

**Technical Support Document
for
Air Emission Permit for Part 70 Manufacturing General Permit**

This technical support document (TSD) is intended for all parties interested in the permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the determination to issue the permit.

1. Introduction

The Minnesota Pollution Control Agency (MPCA) strives to efficiently implement the air emission permitting program and to continuously improve the permitting process. One way to meet this goal is through the development of general permits for specific industrial categories.

This document presents the MPCA's overall approach for the efficient permitting of the manufacturing general permit. In order to support the general permit and application, the technical support information needs to meet the following general objectives:

- The information must describe how the sources eligible for this general permit are similar. The information should also describe the similar regulatory requirements for these sources (Minn. R. 7007.1100, subp. 1).
- The information must identify which permit application requirements of Minn. R. 7007.0100 - 7007.1850 do not apply to stationary sources qualifying for the general permit in order to support development of a simplified application (Minn R. 7007.1100, subp. 5), and
- For Part 70 permits, the information must set forth the legal and factual basis of the permit conditions, including reference to the applicable statutory or regulatory provisions (Minn. R. 7007.0850, subp. 1).

The remainder of this technical support document includes: the permitting approach in Section 2; qualification requirements in Section 3; regulatory and statutory basis in Section 4; technical information in Section 5; compliance with applicable requirements in Section 6; operating flexibility in Section 7; monitoring in Section 8; permit organization in Section 9; insignificant activities in Section 10; comments received in Section 11; and application content in Section 12. The permit contains the general conditions listed in Minn. R. 7007.0800, subp. 16.

2. Permitting Approach

This Section discusses the general concepts for individual versus general permits. It presents the overall permitting approach for aviation facilities that have constructed and/or operated prior to obtaining a permit for material usage and processing operations and fuel combustion sources, with or without pollution control equipment.

2.1. General Permits versus Individual Permits

Minn. R. ch. 7007 requires air emission sources to obtain permits from the MPCA. These rules provide the overall specifications for the MPCA's air emission permits program. The owner or operator of a facility submits a permit application to the MPCA. The MPCA reviews the applications and, when staff determines that the application is complete, staff prepares a draft permit for public notice. Public notice requirements provide for a 30-day public comment period and in some cases review by neighboring states or provinces. After the 30-day public comment period, Environmental Protection Agency (EPA) is provided with a 45-day period review of the proposed permit. After the 45-day EPA review the permit may be issued.

Typically, permitting involves preparing a draft permit for each individual source based on source-specific considerations. The complete permitting process described above is then carried through for each individual permit. This approach is generally time-consuming for all parties involved.

As an alternative, Minn. R. 7007.1100 provides for the issuance of a "general permit" which covers numerous sources that are similar to each other and are subject to the same or substantially similar regulatory requirements. This approach provides for greater efficiency than the individual permit approach. The process of issuing a general permit includes:

- Development of a simplified application based on requirements which would potentially be applicable to the types of sources for which the permit would be issued;
- Development of a single permit for the source group which provides for compliance with applicable requirements by standard approaches identified in the permit;
- A one-time public notice and EPA review prior to issuance of the final general permit;
- Issuance of the general permit to any qualifying individual source without repeating the public notice for each source; and
- Availability of a list from the MPCA upon request which identifies the stationary sources for which a general permit application has been received.

The primary benefit of a general permit is the efficiency provided to the MPCA and to qualifying stationary sources through a simplified permitting process. At the same time, the opportunity for public participation is preserved in the public notice of the general permit. The MPCA will also make available to the public a list of sources from whom applications have been received.

General permits also provide for equitable treatment of sources through the receipt of uniform permit applications and uniform permits. However, when requesting the general permit, the stationary source is accepting the terms and conditions of the general permit and must comply with them. When submitting the general permit application, the stationary source may not request special conditions for operation of its stationary source. If special conditions are necessary for an individual source, that source must apply for an individual permit.

2.2. Manufacturing General Permitting Approach

The manufacturing general permit category is allowed according to Minn. R. 7007.1100, subp. 1, which requires that the same or substantially similar requirements apply to the category of sources. This permit may be issued to stationary sources throughout the State of Minnesota.

This general permit will be issued to stationary sources that can meet the emission limits and requirements established in the permit. The permit allows operating flexibility by authorizing the installation, replacement, and removal of equipment without significant regulatory burden to the Permittee, as long as the Permittee remains in compliance with the general permit.

2.3. Description of the activities allowed by this permit action

This permit action is a Permit reissuance. Activities and emission units allowed by this permit action include abrasive blasting, boilers, brazing, casting, catalytic or thermal oxidizers, cleaning (including acid cleaning, degreasers, general cleanup with solvents), dip tanks, fabric filters, fuel storage, furnaces, injection molding, internal combustion engines (generators), lamination, mixing, molding, ovens, resin and gel coating, sanding, screen printing, soldering, space heaters, spraying and coating activities, stenciling, storage tanks, wall/panel filters, paint booths, and welding.

If a stationary source has process operations or emission units that are not listed in this permit and that are not insignificant activities (listed in Minn. R. 7007.1300 or conditionally insignificant activities listed in Minn. R. 7008), the stationary source does not qualify for the general permit. Stationary sources also may not be any of the source categories listed in 40 CFR Section 52.21(b)(1)(iii), prevention of significant deterioration (PSD).

2.4. Facility emissions

This general permit will be issued for stationary sources that can meet the emission limits established in this permit. The emission limits include requirements that allow operating flexibility by pre-authorizing the installation, replacement, and removal of equipment.

Table 1. Total facility potential to emit summary

	PM tpy	PM ₁₀ tpy	PM _{2.5} tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total facility limited potential emissions	90	90	90	88	90	90	225	90	90

Table 2. Facility classification

Classification	Major	Synthetic minor/area	Minor/Area
New Source Review		X	
Part 70	X		
Part 63	X		

2.5. Changes to permit from the previous Manufacturing General Permit issuance

This permit action removes the qualification for abrasive blasting operations to be total enclosures and have or install control equipment that achieves greater than or equal to 85% control efficiency under form MG-00. The Part 70 Manufacturing General Permit allows Permittees to capture emissions through total enclosures, certified hoods, and/or hoods that are not certified, or not to capture emissions at all.

The CO₂e (greenhouse gas (GHG)) limit is removed. In a memo dated July 24, 2014 (<http://www.epa.gov/nsr/documents/20140724memo.pdf>), EPA discussed the June 23, 2014 Supreme Court ruling in Utility Air Regulatory Group v. EPA, addressing the application of stationary source permitting requirements for GHG emissions. The EPA will no longer apply or enforce the requirement to obtain a Prevention of Significant Deterioration (PSD) permit solely because a facility emits or has the potential to emit GHG above major source thresholds. All pollutants other than CO₂e are limited under the Manufacturing General Permit so Permittees do not require a PSD permit for any pollutant. If a facility emits or has the PTE CO₂e above the major source threshold of 100,000 tpy, the MPCA will not require facilities to obtain a PSD permit which is consistent with the Utility Air Regulatory Group decision. Therefore, a CO₂e limit is no longer needed.

