

**AIR EMISSION PERMIT NO. 05300143- 001
IS ISSUED TO**

TENNANT COMPANY
701 North Lilac Drive
Golden Valley, Hennepin County, MN 55422-4611

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type	Application Date
Total Facility Operating Permit	06/15/1995
Supplemental Submittal #1	2/1/2001
Supplemental Submittal #2	3/9/2001
Supplemental Submittal #3	3/19/2001
Supplemental Submittal #4	3/21/2001
Supplemental Submittal #5	4/25/2001

This permit replaces Air Emissions Permit No. 2210A-93-OT-1 and all its amendments and authorizes the Permittee to operate, modify, and construct the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal; Part 70/Limits to Avoid NSR

Issue Date: July 24, 2001

Expiration: July 24, 2006
All Title I Conditions do not expire.

Richard J. Sandberg, Manager
Major Facilities Section
Metro District

for Karen A. Studders, Commissioner
Minnesota Pollution Control Agency

TABLE OF CONTENTS

Notice to the Permittee

Permit Shield

Facility Description

Table A: Limits and Other Requirements

Table B: Submittals

Appendix I: Insignificant Activities

Appendix II: Emissions Units Description from Delta

NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(651) 296-6300
Outside Metro Area	1-800-657-3864
TTY	(651) 282-5332

The rules governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

FACILITY DESCRIPTION:

Tennant Company manufactures industrial floor maintenance equipment at its plant in Golden Valley, Minnesota. The main sources of air emissions at the Facility include fuel combustion and painting. The portions of the Facility that qualify as Insignificant Activities under Minn. R. 7007.1300, subp. 3 and 4 are listed in Appendix I.

The Facility took limits to avoid major source classification for New Source Review (40 CFR § 52.21) in an air emissions permit issued in 1993. These limits are carried forward and amended in this permit. The Facility is a major source under both the federal operating permits program (40 CFR pt. 70) and the National Emissions Standards for Hazardous Air Pollutants (40 CFR pt. 63).

The permit contains requirements that limit emissions of volatile organic compounds, particulate matter, and combustion pollutants.

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item: Total Facility

What to do	Why to do it
This permit establishes limits on the facility to keep it a minor source under New Source Review. The Permittee cannot make any change at the source that would make the source a major source under New Source Review until a permit amendment has been issued. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments.	Title I Condition: Limit to avoid classification as major source or modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
STANDARD REQUIREMENTS	ndr
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and shall include a preventative maintenance program for that equipment, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007. 1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007. 0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
Emission Inventory Report: due 91 days after end of each calendar year following permit issuance (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

Subject Item: GP 001 VOC Usage Limits**Associated Items:** EU 005 Off-Line Booth

EU 006 Primer Booth

EU 007 Topcoat Booth

EU 008 Touch-Up Booth

EU 022 New Spray Booth

What to do	Why to do it
A. LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 80 tons/year to be calculated by the 10th day of each month for the previous 12-month period as described later in this permit.</p> <p>All emission units added to GP 001 as allowed in this permit shall be included in this calculation. VOC contents for each VOC-containing material shall be determined as described under the Material Content requirement in GP 001. The calculation of VOCs emitted may take into account waste VOCs as described under the Waste Credit requirement in GP 001.</p>	Title I Condition: Limit to avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.03000
The Permittee shall vent emissions from all spray booths to control equipment meeting the requirements of GP 004. Each booth shall be controlled with specific control equipment as described in Appendix II of this permit.	Title I Condition: Limit to avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<p>The Permittee may replace listed emission units with emissions units similar to those listed in GP 001, may install additional spray equipment in existing booths, and may modify the emission units listed in GP 001, provided that:</p> <ol style="list-style-type: none"> 1. VOC emissions are tracked and calculated directly from material usage; 2. The total maximum spray capacity of any given booth remains less than or equal to those listed in Appendix II of this permit; and 3. The permit contains all applicable requirements for the change. <p>All changes must meet the requirements for GP 001. If a proposed change triggers an applicable requirement that is not contained in this permit, the change must go through the appropriate procedure in Minn. R. ch. 7007.</p>	Title I Condition: Limit to avoid classification as a major source and modification under 40 CFR 52.21 and Minn. R. 7007.3000
Spray Gun Transfer Efficiency: The Permittee shall use spray guns that meet the minimum transfer efficiencies used in the potential to emit calculations in the Technical Support Document for this permit. Specifically, guns used in EU 005 and 006, shall have minimum manufacturer specified transfer efficiencies of 40% or greater, and guns used in EU 007, 008, and 023 shall have minimum manufacturer specified transfer efficiencies of 75% or greater.	Minn. R. 7007.0800, subp. 2
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn R. 7011.0730 or Minn. R. 7011.0735. This limit applies separately to each emissions unit.	Minn. R. 7011.0710, subp. 1(A) or Minn. R. 7011.0715, subp. 1(A), as applicable
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This applies separately to each emissions unit that was in operation before July 9, 1969, and that has not been modified after that date. As of permit issuance, this applies to EUs 005 and 006.	Minn. R. 7011.0710, subp. 1(B)
Opacity: less than or equal to 20 percent opacity. This applies separately to each emissions unit that was not in operation before July 9, 1969, and that has not been modified after that date. As of permit issuance, this applies to EUs 007 and 008.	Minn. R. 7011.0715, subp. 1(B)
B. MONITORING REQUIREMENTS	hdr
Monthly Recordkeeping. By the 10th day of each month, the Permittee shall calculate, record, and maintain the total quantity of all coatings and other VOC-containing materials used in GP 001 during the previous calendar month. This shall be based on production records, written usage logs, and/or delivery records.	Title I Condition: Monitoring for Limit to avoid classification as major source and modification under 40 CFR 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800. subp. 4 and 5
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 10th of the month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1) The total usage of VOC-containing materials for the previous calendar month using the monthly usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12-month rolling sum VOC emissions for the previous 12-month period by summing the monthly VOC emissions data for the previous 12 months. 	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

