 7007.0800, subp. 6.

dispersion modeling - analysis of a facility's air emission data using computer programs to estimate the affects of emissions on the surrounding air.

emission - pollution discharged into the atmosphere from smokestacks, other vents, and surface areas of commercial or industrial facilities.

emission facility - any group of activities and/or equipment that can cause pollutants to be released into the air. Emission facilities are made up of emission units and are contained within stationary sources (Minn. R. 7005.0100, subp. 10).

emission factor - number that describes the relationship between the amount of raw material processed in an emission unit and the amount of pollution produced from the emission unit. For example, an emission factor for a gas-fired boiler would be pounds of NO_x produced per million cubic feet of gas burned.

emission limit - restriction on the amount of a particular pollutant that can be released from an emission unit or emission facility over a given period of time. Emission limits are commonly expressed as a concentration (grains per dry standard cubic foot) or rate (pounds per hour).

emission point - where air pollutants are emitted to the outside air from a facility (e.g., a stack or vent). One or more *emission units* may exhaust at an emission point.

emission source - (see *emission unit*).

emission thresholds - levels of emission rates (pounds/hour or tons/year) above which certain rules or permit requirements apply.

emission trading - EPA policy that allows a facility to increase and decrease emissions of the same pollutant among several emission units provided that total facility emissions do not increase. Emission trades cannot result in a Title I modification or violate any applicable requirement (see *operational flexibility*).

emission unit - an identifiable piece of equipment or process that emits air pollution. Examples include a boiler, a coal storage pile, a parts washer or any activity or equipment that can cause pollutants to be released.

enforcement waiver - in some cases, protection from potential enforcement actions for not holding a permit in the past for facilities that should have had one.

Environment Assessment Worksheet (EAW) - tool of environmental review. It may be mandatory, meaning the project falls into a category specified in Minnesota rules, or it may be ordered when facts indicate the project "may have the potential for significant environmental effects." An EAW is required by Minnesota rules when the construction or modification of a stationary source results in an increase of 100 tons per year or more of a single air pollutant, after pollution control equipment is considered, or under any of the other conditions listed under Minn. R. 4410.4300. The EAW process typically takes six months to complete.

Environment Impact Statement (EIS) - the more intensive part of environmental review. An EIS is not always required, but is mandatory under the conditions listed in Minn. R. 4410.4400. The EIS is required when the project is such that it is inevitable that it will have some impact on the environment. The EIS process typically takes 9-12 months to complete.

environmental review - process that provides information to units of government on the environmental impacts of a project before approvals or permits are issued. It creates the opportunity to anticipate and correct potential adverse affects on the environment due to a project (see *Environmental Assessment Worksheet* and *Environmental Impact Statement*).

fugitive emissions - emissions that are not and cannot be contained or collected and emitted through a stack or vent. Examples are unpaved roads and outdoor storage piles. The determination of whether an emission is fugitive is often made on a case-by-case basis. (Minn. R. 7005.0100, subp. 11c)

general permit - permit for a class or category of facilities.

gr/dscf - grains per dry standard cubic foot. A unit of measurement of the concentration of a pollutant in flue or exhaust gas. There are 7000 grains in a pound.

Hazardous Air Pollutants (HAPs) - group of pollutants regulated by the US EPA, other than the six criteria pollutants, that scientists believe have the potential to cause adverse environmental or health effects.

insignificant activities - activities that do not require permitting. Some insignificant activities are required to be listed in a permit application for facilities otherwise required to obtain a permit (Minn. R. 7007.1300).

insignificant modification - constructing or beginning an activity or emission unit that is on the insignificant activities list, or a modification that is not on the insignificant list but results in an increase less than the thresholds listed in the rules (Minn. R. 7007.1250).

installation and operation (I/O) permit - permit issued by the state that authorizes the installation of new equipment or the modification of existing equipment. This type of permit is issued to a facility that lacks a valid total facility permit, but submitted a timely application under the current permit program.

intermittent compliance - compliance status of a facility when monitoring data shows the facility to be operating within emission limits and standards for part of a reporting period. In contrast, if a facility is in compliance for an entire reporting period, the facility is in continuous compliance (*continuous compliance*).

lead - heavy metal that is hazardous to human health when breathed or swallowed. Its use in gasoline, paints, and plumbing compounds has been sharply restricted or eliminated by federal laws and regulations (see *criteria pollutants*).

Letter of Warning (LOW) - enforcement tool used by the MPCA for alleged minor violations; generally requires corrective action but no penalties.

listed control equipment - control equipment that is listed in the Minnesota performance standard for control equipment (Minn. R. 7011.0070).