Trichloroethylene (TCE) will no longer be allowed and included in the Part 70 Manufacturing General Permit. For facilities that use equipment or have operations that emit TCE, the permit requires the Permittee to cease emitting and using TCE by six months after the date the permit is issued.

Other PSEU requirements for thermal and catalytic oxidizers have been removed from the permit. The Part 70 Manufacturing General Permit limits VOC emissions from facilities to 225 tons per year or less. Therefore, if a Permittee is using add-on control equipment (thermal or catalytic oxidizer) to achieve compliance with this limit, the control equipment qualifies as a large pollutant specific emissions unit (PSEU) as defined under 40 CFR Section 64.1.

3. Qualification Requirements

To meet requirements of Minn. R. 7007.1100, subps. 1 and 5, the following four general criteria must be met for this general permit:

- The permit must be for a group of emission sources or stationary sources of like kind or substantially similar in nature;
- The same or substantially similar requirements of Minn. R. 7007.0500 (Content of Permit Application) and Minn. R. 7007.0800 (Permit Content) need to apply to the emission sources or stationary sources covered by the permit;
- The same or substantially similar applicable requirements of Minn. R. 7007.0100, subp. 7, apply to the emission sources or stationary sources; and
- The approaches for meeting the requirements of the second criteria and methods for meeting the applicable requirements identified by the third criteria need to be applied consistently.

Development of the general permit and simplified application also requires that a number of assumptions be made to identify applicable requirements and establish how compliance with the applicable requirements will be achieved. These assumptions become qualification requirements for the general permit and need to be compatible with the design and operation practices at a number of cleaning, painting/coating, cutting, grinding, blasting, welding, brazing, soldering, fossil fuel combustion, and general fiberglass stationary sources with or without pollution control equipment for the permit to be useful.

A number of qualifications were required to be established for the development of this general permit. These qualifications are presented as numerical steps in the Qualifications Review List supplied with the application package for this general permit (Form MG-00). The basis for the qualifications is presented in the remainder of this section.

4. Regulatory and/or statutory basis

4.1. New source review (NSR)

Prevention of Significant Deterioration (PSD) requirements apply to stationary sources with a PTE of 250 tpy or more of any criteria pollutant (for facilities not identified in 40 CFR Section 52.21(b)(1)(iii)). Because this general permit will be issued only to stationary sources willing to limit their PTE to less than 250 tpy of each criteria pollutant, PSD requirements will not apply to stationary sources eligible for this general permit.

NSR requirements are in two programs: the nonattainment area review program (NAAR) and the PSD program. In this general permit, stationary sources in nonattainment areas will be restricted to under 100 tpy for all criteria pollutants except ozone. The 100 tpy restriction for ozone (VOC) does not apply because there are no ozone nonattainment areas in Minnesota. Therefore, the NAAR requirements do not apply because there are currently no nonattainment areas in Minnesota.

This general permit also contains flexibility language and requirements so that stationary sources have the ability to make design and operational changes without being subject to PSD requirements.

4.2. Part 70 permit program

40 CFR pt. 70 requirements apply to stationary sources with a PTE of 100 tpy or more of any criteria pollutant. Because this general permit allows stationary sources to emit more than 100 tpy of VOC, these stationary sources are subject to 40 CFR pt. 70.

4.3. New source performance standards (NSPS)

Any stationary source with an emission unit(s) subject to any New Source Performance Standards other than for volatile organic liquid storage vessels (subpart Kb) and stationary compression ignition internal combustion sources (subpart IIII) in 40 CFR pt. 60, **does not qualify this general permit.**

4.4. National emission standards for hazardous air pollutants (NESHAP)

The Clean Air Act amendments of 1990 established a program to regulate any stationary source or group of stationary sources that emits or has the potential to emit considering controls, ten tons per year or more of any single HAP or 25 tons per year or more of any combination of HAPs. The standards for maximum available control technology (MACT) are commonly known as NESHAP for source categories (40 CFR pt. 63). MACT standards require affected sources to meet specific emissions limits that are based on emissions levels already achieved by the best controlled similar sources. The identified source categories and NESHAPs in this general permit are:

- Halogenated solvent cleaning machines (40 CFR pt. 63, subp. T)
- Miscellaneous metal parts and products for surface coating operations (40 CFR pt. 63, subp. MMMM)
- Surface coating of plastic parts and products (40 CFR pt. 63, subp. PPPP)
- Reinforced plastic composites production (40 CFR pt. 63, subp. WWWW)
- Stationary reciprocating internal combustion engines (40 CFR pt. 63, subp. ZZZZ)
- Industrial/commercial/institutional boilers and process heaters at major HAP sources (40 CFR pt. 63, subp. DDDDD)

Any stationary source subject to a NESHAP other than 40 CFR pt. 63 subps. T, MMMM, PPPP, WWWW, ZZZZ, and DDDDD, **does not qualify for this general permit.**

A stationary source that is subject to a case-by-case maximum achievable control technology standards (MACT) determination under section 112(g) of the Clean Air Act **does not qualify for this general permit.** On December 27, 1996, the CAA Section 112(g) rule was finalized. If a major HAP source undergoes a modification AND a modification of a process production unit (as defined in the 112(g) rule, 40 CFR 63.40 through 63.44) which by itself has a potential to emit of 10 or 25 tons per year and is not subject to a promulgated standard under 40 CFR pt. 63, the stationary source must apply for a permit including a case-by-case MACT determination. In this case this general permit cannot be used; instead, the stationary source would have to apply for an individual Part 70 permit.

Other NESHAPS requirements are provided in 40 CFR pt. 61 and in Minn. R. 7011.9900 through 7011.9990. Stationary sources with processes and equipment subject to these requirements **will not be eligible for this general permit.** Therefore, these standards are not contained in this general permit.

4.5. Stratospheric Ozone Protection

The Stratospheric Ozone Protection requirement in the permit pertains to a federal program that the state does not enforce. Stratospheric ozone protection requirements are for phasing out ozone-depleting chemicals as provided in the 1990 CAAA, Sections 601-618. These requirements are for manufacturing, selling, distributing, or using ozone depleting halogenated chemicals. These requirements may apply to stationary sources eligible for this general permit and stationary sources who are subject to these requirements must comply with these rules.

4.6. Prevention of Accidental Release Program

The prevention of accidental release program requirements are provided in 40 CFR pt. 68 and Section 112(r) of the Clean Air Act. The EPA promulgated the list of regulated substances and threshold quantities in the Federal Register on January 31, 1994, and the proposed risk management plan regulation on October 20, 1993.

Cleaning, painting/coating, cutting, grinding, blasting, fuel combustion, and general fiberglass stationary sources; with or without pollution control equipment may produce, process, handle, store, or use the listed substances in the quantities listed; therefore, these requirements may apply and if these rules do apply, the stationary source must register and submit a risk management plan according to the rules after promulgation of the final rule.