<p>Monthly Calculation -- VOC Emissions. The Permittee shall calculate VOC emissions using the following equations:</p> $\text{VOC (tons/month)} = V - W$ $V = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + C3 \times D3 + \dots$	Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly VOC Emissions Calculation Continued:</p> <p>where: V = total VOC used in tons/month; A# = amount of each VOC-containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC-containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Material Content: VOC and Solids (PM and PM<10 microns) contents in materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. When using the MSDS as the basis of calculating particulate emissions, the conservative assumption is made that PM consists entirely of PM less than 10 microns. Other alternative methods approved by the MPCA may be used to determine the VOC and solids contents. The Commissioner reserves the right to require the Permittee to determine the VOC and solids contents of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the content for each credited shipment.</p> <ol style="list-style-type: none"> 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, excluding water. 2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials. 	Minn. R. 7007.0800, subp. 4 and 5
<p>Recordkeeping of Equipment and Coating Changes:</p> <p>The Permittee shall keep records of any equipment that is replaced, modified, or added. This record shall be updated any time equipment is replaced, modified or added. The record shall include the date the equipment was replaced/modified/added (startup of new, shutdown of old), the corresponding EU number (005-008 or EU 022), the manufacturer and model numbers of the new equipment, the spray technology and manufacturer specified transfer efficiency, and the total spray capacity in gallons per hour.</p> <p>The Permittee shall keep a record of all coating formulations, as applied, as determined by the Material Content requirement of this permit.</p>	<p>Title I Condition: Monitoring for Limit to avoid classification as major source and modification under 40 CFR 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Recordkeeping of Particulate Potential Emissions:</p> <p>Prior to adding spray capacity, or replacing/modifying spray equipment, the Permittee shall calculate and record the maximum hourly potential particulate matter emissions for the emissions unit. The Permittee shall use the calculation methods used in the Technical Support Document for this permit (total hourly solids spray rate x overspray fraction x (1-overall controlled fraction)). The Permittee shall then calculate the appropriate Minn. R. 7011.0730 and 7011.735 limits for the booth based on the airflow and process weight. The calculated potential to emit must be under the Minn. R. limit. If not under the rule limit, the modification is not authorized by this permit.</p>	Minn. R. 7007.0800, subp. 2, 4 and 5; to meet Minn. R. 7011.0730 and 7011.0735

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

Subject Item: GP 002 Engine Fuel Limits

Associated Items: EU 009 Assembly Line 1, Engine Exhaust
 EU 010 Assembly Line 2, Engine Exhaust
 EU 011 Assembly Line 3, Engine Exhaust
 EU 012 P.D.L. , Engine Exhaust
 EU 013 Engine Test Lab East
 EU 014 Engine Test Lab DYNO
 EU 015 Engine Test Lab West
 EU 016 Engine Test Lab Temp Control Room
 EU 017 Final Test, Engine Exhaust
 EU 018 Run-In, Engine Exhaust
 EU 019 P.D.L, Engine Exhaust
 EU 020 Zane, Engine Exhaust
 EU 021 Zane, Engine Exhaust
 EU 023 New Engine Exhaust
 EU 024 Zane, Engine Exhaust