Lowest Achievable Emission Rate (LAER) - under the Clean Air Act this is the rate of emissions that reflects: (a) the most stringent emission limitation contained in a State Implementation Plan for a facility, unless the owner or operator of a facility can demonstrate that the limitation is not achievable; or (b) the most stringent emissions limitation achieved in practice, whichever is more stringent.

major permit amendment - amendment to an air emission permit that cannot be made under the minor or moderate amendment provisions of the rules. (Minn. R. 7007.1500)

Material Safety Data Sheet (MSDS) - document that outlines information about a chemical substance, including ingredients, health and environmental hazards, flammability, safety precautions, etc. MSDSs for all chemical substances are available from the supplier of the material.

Maximum Achievable Control Technology (MACT) - emissions limitations based on the best demonstrated control technology or practices to be applied to major sources emitting one or more of the federally listed hazardous pollutants.

minor permit amendment - amendment to an air emission permit that allows a modification that results in an emissions increase below the levels described in Minn. R. 7007.1450, subp. 2, with the exceptions that are found in Minn. R. 7007.1450.

moderate permit amendment - amendment to an air emission permit that allows a modification that results in an emissions increase greater than the levels described in Minn. R. 7007.1450, subp. 2, but that does not require a major permit amendment (Minn. R. 7007.1450).

modification - any physical or operational change at an emission unit or emission facility or stationary source (not allowed by any existing permit) that can cause the amount of pollutants released to increase, either at the specific unit being changed, or elsewhere in the facility. Also any Title I modification. Routine maintenance, repair, and replacement are not considered modifications (Minn. R. 7007.0100, subp. 15).

National Emission Standards for Hazardous Air Pollutants (NESHAPs) - emissions standards set by EPA for air pollutants not covered by NAAQS that may cause an increase in deaths or in serious irreversible or incapacitating illness.

New Source Performance Standards (NSPS) - uniform national EPA air emission and water effluent standards that limit the amount of pollution allowed from new sources or from existing sources that have been modified.

New Source Review (NSR) - federal program that contains the Nonattainment Area and Prevention of Significant Deterioration programs and that applies to certain facilities with the potential to emit air pollution of 100 or 250 tons per year.

nitrogen oxides (NO_x) - Oxides of nitrogen (except nitrous oxide) that are regulated because they can cause lung and eye irritation, can contribute to the formation of acid rain, and react in the atmosphere to form ozone and smog (see *criteria pollutants*).

nonattainment area - geographic area that does not meet one or more of the NAAQS for the criteria pollutants designated in the Clean Air Act.

Notice of Violation (NOV) - enforcement tool used by the MPCA as a formal notice issued for alleged violations; requires corrective action but no penalties.

opacity - amount of light obscured by particulate pollution in the air (e.g., clear window glass has zero opacity, a brick wall has 100 percent opacity). Opacity is used as an indicator of changes in performance of particulate matter pollution control systems.

operating permit - permit to operate a source.

operational flexibility - provisions in the Minnesota permit rule that allow a facility to make certain changes without obtaining a permit amendment. In order to qualify, the facility would have had to request these changes in their total facility permit application. (See *alternative operating scenarios* and *emission trading*.)

ozone - at ground level, ozone is a noxious pollutant and is the major component of smog. The source of ozone is the chemical reaction of VOCs and NO_x. Health effects of ozone are breathing problems, reduced lung function, asthma, eye irritation, stuffy nose, and reduced resistance to colds and other infections. Environmental effects of ozone can damage plants and trees. Smog also causes reduced visibility (see *criteria pollutants*).

Part 70 - U.S. EPA's interpretation of Title V of the 1990 Clean air Act Amendments, outlined in the Code of Federal Regulations, 40 CFR 70.

Part 70 permit - air emission permit issued under Minn R. 7007.0200, and 40 CFR 70.

particulate matter - fine liquid or solid particles such as dust, smoke, mist, fumes or smog found in air or emissions. (see PM₁₀).

performance test - the quantification of emissions or the determination of the physical, chemical, or aesthetic properties of those emissions from an emission unit (Minn. R. 7017.2005, subp. 4).

permit amendment - document issued by the MPCA to change conditions in a total facility permit. A permit amendment may reflect a physical change or a change in the permit requirements.

permit rule method - calculation technique used to quantify changes in emissions due to a physical change. This method is used only when the change is not a Title I modification. Minn. R. 7007.1200 describes the permit rule method.

permit shield - condition in a permit stating that if the terms of the permit are complied with, the facility will be considered to be in compliance with the applicable rule or regulation. The permit shield only applies if and where the permit specifically states that it applies (Minn. R. 7007.1800).