4.7. Compliance assurance monitoring (CAM)

40 CFR pt. 64, CAM, applies to facilities that operate emission control devices subject to federally enforceable regulations promulgated prior to 1990. CAM requires enhanced monitoring for units with pre-control PTE > 100 tpy that are subject to an emission limit and depend on control equipment to meet the limit. There are exceptions for limits imposed by post-1990 federal regulations. CAM may apply to stationary sources eligible for this general permit.

The MPCA established CAM plans for this general permit. The general permit includes the provisions that require the Permittee to comply with CAM requirements. If the Permittee objects to any of the CAM plans in the permit application, the Permittee must obtain an individual Part 70 permit.

The table below lists the control equipment included in this general permit that are subject to CAM, specifies whether large or other pollutant specific emission unit (PSEU) requirements are included in the permit, and the likely pollutants triggering CAM.

Table 3. CAM summary

Control	CAM applicability	Pollutant
Fabric Filters	Other	PM/PM ₁₀ /PM _{2.5}
Wall/Panel Filters	Other	PM/PM ₁₀ /PM _{2.5}
Thermal Oxidizer	Large	VOC
Catalytic Oxidizer	Large	VOC

Attachment 1 to this document includes the CAM Plans for this permit.

4.8. Stratospheric Ozone Protection

The Stratospheric Ozone Protection requirement in the permit pertains to a federal program that the state does not enforce. Stratospheric ozone protection requirements are for phasing out ozone-depleting chemicals as provided in the 1990 CAAA, Sections 601-618. These requirements are for manufacturing, selling, distributing, or using ozone depleting halogenated chemicals. These requirements may apply to stationary sources eligible for this general permit and stationary sources who are subject to these requirements must comply with these rules.

4.9. Environmental review and air emissions risk analysis (AERA)

On October 30, 2006, the Minnesota Environmental Review Rules (Minn. R. ch. 4410) were revised to include provisions for air pollution of a stationary source facility that constructs or increases by 250 tons or more per year of any single air pollutant after pollution control. An environmental review is required for a new source or a modification to an existing source with potential emissions increase by greater than or equal to 250 tpy of any single criteria pollutant. The Environmental Assessment Worksheet threshold is 100 tpy for individual criteria pollutants. Permittees should plan to complete an Air Emission Risk Analysis (AERA) if their stationary source is the subject of significant public interest, or the identification of a new stationary source or existing stationary source expansion indicates a need for further analysis prior to issuance. If a Permittee does an AERA and the analysis results in a need for source specific permit conditions, then the stationary source **is not eligible for this general permit.**

4.10. Regulatory Overview

Table 4. Regulatory overview of facility

Rule Title	Applicable regulations	Applicable Rule Content
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Rule Title	Applicable regulations	Applicable Rule Content
Air Quality Emission Fees	7002	Requires stationary sources to pay emission fees every year within 60 days of MPCA billing.
Air Pollution Episodes	7009.1000 - 7009.1110	Requires stationary sources to comply with episode control directives issued by the commissioner.
Performance Tests	7017.2000 - 7017.2060	Outlines requirements for emissions performance testing.
Emission Inventory	7019.3000 et seq.	Requires stationary sources to submit an emission inventory report by April 1st every year.
Circumvention	7011.0020	No one may conceal or dilute emissions that would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.
Notifications	7019.1000	Requires stationary sources to notify MPCA of shutdowns and breakdowns.
Monitoring Equipment	7007.0800, subp. 4(D)	Requires the Permittee to install or make needed repairs to monitoring equipment.
Monitoring Equipment Calibration	7007.0800, subp. 16(J)	Requires the Permittee to calibrate annually all monitoring equipment other than continuous emission monitors.
Operation and Maintenance Plan	7007.0800, subp. 16(J)	Requires the Permittee to retain at the stationary source an operation and maintenance plan for all air pollution control equipment.
Reporting of Deviations Endangering Human Health and the Environment	7007.0800, subp. 6(A)	Requires the Permittee to report any deviation from the permit conditions that could endanger human health or the environment.
Inspections	7007.0800, subp. 9	The MPCA, or an authorized representative or agent of the MPCA, is allowed to enter the Permittee's premises, to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any stationary sources, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.
Minnesota and National Ambient Air Quality Standard	7009.0010 - 7009.0080	No Permittee is allowed to emit any of the listed pollutants in such a manner that ambient levels of the pollutant are higher than the maximum level.
Noise Pollution Control	7030.0010 - 7030.0080	Sets noise standards in decibels that cannot be exceeded.
Emission Standards for Visible Air Contaminants	Minn. R. 7011.0100-0120	Minn. R. 7011.0100 - 7011.0120 includes an opacity limit that allows no greater than 20 percent, except that a maximum opacity of 33 percent may occur for one six-minute period in any 60-minute period for existing stationary sources constructed before 1969, and for stationary sources constructed after 1969, an opacity limit that allows opacity at no greater than 20 percent. If performance tests are required, Method 9 for visual determination of opacity must be used.

Rule Title	Applicable regulations	Applicable Rule Content
Control of Fugitive Particulate Matter	Minn. R. 7011.0150	Minn. R. 7011.0150 includes minimizing airborne particulate emissions such that avoidable amounts of PM are not emitted from handling, use, transport, or storage of any material and that all reasonable control is applied.
Indirect Heating Fossil Fuel Burning Equipment	Minn. R. 7011.0500-7011.0550	Minn. R. 7011.0500 - 7011.0550 includes PM, opacity, and SO ₂ emission limits based on location, rated heat input of all direct and indirect heating equipment at the stationary source, and the type of fuel used for new and existing equipment.
Direct Heating Fossil Fuel Burning Equipment	Minn. R. 7011.0600-0620	<p data-bbox="849 426 1536 615">Minn. R. 7011.0600 - 7011.0620 includes PM limits referenced from the Industrial Process Equipment Standard of Performance (Minn. R. 7011.0700 - 7011.0735) and limits opacity no greater than 20 percent, except that a maximum opacity of 60 percent may occur for six minutes in any 60-minute period.</p> <p data-bbox="849 667 1536 919">The requirements for direct heating fossil fuel-burning equipment also includes SO₂ limits. For stationary sources within the Minneapolis-St. Paul Air Quality Control Region, the Permittee shall not discharge gases which contain SO₂ in excess of 1.6 pounds per million Btu heat input if a liquid fossil fuel is burned and if the total rated heat input of all indirect and direct heating equipment of the Permittee at that particular location <u>exceeds</u> 250 million Btu per hour.</p> <p data-bbox="849 972 1536 1192">For stationary sources within the Minneapolis-St. Paul Air Quality Control Region, the Permittee shall not discharge gases which contain SO₂ in excess of two pounds per million Btu heat input if a liquid fossil fuel is burned and if the total rated heat input of all indirect and direct heating equipment of the Permittee at that particular location is <u>equal to or less than</u> 250 million Btu per hour.</p> <p data-bbox="849 1245 1536 1493">No Permittee of direct heating equipment located outside the Minneapolis-Saint Paul Air Quality Control Region shall cause to be discharged into the atmosphere from such equipment any gases which contain SO₂ in excess of two pounds per million Btu heat input if a liquid fossil fuel is burned and if the total rated heat input of all indirect and direct heating equipment of the Permittee at that particular location is greater than 250 million Btu per hour.</p>