What to do	Why to do it
A. LIMITS	hdr
Fuel Usage: less than or equal to 20,000 gallons/year of Diesel, using a 12-month rolling sum calculated by the 15th of the month for the previous 12-month period as described later in this permit. All diesel fuel used by emissions units in GP 002 shall be included in this calculation.	Title I Condition: Limit to avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Fuel Usage: less than or equal to 20,000 gallons/year of Propane, using a 12-month rolling sum calculated by the 15th of the month for the previous 12-month period as described later in this permit. All propane used by emissions units in GP 002 shall be included in this calculation.	Title I Condition: Limit to avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Fuel Usage: less than or equal to 20,000 gallons/year of Gasoline, using a 12-month rolling sum calculated by the 15th of the month for the previous 12-month period as described later in this permit. All gasoline fuel used by emissions units in GP 002 shall be included in this calculation.	Title I Condition: Limit to avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained. This applies separately to each internal combustion engine.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input . This applies separately to each internal combustion engine. The potential to emit based on the worst case fuel option is 0.29 lb/MMBtu.	Minn. R. 7011.2300, subp. 2
B. MONITORING REQUIREMENTS	hdr
Fuel Recordkeeping: The Permittee shall keep monthly records of fuel used, by fuel type, in gallons, by emissions units in GP 002 combined. The records may consist of purchase or delivery records or written usage logs.	Title I Condition: Monitoring for Limit to avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Monthly Fuel Calculations. By the 15th of the month, the Permittee shall calculate and record the following: 1). The total gallons of diesel used by GP 002 for the previous calendar month using the fuel usage records. 2). The total gallons of propane used by GP 002 for the previous calendar month using the fuel usage records. 3). The total gallons of gasoline used by GP 002 for the previous calendar month using the fuel usage records. 4). The 12-month rolling sum usage for each of the 3 fuel types for the previous 12-month period by summing the monthly fuel usage data for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

Subject Item: GP 003 Boilers**Associated Items:** EU 001 Boiler 1

EU 002 Boiler 2

EU 003 Boiler 3

EU 004 Boiler 4

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input . This limit applies separately to each indirect heating unit. Due to equipment design, the PTE of each unit is 0.0072 lb/MMBtu.	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This limit applies separately to each indirect heating unit.	Minn. R. 7011.0510, subp. 2
Fuel Type: natural gas and propane only, by design.	Minn. R. 7005.0100, subp. 35a
The Permittee shall keep records of fuel purchases for the boilers on a monthly basis.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

Subject Item: GP 004 Paint Booth Filters**Associated Items:** CE 001 Fiberglass Filter w/o Cardboard Frame

CE 002 Fiberglass Filter w/o Cardboard Frame

CE 003 Fiberglass Filter w/o Cardboard Frame

CE 004 Fiberglass Filter w/o Cardboard Frame

CE 005 Fiberglass Filter w/o Cardboard Frame

What to do	Why to do it
A. LIMITS	hdr
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for Total Particulate Matter: greater than or equal to 74 percent control efficiency	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for Particulate Matter < 10 micron: less than or equal to 74 percent control efficiency	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the panel filters any time that any process equipment controlled by the panel filters is(are) in operation.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
B. MONITORING REQUIREMENTS	hdr
Daily Inspections: Once each operating day, the Permittee shall visually inspect the condition of each panel filter with respect to alignment, saturation, tears, holes and any other condition that may affect the filter's performance. The Permittee shall maintain a daily written record of filter inspections.	Title I Condition: Monitoring for Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: If the filters or any of their components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
Operation and Maintenance of Filters: The Permittee shall operate and maintain each filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Hood Certification and Evaluation: The control device hood must conform to the requirements listed in Minn. R. 7011.0070, subp. 1, and the Permittee shall certify this as specified in Minn. R. 7011.0070, subp. 3. The Permittee shall maintain a copy of the certification on site, as well as an annual record of fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method.	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

Subject Item: EU 022 New Spray Booth**Associated Items:** CE 005 Fiberglass Filter w/o Cardboard Frame

GP 001 VOC Usage Limits

SV 023 New Spray Booth Stack

What to do	Why to do it
The Permittee is authorized to install a new spray booth, EU 022, at any time during the life of this permit. The new booth shall meet all the requirements of this permit (e.g., GP 001) and shall have a total spray capacity no greater than that of EU 007 (shown in Appendix II of this permit).	Minn. R. 7007.0800, subp. 2
<p>Recordkeeping of Particulate Potential Emissions:</p> <p>Prior to installing EU 022, the Permittee shall calculate and record the maximum hourly potential particulate matter emissions for the emissions unit. The Permittee shall use the calculation methods used in the Technical Support Document for this permit (total hourly solids spray rate x overspray fraction x (1-overall controlled fraction)). The Permittee shall then calculate the appropriate Minn. R. 7011.0715(A) limit for the proposed booth based on the airflow and process weight. The calculated potential to emit must be under the Minn. R. limit. If not under the rule limit, the modification is not authorized by this permit.</p>	Minn. R. 7007.0800, subp. 2, 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