PM₁₀ - standard for measuring the amount of solid or liquid matter suspended in the atmosphere. Refers to the amount of particulate matter smaller than 10 micrometers in diameter. The smaller PM₁₀ particles penetrate to the deeper portions of the lung, affecting sensitive population groups such as children and people with respiratory diseases. (see *criteria pollutants*)

portable facility - emission facility capable of being easily moved, e.g., an asphalt plant.

portable source - emission source that is capable of being easily moved; e.g., a diesel generator or auxiliary power unit.

potential emissions - (see *potential to emit*)

potential to emit (PTE) - maximum amount of a pollutant that a source is capable of emitting, assuming the source runs at full capacity 24 hours per day and 365 days per year. (Minn. R. 7005.0100, subp. 35a).

Prevention of Significant Deterioration (PSD) - US EPA program that requires air emission permits to restrict emissions for new or modified sources in places where air quality meets primary and secondary ambient air quality standards. PSD is the part of NSR that applies in attainment areas.

responsible official - individual at a facility who is responsible for the accuracy and completeness of a permit application. A responsible official is also required to certify the facility's compliance status in the permit application and on an annual basis after the permit is issued (Minn. R. 7007.0100, subp. 21; see *compliance certification*).

rolling average - sometimes used as a calculation method for showing compliance with a permit limit. For example, to calculate the "12 month rolling average" for operating hours, each month you would total the operating hours for the 12 months immediately prior to the current month, and divide by 12.

rolling sum - sometimes used as a calculation method for showing compliance with a permit limit. For example, to calculate the "12 month rolling sum" for operating hours, each month you would add together the operating hours for the 12 months immediately prior to the current month. (This is very similar to the rolling average, but usually a little easier to use.)

SIC code - Standard Industrial Classification code. The SIC code is a numerical indicator of the primary type of activity at a business. For example, 5153 is a grain elevator; 2951 is an asphalt plant; etc. The first two digits indicate the broad category, the second two digits are more industry-specific.

significant level - thresholds for specific regulated pollutants used to determine if a modification is major as defined in New Source Review rules. Modifications that are major must undergo further review.

state permit - permit issued under Minn. R. 7007.0250. This is a permit for a source that is not a major source, but still needs a permit under Minnesota Rules (Minn. R. 7007.0100, subp. 24).

stationary source - place or object from which pollutants are released and which does not move around. Stationary sources include power plants, gas stations, incinerators, etc.

stipulation agreement - a negotiated settlement between a facility and the MPCA that includes a schedule of corrective action and a penalty for past noncompliance (see *compliance agreement*).

sulfur dioxide (SO₂) - heavy, pungent, colorless, gaseous air pollutant formed primarily by industrial fossil fuel combustion processes (see *criteria pollutants*).

synthetic minor limit - federally enforceable operating or emissions limitations accepted by a permit applicant that limits a facility's PTE and makes the facility a minor source under Part 70 or New Source Review regulations.

synthetic minor permit - air emission permit that contains one or more synthetic minor limits.

Title I - refers to Title I of the federal Clean Air Act, which protects ambient air quality. Title I programs include Prevention of Significant Deterioration and Nonattainment Area New Source Review; New Source Performance Standards; and National Emission Standards for Hazardous Air Pollutants.

Title I condition - permit condition that is based on a requirement of Title I of the Clean Air Act (NSR, NSPS, NESHAPs). This includes conditions required under PSD and Nonattainment Area programs, those that enable a source to avoid becoming subject to PSD or Nonattainment Area programs, and those required for achieving or maintaining NAAQS. Permit requirements set under Title I are permanent requirements (Minn. R. 7007.0100, subp. 26).

Title I modification- any change that is considered a modification under Title I of the Clean Air Act (PSD and Nonattainment Area, NSPS, HAPs). (Minn. R. 7007.0100, subp. 27)

Title III - Refers to Title III of the Clean Air Act Amendments of 1990 targeting hazardous air pollutants; Title III defines the Hazardous Air Pollutants and describes how the standards will be developed.

Title V - section of the Clean Air Act that covers the operating permit program.

total facility permit - air emission permit issued for the entire source.

volatile organic compounds (VOC) - any organic compound that participates in smog-forming reactions except for those designated by the EPA Administrator as having negligible photochemical reactivity (see *criteria pollutants*).