Rule Title	Applicable regulations	Applicable Rule Content
<p>Industrial Process Equipment Rule</p> <p>(degreasers, abrasive blasting, coating, and fiberglass equipment)</p>	<p>Minn. R. 7011.0700-0735</p>	<p>Minn. R. 7011.0700 - 7011.0735 includes standards for industrial equipment for which a specific Minnesota standard of performance does not apply. These standards are separated for industrial equipment put in operation before July 9, 1969, (pre-1969 requirements), and on or after July 9, 1969, (post-1969 requirements). The standard for PM, which is the same for equipment manufactured before and after 1969, is a pound per hour (lb/hr) limit based on the process weight rate. Operations at stationary sources covered by this general permit are expected not to exceed these standards.</p> <p>The post-1969 standard includes an opacity limit of 20 percent. The pre-1969 standard includes an opacity limit of 20 percent, but allows a maximum opacity of 60 percent for six minutes in a 60-minute period. If performance tests are required, Method 9 for visual determination of opacity should be used.</p>
<p>Liquid Petroleum and Volatile Organic Liquid Storage Vessels</p>	<p>Minn. R. 7011.1500-1515</p>	<p>Requirements for the following storage tanks are included in this General Permit:</p> <ul style="list-style-type: none"> • Constructed on or after July 7, 1969, but before June 11, 1973 with a storage capacity of greater than 2,000 gallons but less than or equal to 65,000 gallons • Constructed on or after July 7, 1969, but before June 11, 1973 with a storage capacity of greater than 65,000 gallons • Constructed on or after June 11, 1973, with storage capacity of greater than 2,000 gallons and less than 19,812 gallons (75 cubic meters) • Constructed on or after June 11, 1973 and before July 23, 1984, with storage capacity of greater than 2, 000 gallons and less than or equal to 40,000 gallons • Constructed, modified, or reconstructed after July 23, 1984, with storage capacity greater than 2,000 gallons and less than or equal to 151 cubic meters (39,890 gallons), storing a liquid with a maximum true vapor pressure less than 15 kilopascals (kPa)
<p>Liquid Petroleum and Volatile Organic Liquid Storage Vessels</p>	<p>40 CFR pt. 60, subp. Kb, Minn. R. 7011.1520</p>	<p>Minn. R. 7011.1520 and 40 CFR pt. 60, subp. Kb apply to VOL organic liquid storage vessels constructed after July 23, 1984, with a capacity less than to 151 cubic meters storing a liquid with a maximum true vapor pressure less than 15.0 kilopascal. The requirements include tank design specifications, inspections, measurements, reporting and record keeping, and monitoring of operations.</p>
<p>Stationary Internal Combustion Engines</p>	<p>Minn. R. 7011.2300</p>	<p>Minn. R. 7011.2300 limits visible air contaminants from engines in excess of 20 percent opacity once operating temperatures have been attained. The standard also limits gases that contain SO₂ in excess of 0.0015 pounds per million Btu actual heat input to be discharged into the atmosphere. The actual heat input and rated heat input of the internal combustion engine should be determined using Minn. R. 7011.0500 - 7011.0550.</p>

Rule Title	Applicable regulations	Applicable Rule Content
Compression Ignition Internal Combustion Engines	40 CFR pt. 60, subp. IIII, Minn. R. 7011.2305	40 CFR pt. 60, subp. IIII requirements included in this general permit apply to stationary CI ICE that commenced construction after July 11, 2005, where the stationary CI ICE were manufactured after January 1, 2014. For the purposes of 40 CFR pt. 60, subp. IIII, the date that construction commences is the date the engine is ordered by the Permittee. The requirements include emission and operation limitations, fuel specifications, engine installation/configuration requirements, reporting and recordkeeping, and monitoring of operations.
Air Pollution Control Equipment	Minn. R. 7011.0060-0800	Minn. R. 7011.0060 - 7011.0080 includes listed control equipment efficiencies, general requirements, monitoring, and record keeping for listed control equipment. Compliance with these requirements is necessary to qualify for this general permit, so these rules apply to stationary sources that are issued this general permit under Minn. R. 7011.0065, subp. 1(A).
Title I conditions	Title I Condition: Avoid major source under 40 CFR 52.21	Prevention of Significant Deterioration (PSD). Emission limits to remain below 40 CFR 52.21 thresholds for PM, PM ₁₀ , PM _{2.5} , CO, VOC, and NO _x .
Halogenated Solvent Cleaning (Degreasers)	40 CFR pt. 63, subp. T	40 CFR pt. 63, subp. T requirements covered in this permit include individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machines that use any solvent containing methylene chloride (MC), perchloroethylene (PCE), trichloroethylene (TCE), 1,1,1-trichloroethane, carbon tetrachloride or chloroform or any combination with these solvents, in a concentration greater than five weight percent and has a holding capacity of a container for cleaning process greater than two gallons. Permittees must cease to emit and use TCE by six months after permit issuance.
Surface Coating of Miscellaneous Metal Parts and Products	40 CFR pt. 63, subp. MMMM	<p>40 CFR pt. 63, subp. MMMM requirements covered in this permit include the compliant material option specified in 40 CFR Section 63.3891(a) and the emission rate without add-on controls option specified in 40 CFR Section 63.3891(b) for the following affected sources which are the collection of all items listed below:</p> <ol style="list-style-type: none"> 1) All coating operations as defined in 40 CFR section 63.3981; 2) All storage containers and mixing vessels in which coatings, thinners and/or other additives, and cleaning materials are stored or mixed; 3) All manual and automated equipment and containers used for conveying coatings, thinners and/or other additives, and cleaning materials; and 4) All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation. <p>The Permittee is subject to 40 CFR pt. 63, subp. MMMM if the Permittee owns or operates a new, reconstructed, or existing affected source that uses 250 gallons or more per year of coatings that contain hazardous air pollutants (HAP) in the surface coating of miscellaneous metal parts and products.</p>