Subject Item: EU 023 New Engine Exhaust**Associated Items:** GP 002 Engine Fuel Limits

SV 024 New Engine Testing Stack

What to do	Why to do it
The Permittee is authorized to install a new engine exhaust area, EU 023, at any time during the life of this permit. The engine exhaust may have up to 7 drop points. The new engine exhaust shall meet all the requirements of this permit (e.g., GP 002).	Minn. R. 7007.0800, subp. 2

TABLE B: SUBMITTALS

07/24/01

Facility Name: Tennant Co - Golden Valley
Permit Number: 05300143 - 001

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send any application for a permit or permit amendment to:

Permit Technical Advisor
Permit Section
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Unless another person is identified in the applicable Table, send all other submittals to:

Supervisor
Compliance Determination Unit
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Notification of the Date Construction Began	due 30 days after Start Of Construction. The Permittee shall submit the following information with the notification: stack/vent and emissions unit information using the latest MPCA application forms.	EU023
Notification of the Date Construction Began	due 30 days after Start Of Construction. The Permittee shall submit the following information with the notification: stack/vent, control equipment, and emissions unit information using the latest MPCA application forms, as well as the hourly particulate matter potential emissions, calculated as required by this permit, compared to the Minn. R. 7011.0715(A) allowable rate.	EU022

TABLE B: RECURRENT SUBMITTALS

07/24/01

Facility Name: Tennant Co - Golden Valley

Permit Number: 05300143 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Annual Report	due 30 days after end of each calendar year following Permit Issuance. The Permittee shall submit an annual report by January 30 that describes the changes made at the facility during the previous calendar year using the latest MPCA application forms. The report shall document the VOC 12-month rolling sum calculations for the previous calendar year and all units that were modified, replaced, or added in the last calendar year. The report shall be submitted with the annual Compliance Certification listed in Table B. As part of the Annual Report, the Permittee shall verify and certify that the facility has maintained minor source status for New Source Review.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX I
Facility Name: Tennant Co.
Permit Number: 05300143-001

Insignificant Activities and General Applicable Requirements

The table below lists the insignificant activities that are currently at the Facility and their associated general applicable requirements.

Minn. R. 7007.1300, subp.	Rule Description of the Activity	General Applicable Requirement
3(B)(2)	Fuel burning equipment with a capacity less than 500,000 Btu/hour but only if the total combined capacity of all fuel burning equipment at the stationary source with a capacity less than 500,000 Btu per hour is less than or equal to 2 MMBtu/hr. <i>Tennant's current total capacity is 0.66 Btu/hr.</i>	Minn. R. 7011.0515 (PM and opacity)
3(D)(2)	Equipment venting PM/PM ₁₀ inside a building, provided that emissions from the equipment are filtered through an air cleaning system and vented inside of the building 100% of the time. <i>Tennant has 2 sawing operations that are controlled and vent internally.</i>	Minn. R. 7011.0715 (PM and opacity)
3(G)	Emissions from a laboratory, as defined in the subpart. <i>Tennant has several laboratory and testing operations that qualify under this subpart.</i>	Minn. R. 7011.0715 (PM and opacity)
3(H)(4)	Brazing, soldering or welding equipment. <i>Tennant has maintenance welding equipment.</i>	Minn. R. 7011.0715 (PM and opacity)
3(H)(8)	Cleaning operations: alkaline/phosphate cleaners and associated cleaners and associated burners. <i>Tennant has a five stage alkaline prep wash on their paint line.</i>	Minn. R. 7011.0715 (PM and opacity)
3(I)	Individual emissions units at a stationary source, each of which have a PTE of the following pollutants in amounts less than: 2 tpy of CO and 1 tpy each of NO _x , SO ₂ , PM/PM ₁₀ , VOC, and ozone. <i>Tennant has 4 natural gas combustion units (with a total capacity of 4.99 MMBtu/hr), an emergency generator, and a specialty mixing area that qualify under this subpart.</i>	Minn. R. 7011.0610 (PM and opacity) or Minn. R. 7011.0715 (PM and opacity) or Minn. R. 7011.2300 (SO ₂ and opacity)
3(K)	Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source.	Minn. R. 7011.0710/0715
4	Individual emissions units that have actual emissions of less than or equal to 1 ton per year of the criteria pollutants, and for hazardous air pollutants, emissions units with potential emissions of less than certain thresholds listed in Minnesota rules. <i>Tennant has a chemical mixing room and 3 natural gas air make up units (total capacity of 10.4 MMBtu/hr) that qualify under this subpart.</i>	Minn. R. 7011.0515 (PM and opacity) or Minn. R. 7011.0715 (PM and opacity)

APPENDIX I
Facility Name: Tennant Co.
Permit Number: 05300143-001

Under Minn. R. 7007.1250, subp. 1(A), the Permittee may add insignificant activities to the stationary source throughout the term of the permit without getting permit amendments. Certain exclusions apply and are listed in Minn. R. 7007.1250, subp. 2. In addition, this permit specifically prohibits the Permittee from making any modifications that would make the source major under NSR. The following table is a listing of the insignificant activities that the Permittee is somewhat likely to add and their associated applicable requirements.

Minn. R. 7007.1300, subp.	Rule Description of the Activity	General Applicable Requirement(s)
3(B)(1)	Infrared electric ovens	Minn. R. 7011.0110 (opacity)
3(H)	5. Blueprint copiers and photographic processes;	Minn. R. 7011.0110 (opacity)

APPENDIX II
Facility Name: Tennant Co.
Permit Number: 05300143-001

Emissions Units Description from Delta
paper copy only

TECHNICAL SUPPORT DOCUMENT
For
Tennant Company, Golden Valley
AIR EMISSION PERMIT NO. 05300143-001

This technical support document (TSD) is for all the interested parties of the permit. The purpose of this document is to set forth the legal and factual basis for the permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

1.1. Applicant and Stationary Source Location:

Facility Address and Contact Information (SIC Code: 3589)
Tennant Company 701 Lilac Drive Golden Valley, MN 55422-4611 Hennepin County Mr. Charlie Brandenburg, 763-513-1711

1.2. Description of the Facility

Tennant Company manufactures industrial floor maintenance equipment at its plant in Golden Valley, Minnesota. The units have their own engines. Besides assembling and painting the equipment, the engines are run at various points in the plant for quality reasons. At those locations, there are ventilation drops that are used to exhaust the engine emissions out of the Facility. The main sources of air emissions at the Facility include fuel combustion and painting. The portions of the Facility that qualify as insignificant under Minnesota rules are discussed in Attachment 3 of this TSD.

1.3. Permitting History

The Facility was issued a total facility operating air emissions permit in 1993. The permit was amended one time. The permit imposed limits on the Facility to avoid major source classification for New Source Review (40 CFR § 52.21). Those limits are amended and carried forward in this permit. The only other limits in the previous permit and its amendments are from Minnesota performance standards. Those limits are also carried forward and updated as necessary.

1.4. Description of any changes allowed with this permit issuance

This permit authorizes the installation of a new spray booth and a new engine exhaust area. In addition, the permit authorizes the replacement of certain existing equipment with similar equipment as well as the modification of existing equipment. See Section 3.1 of this TSD for more information about authorized changes.

1.5. Facility Emissions

Table 1. Total Facility Permitted Potential to Emit Summary

Note: See Section 3.2 of this TSD for more discussion of potential emissions.

Pollutant	Engine Testing (tpy)	Coating and Other VOC Usage (tpy)	Boilers (tpy)	Total Facility (tpy)
Particulate Matter (PM)	0.60	17.18	1.33	19.1
Particulate Matter less than 10 microns (PM ₁₀)	0.60	17.18	1.33	19.1
Nitrogen Oxides (NO _x)	9.55	0	34.99	44.5
Sulfur Oxides (SO _x)	0.51	0	0.610	1.1
Volatile Organic Compounds (VOC)	5.26	80	1.016	86.3
Carbon Monoxide (CO)	84.10	0	14.72	98.8
Hazardous Air Pollutants (HAPs)				
Xylene*	neg.	80	neg.	80
Ethylbenzene*	neg.	80	neg.	80
Toluene*	neg.	80	neg.	80
Glycol Ethers*	neg.	80	neg.	80
Methyl Ethyl Ketone*	neg.	80	neg.	80
Formaldehyde	neg.	15.18	neg.	15.18
Total HAP*	neg.	80	0.331	80

tpy = tons per year

neg. = negligible

*HAPs that are limited by the VOC limit.

Table 2. Potential to Emit Including Insignificant Activities

Note: See Section 3.5 and Attachment 3 of this TSD for more discussion of insignificant activities.

	PM	PM ₁₀	NO _x	SO _x	VOC	CO
Permitted Units PTE (tpy)	19.1	19.1	44.5	1.1	86.3	98.8
Insignificant Activities (tpy)	1.02	1.02	13.83	0.08	11.99	11.3
Total (tpy)	20.1	20.1	58.37	1.2	98.27	110.1

Table 3. Facility and Permit Classification

Program	Major Source	*Synthetic Minor	*Minor
Prevention of Significant Deterioration		VOC, PM/PM ₁₀ , CO, and NO _x	
Nonattainment Area Review	NA	NA	NA
Part 70 Permit Program	HAP, CO		
Part 63 National Emissions Standards for Hazardous Air Pollutants (NESHAP)	X		

* Refers to PTE less than those specified as major by 40 CFR § 52.21, 40 CFR pt. 70, and 40 CFR pt. 63.