Rule Title	Applicable regulations	Applicable Rule Content
Surface Coating of Plastic Parts and Products	40 CFR pt. 63, subp. PPPP	<p>40 CFR pt. 63, subp. PPPP requirements covered in this permit include the compliant material option specified in 40 CFR Section 63.4491(a) and the emission rate without add-on controls option specified in 40 CFR Section 63.4491(b)) for the following affected sources which are the collection of all items listed below:</p> <ol style="list-style-type: none"> 1) All coating operations as defined in 40 CFR section 63.4481; 2) All storage containers and mixing vessels in which coatings, thinners and/or other additives, and cleaning materials are stored or mixed; 3) All manual and automated equipment and containers used for conveying coatings, thinners and/or other additives, and cleaning materials; and 4) All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation. <p>The Permittee is subject to 40 CFR pt. 63, subp. PPPP if the Permittee owns or operates a new, reconstructed, or existing affected source that uses 100 gallons or more per year of coatings that contain hazardous air pollutants (HAP) in the surface coating of plastic parts and products.</p>
Reinforced Plastic Composites Production (fiberglass)	40 CFR pt. 63, subp. WWWW	<p>40 CFR pt. 63, subp. WWWW requirements covered in this permit include new and existing centrifugal casting, continuous casting, continuous lamination, open molding, and pultrusion machines affected sources and the reinforced plastic composites operations at the facility use 1.2 tons per year or more of thermoset resins and gel coats that contain styrene combined. (40 CFR section 63.5785)</p>
Stationary Reciprocating Internal Combustion Engines	40 CFR pt. 63, subp. ZZZZ	<p>Requirements for the following engine types are included in this General Permit:</p> <ul style="list-style-type: none"> • Existing, major source, $100 \leq \text{hp} \leq 300$, non-emergency, compression ignition (CI) stationary engines • Existing, major source < 500 hp, emergency, CI engines • New (model year 2014 or later), major source, < 500 hp, non-emergency, CI stationary engines with a displacement of less than 30 liters per cylinder • New (model year 2014 or later), major source, < 500 hp, emergency, CI stationary engines with a displacement of less than 30 liters per cylinder • New (model year 2014 or later), major source, < 500 hp, fire pump, CI stationary engines with a displacement of less than 30 liters per cylinder
Major Sources of Industrial, Commercial, and Institutional Boilers and Process Heaters	40 CFR pt. 63, subp. DDDDD	<p>Requirements for the following boiler and process heater types are included in this General Permit:</p> <ul style="list-style-type: none"> • New and existing, major source, units designed to burn light liquid fuel subcategory with heat input capacities less than or equal to 10 MMBtu/hr • New and existing, major source, units designed to burn gas 1 fuel subcategory with heat input capacities less than or equal to 10 MMBtu/hr

Rule Title	Applicable regulations	Applicable Rule Content
Compliance Assurance Monitoring	40 CFR pt. 64	40 CFR pt. 64 requirements for fabric filters, wall/panel filters, thermal oxidizers, and catalytic oxidizers are included in this General Permit.

*Location of the requirement in the permit (e.g., EQUI 1, STRU 2, etc.).

5. Technical information

5.1. Calculations of potential to emit (PTE)

Stationary source PTE is limited to 225 tpy of VOC and 90 tpy for NO_x, CO, HAP, PM, PM₁₀, and PM_{2.5} in this general permit. The limits are based on 12-month rolling sums and do not include fugitive emissions. Fugitive emissions at sources eligible for this general permit may only be generated by unpaved roads, abrasive blasting, and other related miscellaneous activities outdoors. Fugitive emission sources must be identified in the application in order to comply with 40 CFR pt. 70 requirements.

Permittees are also limited to certain fuel types (natural gas, distillate oil, biodiesel, liquefied petroleum gas and gasoline) which also limit the NO_x and CO PTE from fuel combustion sources. Combustion of the allowable fuel types emits SO₂ at a significantly lower rate than NO_x or CO, so Permittees complying with the NO_x and CO limits will by default also keep SO₂ emissions well below the PSD major source threshold. For this reason, the permit does not need to include a Title I limit on SO₂ to avoid PSD applicability.

There is no limit for lead emissions because this general permit restricts lead-containing materials and eliminates painting and coating materials that contain lead, and limits fuel types to those with negligible lead contents.

Criteria pollutants emitted from cleaning, painting/coating, cutting, grinding, blasting, fossil fuel combustion, and general fiberglass stationary sources; with or without pollution control equipment are summarized below in Table 5.

Table 5. Criteria Pollutants emitted by permitted operations and activities

Source	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO	Pb	HAP
Cleaning						X			X
Spray and coating booths (painting/coating)	X	X	X			X			X
Mixing	X	X	X			X			X
Molding, casting, lamination	X	X	X			X			X
Resin and gel coaters	X	X	X			X			X
Abrasive blasting	X	X	X						
Cutting, grinding, sanding	X	X	X						
Fuel combustion (natural gas, distillate oil, LPG, biodiesel, gasoline)	X	X	X	X	X	X	X	X	X
Storage tanks						X			X

5.2. SO₂, NO_x, and CO Emissions

This general permit includes fuel combustion for stationary sources that own and operate boilers, process heaters, and internal combustion engines. Permitted fuels include natural gas, distillate oil (diesel) and liquefied petroleum gas (LPG) for indirect heating sources; and distillate oil (diesel), biodiesel for internal combustion engines. Fuel combustion equipment and operations may have potential emissions greater than 100 tpy for SO₂, NO_x, and CO. Therefore, the general permit will include enforceable restrictions to maintain emissions below 100 tpy for SO₂, NO_x, and CO.

Based on fuel usage, the type of fuel combusted, and monthly emission calculations and recordkeeping, Permittees are able to determine the amount of SO₂, NO_x, and CO emissions on a monthly and 12-month rolling sum basis. Fuel usage can be determined by the use of a fuel flow meter(s) or purchase and inventory records. The general permit allows the combustion of any combination of natural gas, distillate oil (diesel) and LPG for indirect heating sources and distillate oil (diesel) and biodiesel for external combustion engines. Calculations to determine SO₂, NO_x, and CO emissions are provided in Appendix A to the permit.

5.3. VOC Emissions

Based on recordkeeping of VOC content (typically found on material safety data sheets (MSDS), safety data sheets (SDS), or environmental data sheets (EDS)) and use of VOC-containing materials, Permittees are able to determine the amount of VOC emissions on a monthly and 12-month rolling sum basis. Calculations to determine VOC emission are provided in Appendix A to the permit.

5.4. PM, PM₁₀, and PM_{2.5} Emissions

Based on recordkeeping of usage, operating hours, and solids content (typically found on material safety data sheets (MSDS), safety data sheets (SDS), Permittees are able to determine the amount of PM, PM₁₀, and PM_{2.5} emissions on a monthly and 12-month rolling sum basis. Calculations to determine PM, PM₁₀, and PM_{2.5} emissions are provided in Appendix A to the permit.

5.5. HAP Emissions

Based on recordkeeping of HAP content (typically found on material safety data sheets (MSDS), safety data sheets (SDS), or environmental data sheets (EDS)) and use of HAP-containing materials, or recordkeeping and methods of calculating emissions from applicable NESHAPs, Permittees are able to determine the amount of HAP emissions on a monthly and 12-month rolling sum basis. Calculations to determine HAP emissions are provided in Appendix A to the permit.

5.6. Control equipment

Requirements for VOC control equipment (thermal and catalytic oxidizers) and particulate control equipment (fabric and wall or panel filters) are included in this permit. The Permittee may achieve a 100% capture efficiency through use of total enclosures or 80% capture efficiency through use of certified hoods. No credit is given for capture or control efficiency from hoods that are not certified. This general permit also includes requirements for fugitive particulate emission control by the application of water on exposed surfaces.