2. Regulatory and/or Statutory Basis

The Facility has taken limits to avoid major source classification for New Source Review (40 CFR § 52.21), but is a major source under the federal operating permits program (40 CFR pt. 70) and the NESHAP program (40 CFR pt. 63). The Facility will likely be subject to the NESHAP for Surface Coating of Large Appliances, once promulgated.

See Attachment 2 of this TSD for the specific permit limits and their basis (Form CD-01).

Table 4. Regulatory Overview

Level*	Applicable Regulations	Comments:
GP 001 (VOC Usage Limits)	<p>40 CFR § 52.21</p> <p>Minn. R. 7007.0800, subp. 2</p> <p>Minn. R. 7011.0710 and 7011.0715</p>	<p>Prevention of Significant Deterioration (PSD). Limits taken to avoid major source and modification classification under PSD for all noncombustion emissions of VOC. It is a rolling limit due to substantial and unpredictable variations in operation. The permit requires that all painting operations be controlled by specific control equipment (see GP 004).</p> <p>This permit also pre-authorizes the installation of a new spray booth, the replacement of emissions units with similar units, and the modification of existing units, so long as the permit limits are met.</p> <p>Transfer efficiency requirements for spray guns. The permit requires that all guns meet the transfer efficiencies used in the permit application (and used in writing the permit). Needed to meet the Standards of Performance for both Pre and Post 1969 Industrial Process Equipment.</p> <p>Standards of Performance for both Pre-1969 and Post-1969 Industrial Process Equipment. Two of the spray booths are subject to the Pre-1969 standard, while three are subject to the Post-1969 standard.</p>
GP 002 (engine exhaust areas)	40 CFR § 52.21	Prevention of Significant Deterioration (PSD). Limits taken to avoid major source and modification classification under PSD for fuels combusted in the engine testing areas. The fuel limits are rolling limits due to substantial and unpredictable variations

Level*	Applicable Regulations	Comments:
	Minn. R. 7011.2300	in operation. Standard of Performance for Stationary Internal Combustion Engines.
GP 003 (boilers)	Minn. R. 7011.0510	Standard of Performance for Pre-1977 Indirect Heating Equipment. This group consists of 4 boilers that burn natural gas and propane only.
GP 004 (panel filters)	40 CFR § 52.21	PSD. Control efficiency and other operating parameter requirements to limit PM/PM ₁₀ PTE to avoid major source and modification classification under PSD and to meet Minnesota Standards of Performance (Minn. R. 7011.0715).
EU 022	Minn. R. 7007.0800, subp. 2	Authorization to install new spray booth.
EU 023	Minn. R. 7007.0800, subp. 2	Authorization to install new engine exhaust area with up to 7 drops.

*Level --- EU = emission unit or GP = group, CE = control equipment

3. Technical Information

3.1. Pre-authorized Changes

As briefly described earlier, the permit pre-authorizes certain changes that might otherwise be considered modifications under state and federal rules. The permit authorizes two new emissions units (spray booth and engine exhaust area), allows the Permittee to replace existing spray booths with similar or like-kind units as long as no new applicable requirements are triggered and as long as emissions are tracked and calculated as specified in the permit. In addition, the permit authorizes the changing or modification of the existing spray booths.

The permit sets 12-month rolling limits on VOC emissions, so annual VOC emissions cannot increase due to any of the pre-authorized changes. All applicable requirements and necessary monitoring are in the permit. The replacement of existing units with similar technology and capacity units, and the changing or modification of existing units as specified in the permit, will not cause an emissions increase; so they are not modifications and can be made without the need for an amendment.

While the permit allows the replacement or modification of certain equipment, it does not allow any changes that would trigger a new applicable requirement not contained in the permit. Currently, because this source does not yet have a promulgated Part 63 NESHAP, one type of change that would require a permit amendment would be one that had HAP emissions increases that triggered 112(g) (under 40 CFR §§ 63.40 through 63.44 and Minn. R. 7007.3010). Based on the current process flow at the Facility, the pre-authorized changes would not constitute the installation of a new “process or production unit” which in and of itself has a PTE greater than 10 tpy of a single HAP (or 25 tpy of combined HAP). The federal rules define process or production unit fairly narrowly (see 40 CFR § 63.41). The “unit” must be capable of using inputs to produce or store an intermediate or final product. This is not currently the case for the spray booths or engine exhaust areas. However, the permit puts the burden on the Permittee to not

trigger any new applicable requirement; therefore, the Permittee must make this determination.

3.2. Potential to Emit Calculations

Attachment 1 to this TSD contains Form GI-07, which summarizes the PTE of the Facility, while Attachment 3 contains detailed spreadsheets and supporting information prepared by the MPCA.

There are several spreadsheets that are used to calculate the PTE from the Facility. Two spreadsheets show the highest emitting coating materials that the Facility is expecting to use. However, since the permit contains a total VOC cap, the various material contents are not relevant for calculating the annual PTE of VOC. They are only used for calculating maximum hourly emissions of VOC and the HAP and PM/PM₁₀ PTEs.

For the engine exhaust areas, the PTE calculations use AP-42 factors and the worst-case emitting engines. If the engines used at the facility change in the future (e.g., higher hourly fuel rates), the Permittee would need to determine if the change was a modification (e.g., potential hourly emissions increase) that required a permit amendment.

Table 1 of this document summarizes the PTE for various HAPs. While the numbers and chemicals in Table 1 are intended to project the various HAPs the Facility will likely emit, the Facility is not currently restricted to these materials; therefore, the HAPs may change after permit issuance. Due to the very conservative nature of the spray coating calculations, an alternative PTE method was used to show more realistic HAP potentials that can be found in Attachment 3. These alternative numbers were not used in Table 1.

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

- the likelihood of violating the applicable requirement;
- whether add-on controls are necessary to meet the emission limit;
- 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.

Table 4 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 5. Emission Units Subject to Periodic Monitoring

EU/ GP/ CE	Emission limit (Basis)	Additional Monitoring	Discussion
VOC Usage Limits: GP 001	VOC \leq 80 tons per year (limit to avoid major source under NSR)	Recordkeeping: Monthly records of VOC usage; On-going records of coating contents; Monthly emissions calculations using mass balance.	Due to the small quantity of materials used, the Permittee has stated that records would be very difficult to generate on a daily basis. In addition, the permit limit is less than 30% of the regulatory threshold (80 vs. 250 tpy). For this reason, monthly records are adequate. Records and calculations must be completed by the 10 th – a bit earlier than the standard (15 th) since no daily records are required.
	PM/PM ₁₀ : All booths required to be controlled by panel filters in GP 004 (limits to avoid NSR + meet Minn. R. 7011.0715)	see GP 004 for monitoring	Note: The VOC limit was discussed at length with the Permittee. The regulatory threshold is 250 tpy, but since they already had a VOC limit of 80 and wanted less frequent monitoring, they wished to keep the current limit. In addition, the VOC number limits the HAP emissions from the source. The Permittee has indicated that odors have been an issue with their neighbors, so keeping the HAP emissions lower is also a benefit.
	Waste Credit		
	The Facility currently sends their hazardous waste off site for disposal at most monthly; therefore, a monthly limit is reasonable. The Permittee has stated that even without waste credit, their emissions are currently roughly 50% of the limit, so not getting credit should not cause any problems. However, if emissions increase in the future, they would like to be able to get credit.		
	Actual Emissions: Actual VOC emissions in 1998 (last year for which data is available) were roughly 50 tons.		
	Gun transfer efficiency limits of 75% and 40% for various booths	Recordkeeping of guns and transfer efficiency	This limit is needed in order for the PTE calculations to be less than allowed by the Minnesota Industrial Process Equipment Rule. These calculations are very conservative (assume maximum solids sprayed for a full hour), so recordkeeping is adequate to ensure the limit is met.
	PM: variable, depending on airflow Opacity: \leq 20 % with exceptions (Minn. R. 7011.0710 or 7011.7015)	None	See Attachment 3 for a comparison of PTE to allowable rates. Based on these calculations, all booths have PTEs less than allowable by rule. These calculations are very conservative and the hourly emissions are likely much less. The permit requires calculations of PTE prior to any spray gun changes to show that the PTE is still less than allowed by rule.