6. Compliance with Applicable Requirements

Minn. R. 7007.0500, subp. 2, requires that permit applications include a compliance plan, including a schedule of compliance when applicable requirements are not met. This general permit specifies the compliance plan. To qualify for this general permit, stationary sources must be in compliance with all applicable requirements. The exception is that if the only reason the stationary source is not in compliance is because it does not have a permit and the issuance of a general permit will bring it into compliance.

Stationary sources that have not conducted the performance testing and reporting requirements required by 40 CFR pt. 60, subp. Kb or 40 CFR pt. 60, subp. IIII may receive the Part 70 Manufacturing General Permit if the source complies with the compliance schedule listed in the permit for completing the testing and reporting requirements.

Stationary sources that have not submitted their initial notification requirement required by 40 CFR pt. 63, subp. T, MMMM, PPPP, WWWW, ZZZZ, or DDDDD may receive the Part 70 Manufacturing General Permit if the source complies with the compliance schedule listed in the permit for submitting the notification. The applicable requirements are identified in the permit.

7. Operating Flexibility

This general permit includes a number of conditions that allow sources to have operating flexibility. Once a facility has a general permit, the Permittee may make modifications at the site as long as all permit conditions and limitations are met. If the stationary source will no longer be able to meet the general permit conditions and limitations after a proposed modification, the Permittee must apply for and receive an individual permit prior to the making the modification.

8. Monitoring

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

For CAM, plans can be found in Attachment 1 to this TSD. Further discussion of decisions about CAM can be found in section 4.7 and Table 3 of this TSD.

In evaluating the monitoring included in the permit, the MPCA considered the following:

- the likelihood of the facility violating the applicable requirements;
- whether add-on controls are necessary to meet the emission limits;
- the variability of emissions over time;
- the type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- the technical and economic feasibility of possible periodic monitoring methods; and
- the kind of monitoring found on similar units elsewhere.

The MPCA staff considered all the relevant factors and incorporated all applicable monitoring requirements into the general permit.

9. Permit organization

In general, this permit meets the MPCA Tempo Guidance for ordering and grouping of requirements as well as the use of permit appendices. Due to the general nature of this permit, the MPCA does not have the list of equipment identification numbers prior to permit issuance, and so cannot associate specific items with groups. Instead, requirements were written for groups or individual units of a given type.

Another area that deviates from the guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be electronically tracked (e.g., limits, submittals, etc.), should be in the Requirements table in Tempo. The main reason is that the appendices are word processing sections and are not part of the electronic tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must generate these. However, due to the constraints of the Tempo database and the structure and complexity of this general permit, the entire permit is a word processing section during public notice but the permit will be issued in the Tempo database. The use of appendices for this permit does not further reduce the MPCA's electronic tracking ability for requirements in this permit.

10. Insignificant Activities

Permittees must identify operations classified as insignificant activities under the Part 70 Manufacturing General Permit in the application. Emissions under Minn. R. 7007.1300, subp. 4, must be counted towards potential to emit. The Permittee must keep records of emissions from insignificant activities and account for the actual emissions when submitting annual emission inventories to the MPCA.

11. Comments received

This section will be completed after the EPA Review period have ended.

Public Notice Period: November 25, 2019 – December 24, 2019
EPA Review Period: December 26, 2019 – [end date]

No comments were received from the public during the public notice period.

12. Application Content

The MPCA developed a permit application for the Manufacturing General Permit, as provided by Minn. R. 7007.1100, subp. 5. The following Table is a summary of the forms for the general permit application.

Table 6. Manufacturing General Permit standard application forms

Form	Details
SCP-01	Submittal Cover Page. Applicants use the same form as used for a standard application.
MG-00	Qualifications Review List. Modified from form EMS-00.
MG-HB	Handbook and Application Instructions. This does not necessarily need to be submitted with the Part 70 Manufacturing General Permit application. Modified from form GPHGBK3.
MG-CK	Application Requirements. Modified from form CK-01.
MGmaster	Application Forms Master List. Modified from form CK-01.
MGCR-02	Hood Evaluation and Certification. Modified from forms HE-01 and CR-02.
MGCR-04	Annual Compliance Certification Report. This forms does not necessarily need to be submitted with the Part 70 Manufacturing General Permit application. Modified from form CR-04.
MGIA-01	Insignificant Activities List. Modified from form IA-01.
MG-01	Facility Information. Modified from form GI-01.
MG-02	Process Flow Diagram. Modified from form GI-02.
MG-03	Building Information and Stack/Vent Diagram. Modified from form GI-03.
MG-04	Stack/Vent Information. Modified from form GI-04.
MG-05A1	Pollution Control Equipment Information for Fabric Filters. Modified from form GI-05A.
MG-05A2	Pollution Control Equipment Information for Wall Filters. Modified from form GI-05A.
MG-05A3	Pollution Control Equipment Information for Catalytic Oxidizers. Modified from form GI-05A.
MG-05A4	Pollution Control Equipment Information for Thermal Oxidizers. Modified from form GI-05A.
MG-05B1	Emission Unit Information for Boilers. Modified from form GI-05B.
MG-05B2	Emission Unit Information for Ovens. Modified from form GI-05B.
MG-05B3	Emission Unit Information for Furnaces. Modified from form GI-05B.
MG-05B4	Emission Unit Information for Stationary Internal Combustion Engines. Modified from form GI-05B.
MG-05B5	Emission Unit Information for Booths: Abrasive Blasting and/or Sanding. Modified from form GI-05B.
MG-05B6	Emission Unit Information for Booths: Spraying/Coating (non Fiberglassing). Modified from form GI-05B.
MG-05B7	Emission Unit Information for Fiberglass Operations (spraying/coating, molding, casting, lamination). Modified from form GI-05B.
MG-05B8	Emission Unit Information for Dip Tanks. Modified from form GI-05B.
MG-05B9	Emission Unit Information for Cleaning Machines (Degreasers). Modified from form GI-05B.

Form	Details
MG-05C	Tank Information. Modified from form GI-05C.
MG-05D	Fugitive Emission Source Information. Modified from form GI-05D.
MG-05F	Emission Source Associations. Modified from form GI-05F.
MG-07	Facility Emissions Summary. Modified from form GI-07.
MG-09	Requirements Form. Modified from form GI-09.
MG-09A	NESHAP for Source Categories (40 CFR. Pt. 63). Modified from form GI-09A.
MG-09B	NESHAP (40 CFR pt. 61). Modified from form GI-09B.
MG-09C	New Source Review (40 CFR pt. 52.21). Modified from form GI-09C.
MG-09D	NSPS (40 CFR pt. 60). Modified from form GI-09D.
MG-09E	Acid Rain (40 CFR pt. 72). Modified from form GI-09E.
MG-09F	Stratospheric Ozone Protection (40 CFR pt. 82). Modified from form GI-09F.
MG-09G	Risk Management Plan for Accidental Chemical Release Prevention (40 CFR pt. 68). Modified from form GI-09G.
MG-09H	Compliance Assurance Monitoring (40 CFR pt. 64). Modified from form GI-09H.
MG-09I	State Rules. Modified from form GI-09I.
MG-06	Compliance Certification. Modified from form CD-02.
MG-CMP	Compliance Management Plan. This form was created for this general permit and has no standard application parallel.
MGCD-05	Compliance Plan for Control Equipment. Modified from form CD-05.
MG-EIL	Annual Equipment Inventory List. This form was created for this general permit and has no standard application parallel.
MGCR-04	Annual compliance certification report. This form does not necessarily need to be submitted. Modified from form CR-04.
GP-01	General Permit Administrative Changes. This form is not specific to the Part 70 Manufacturing General Permit application and does not necessarily need to be submitted. Modified from form CH-17.
AQRF	Air Quality Reporting Form Checklist for Routine Submittals. This form is not specific to the Part 70 Manufacturing General Permit application and does not necessarily need to be submitted.
DRF-1	Excess Emissions Reporting Form [spreadsheet]. This form is not specific to the Part 70 Manufacturing General Permit application and does not necessarily need to be submitted.
DRF-2	Deviations Identified by Periodic Monitoring Systems. This form is not specific to the Part 70 Manufacturing General Permit application and does not necessarily need to be submitted.
CS-01	Compliance Schedule Progress Report. This form is not specific to the Part 70 Manufacturing General Permit application and does not necessarily need to be submitted.
TF-Series	Forms for Halogenated Solvent Cleaners. This form is not specific to the Part 70 Manufacturing General Permit application and does not necessarily need to be submitted.
4W-01, 4M-01, 4P-01, 4Z-01	Initial Notification forms for NESHAPs. This form is not specific to the Part 70 Manufacturing General Permit application and does not necessarily need to be submitted.

13. Conclusion

Based on the information provided by Manufacturing Facility Part 70 General Permit the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the 2019 Manufacturing Facility Part 70 General Permit and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

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Attachments: 1. CAM Plans

Attachment 1 – CAM Plans (from Form MG-09H)

CAM Plans

CAM Plans are included for units that CAM may apply to in the Part 70 Manufacturing General Permit.

The Permittee shall indicate which CAM Plan(s) apply (applies) to units at the facility in application form MG-09H. If the Permittee has units which are subject to CAM that are not covered by any of the attached CAM plans, then the Permittee does not qualify for this general permit. Attached CAM Plans:

- CAM Plan for HEPA and Other Wall Filters Controlling PM and PM10 from Spray Booths [Other PSEU]
- CAM Plan for Fabric Filters/Baghouses controlling PM and PM10 from Spray Booths [Other PSEU]
- CAM Plan for Fabric Filters/Baghouses controlling PM and PM10 from Abrasive Blasting [Other PSEU]
- CAM Plan for Catalytic Oxidizers Controlling VOC from Spray Booths, Molding, Casting, Lamination, Mixing or Cleaning [Large PSEU]
- CAM Plan for Thermal Oxidizers Controlling VOC from Spray Booths Molding, Casting, Lamination, Mixing or Cleaning & Burn-off Ovens [Large PSEU]

CAM Plan for Wall Filters Controlling PM and PM₁₀ from Spray Booths [Other PSEU]

1. Applicability

- 1.1. Process/Emission Unit: Spray Booth [Other PSEU]
- 1.2. Control Technology: HEPA and other Wall Filters
- 1.3. Pollutant: Particulate Matter (PM, PM₁₀)

2. Monitoring Approach Description

Indicators Monitored	Visually inspect the condition of the filters.
Rationale for Monitoring Approach	If there are any holes, saturation, tears or alignment in the filter, these indicate there is little or no particulate removal.
Monitoring Methods Location	Adhere to the Operation and Maintenance Plan for the filters and take corrective action as soon as possible (within 24 hours of discovery) to eliminate any problem associated with the filters.
Analytical Devices Required	Train staff on the operation and monitoring of the filters and troubleshooting. Also, train and require staff to respond to indications of malfunctioning equipment and, including indicators of abnormal operation.
Data Acquisition and Measurement System Operation	Frequency of Measurement: Once each operating day, visually inspect the condition of each filter with respect to alignment, saturation, tears, holes, and any other matter that may affect the filter's performance. Reporting units: daily check of the condition of the filter. Recording process: Records are maintained of all inspections and maintenance activities performed. Operators record activities maintenance log sheets, initial and date.
Data Requirements	The baseline is determined by the facility's historical records of the condition of the filter with respect to alignment, saturation, tears, holes, and any other matter that may affect the filter's performance.
QA/QC Procedures	Operate and maintain each filter in accordance with the Operation and Maintenance Plan and while taking into account the manufacturer's specifications.

3. Justification

Compliance testing is not necessary for the owner or operator to establish operating ranges so that excursion from the operating ranges can be addressed prior to potential emission exceedance. Monitoring based on the Minnesota Standards of Performance for Control Equipment is adequate to have a reasonable assurance of compliance (daily and periodic inspections, corrective actions, O & M, and hood design records) and to ensure that control equipment continues to operate properly and achieve the desired PM control efficiency.

CAM Plan for Fabric Filters/Baghouses Controlling PM and PM₁₀ from Spray Booths [Other PSEU]

1. Applicability

- 1.1. Process/Emission Unit: Spray Booth [Other PSEU]
- 1.2. Control Technology: Fabric Filters
- 1.3. Pollutant: Particulate Matter (PM, PM₁₀)

2. Monitoring Approach Description

Indicators Monitored	Pressure Drop and Visible Emissions (VE)
Rationale for Monitoring Approach	Decrease in pressure drop indicative of bag failure; Increase in pressure drop indicative of fabric blinding or decreased permeability; A change in VE observations indicates process change, changes in fabric filter's efficiency, or leaks.
Monitoring Methods Location	Measure across the inlet and outlet of each compartment of the fabric filter. RM 22 (VE) requirements.
Analytical Devices Required	Pressure transducers, differential pressure gauges, manometers, other methods and/or alternative instrumentation as appropriate. Trained observer using visible/no visible emissions observation techniques (RM 22-like)
Data Acquisition and Measurement System Operation	Frequency of Measurement: Record pressure drop once every 24 hours when in operation, or recorded continuously on strip chart and daily VE checks as weather permits. Reporting units: Inches of water column (in w.c). and visible/no visible emissions. Recording process: Record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified. If the pressure drop is outside the required operating range and VE emission are observed, the owner or operator will follow the Operation and Maintenance plan for the fabric filter and take corrective action within 24 hours of discovery. Keep a record of the type and date of any corrective action taken for each filter.
Data Requirements	The facility's historical records on pressure drop measurements determine the baseline. No data are needed for visible emissions.
QA/QC Procedures	Calibrate, maintain and operate instrumentation using the procedures that take into account the manufacturer's recommendations and initial training of observer per RM 22.

3. Justification

Compliance testing is not necessary for the owner or operator to establish operating ranges so that excursion from the operating ranges can be addressed prior to potential emission exceedance. Monitoring based on the Minnesota Standards of Performance for Control Equipment is adequate to have a reasonable assurance of compliance (daily and periodic inspections, corrective actions, O & M, and hood design records) and to ensure that control equipment continues to operate properly and achieve the desired PM control efficiency.

CAM Plan for Fabric Filters/Baghouses Controlling PM and PM₁₀ from Abrasive Blasting [Other PSEU]

1. Applicability

- 1.1. Process/Emission Unit: Abrasive Blasting Booth
- 1.2. Control Technology: Fabric Filters
- 1.3. Pollutant: Particulate Matter (PM, PM₁₀)

2. Monitoring Approach Description

Indicators Monitored	Pressure Drop and Visible Emissions (VE)
Rationale for Monitoring Approach	Decrease in pressure drop indicative of bag failure; Increase in pressure drop indicative of fabric blinding or decreased permeability; A change in VE observations indicates process change, changes in fabric filter's efficiency, or leaks.
Monitoring Methods Location	Measure across the inlet and outlet of each compartment of the fabric filter. RM 22 (VE) requirements.
Analytical Devices Required	Pressure transducers, differential pressure gauges, manometers, other methods and/or alternative instrumentation as appropriate. Trained observer using visible/no visible emissions observation techniques (RM 22-like)
Data Acquisition and Measurement System Operation	Frequency of Measurement: Record pressure drop once every 24 hours when in operation, or recorded continuously on strip chart and daily VE checks as weather permits. Reporting units: Inches of water column (in w.c.) and visible/no visible emissions. Recording process: Record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified. If the pressure drop is outside the required operating range and VE emission are observed, the owner or operator will follow the Operation and Maintenance plan for the fabric filter and take corrective action within 24 hours of discovery. Keep a record of the type and date of any corrective action taken for each filter.
Data Requirements	The facility's historical records on pressure drop measurements determine the baseline. No data are needed for visible emissions.
QA/QC Procedures	Calibrate, maintain and operate instrumentation using the procedures that take into account the manufacturer's recommendations and initial training of observer per RM 22.

3. Justification

Compliance testing is not necessary for the owner or operator to establish operating ranges so that excursion from the operating ranges can be addressed prior to potential emission exceedance. Monitoring based on the Minnesota Standards of Performance for Control Equipment is adequate to have a reasonable assurance of compliance (daily and periodic inspections, corrective actions, O & M, and hood design records) and to ensure that control equipment continues to operate properly and achieve the desired PM control efficiency.

CAM Plan for Catalytic Oxidizers Controlling VOC from Spray Booths Molding, Casting, Lamination, Mixing or Cleaning [Large PSEU]

1. Applicability

- 1.1 Process/Emission Unit: Spray Booth, Molding, Casting, Lamination, Mixing or Cleaning
- 1.2 Control Technology: Catalytic Oxidizer
- 1.3 Pollutant: Volatile Organic Compounds (VOCs)

2. Monitoring Approach Description

Indicators Monitored	Catalyst bed inlet temperature and catalyst activity.
Rationale for Monitoring Approach	Catalyst bed inlet temperature: Indicates whether the gas flowing into catalyst bed is of sufficient temperature to initiate oxidation. Catalyst activity: Determines conversion efficiency of catalyst; indicates that catalyst is not poisoned or masked beyond operational range.
Monitoring Methods Location	Catalyst bed inlet and outlet temperature: Preheat chamber outlet and catalyst bed inlet. Catalyst activity: Sample of catalyst.
Analytical Devices Required	Temperature: Thermocouples, or alternative methods/instrumentation as appropriate for specific gas stream. Catalyst activity: Qualified laboratory (e.g. catalyst manufactures) for determining activity of catalyst sample.
Data Acquisition and Measurement System Operation	Frequency of Measurement: Once every 15 minutes or recorded continuously on strip chart or data acquisition system. Reporting Units: Degrees Fahrenheit (° F) Recording process: Operators log data manually, or recorded automatically on strip chart or data acquisition system. Catalyst activity: Annual analyses of catalyst sample.
Data Requirements	The facility's historical records on catalyst bed inlet and outlet temperature measurements. Catalyst activity: Laboratory results of conversion efficiency.
QA/QC Procedures	Calibrate, maintain and operate instrumentation using the procedures that take into account the manufacturer's recommendations and specifications.

3. Justification

Compliance testing is not necessary for the owner or operator to establish operating ranges so that excursion from the operating ranges can be addressed prior to potential emission exceedance. Monitoring based on the Minnesota Standards of Performance for Control Equipment is adequate to have a reasonable assurance of compliance (daily and periodic inspections, corrective actions, O & M, and hood design records) and to ensure that control equipment continues to operate properly and achieve the desired VOC control efficiency.

CAM Plan for Thermal Oxidizers Controlling VOC from Spray Booths Molding, Casting, Lamination, Mixing or Cleaning & Burn-off Ovens [Large PSEU]

1. Applicability

- 1.4 Process/Emission Unit: Spray Booth, Spray Booths, Molding, Casting, Lamination, Mixing or Cleaning, and Burn-off Oven
- 1.5 Control Technology: Thermal Oxidizer
- 1.6 Pollutant: Volatile Organic Compounds (VOCs)

2. Monitoring Approach Description

Indicators Monitored	Combustion chamber temperature and annual burner inspections.
Rationale for Monitoring Approach	Combustion chamber temperature: Proper temperature range is related to good performance. Annual burner inspection: Maintain proper operation and efficiency.
Monitoring Methods Location	Combustion chamber temperature: Outlet of combustion chamber. Annual burner inspection: At the burner.
Analytical Devices Required	Combustion chamber temperature: Thermocouples or alternative methods/instrumentation as appropriate for specific gas stream. Annual burner inspection: None
Data Acquisition and Measurement System Operation	Frequency of Measurement: Combustion chamber temperature: Once every 15 minutes or recorded continuously on strip chart or data acquisition system. Annual burner inspection: Annually Reporting Units: Combustion chamber temperature: Degrees Fahrenheit (° F) Annual burner inspection: None Recording process: Combustion chamber temperature: Operators log data manually, or recorded automatically on strip chart or data acquisition system. Annual burner inspection: Operators log data manually.
Data Requirements	The facility's historical records on combustion chamber temperature measurements and burner inspection.
QA/QC Procedures	Calibrate, maintain and operate instrumentation using the procedures that take into account the manufacturer's recommendations and specifications.

3. Justification

Compliance testing is not necessary for the owner or operator to establish operating ranges so that excursion from the operating ranges can be addressed prior to potential emission exceedance. Monitoring based on the Minnesota Standards of Performance for Control Equipment is adequate to have a reasonable assurance of compliance (daily and periodic inspections, corrective actions, O & M, and hood design records) and to ensure that control equipment continues to operate properly and achieve the desired VOC control efficiency.