EU/ GP/ CE	Emission limit (Basis)	Additional Monitoring	Discussion
Engine Exhaust Areas: GP 002 (EU 009-021 and 023)	Diesel Fuel $\leq 20,000$ gal/yr Gasoline $\leq 20,000$ gal/yr Propane $\leq 20,000$ gal/yr SO ₂ ≤ 0.5 lb/MMBtu Opacity: ≤ 20 % with exceptions (Minn. R. 7011.2300)	Recordkeeping: Monthly Fuel records and Calculations	Limits are significantly under the equivalent applicable regulatory threshold (0.5 to 50%, depending on the pollutant), so monthly records are adequate. For the fuels allowed, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limits by only burning the allowed fuels (worst case PTE is 0.29 lb/MMBtu).
Boilers: GP 003 (EUs 001)	PM ≤ 0.4 lb/MMBtu, each Opacity ≤ 20 % with exceptions (Minn. R. 7011.0510)	Recordkeeping: Monthly Fuel records	These units use natural gas and propane only; therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limits by only burning natural gas. Design based PTE, using AP-42, is 0.0072 compared to the rule limit.
Paint Filters: GP 004 (CE 001-005)	PM/PM ₁₀ : Control Efficiency of 74% (limit to avoid NSR + Minn. R. 7011.0715)	Recordkeeping, O & M, inspections	Monitoring based on the Minnesota Performance Standard for Control Equipment is adequate to have a reasonable assurance of compliance. This is an area on which EPA has had comments in the past, so the following discussion is provided. The Minnesota Control Equipment Rule lists the standard periodic monitoring that the MPCA expects for control equipment. For spray booths, no parametric monitoring is required. The types of parametric monitoring required for some other types of particulate control are pressure drop and visible emissions. Visible emissions are not meaningful for these particular spray booths due to the low concentration of the emission stream – there would never be visible emissions, even without control. Pressure drop is not usually useful due to the low pressure differentials over the panel filters. For wall filters, where the filters are easily accessible (versus a baghouse), visual inspections of the filter condition is the most effective way to verify filter performance. This permit requires daily visual inspections (and records). In terms of performance testing to verify the control efficiency, the spray booths are not total enclosures; therefore, a stack test to determine control efficiency is not technically feasible. There are no EPA reference test methods for testing PM/PM ₁₀ from units that are not totally enclosed. For these reasons, the periodic monitoring proposed in the permit is adequate to have a reasonable assurance of compliance.

EU/ GP/ CE	Emission limit (Basis)	Additional Monitoring	Discussion
New Spray Booth: EU 022	Construction authorization	Recordkeeping: calculation of PM PTE; notification	Other monitoring required under GP 002 and GP 004 requirements.
New Engine Exhaust Area: EU 023	Construction authorization	Recordkeeping and notification	Other monitoring required under GP 002.

3.4. Deviations from Delta Guidance

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. One item that deviates from guidance is the listing of certain applicable requirements at the group level even though they apply at the individual unit or control device. Specifically, the stationary internal combustion engine rule is listed at GP 002, indirect heating rule is listed at GP 003, the industrial process equipment rule (IPER) is listed at GP 001, and control equipment requirements are at GP 004.

In general, limits that apply to individual pieces of equipment should be tracked at the unit level and should not be listed as a GP. The main reason is if there is noncompliance with a limit by one unit within the group, the computer system would say the whole group was out of compliance. This is a computer tracking issue.

For the IPER, the internal combustion engine rule, and the indirect heating rule, the units by design are not likely to violate the limits. For the control equipment at GP 004, these are fairly standard conditions based on Minnesota rules. For all of the grouped requirements, it is unlikely that we would need to track noncompliance with these limits at the individual unit/control equipment level.

Another area where this permit deviates slightly from Delta 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 tracked (e.g., limits, submittals, etc.), should be in Table A or B. The main reason is that the appendices are word processing sections and are not part of the 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.

Appendix I is a listing of the Facility's Insignificant Activities and their applicable requirements. This is a fairly standard way to include these in the permit, since it is highly unlikely the MPCA would need to have these as trackable items in Delta.

Appendix II is a printout from Delta of the emissions unit description, Form GI-05B. This documents the correlation of specific emissions units to specific control equipment. Delta does not show this data as part of the "associated items" in Tables A and B of the permit, so this is a streamlined way to document this for the Permittee.

3.5. Insignificant Activities

The following were listed as current insignificant activities in the Permittee's permit application and supplemental submittals: several natural gas combustion units, sawing, mixing areas, laboratory and testing operations, welding, alkaline cleaning, an emergency

generator, and maintenance painting. The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities, and likely future ones, that might be located at this site. See Attachment 3 of this TSD for PTE information for the insignificant activities.

Table 6. Insignificant Activities

Insignificant Activity	Currently on site? (Y/N)	General Applicable Emission limit	Discussion
Fuel use in furnaces or boilers with a capacity of less than 500,000 Btu/hr.	Y	PM \leq 0.4 lb/MMBtu Opacity \leq 20 % (Minn. R. 7011.0515)	For these units based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are operated and vented inside a building, so testing for PM or opacity is not feasible.
Infrared electric ovens	N	Opacity \leq 20% (Minn. R. 7011.0110)	While no emissions estimation method exists for these units, based on general knowledge of how they operate, it is highly unlikely that they could generate visible emissions. In addition, these units would be operated and vented directly into the building, so monitoring or testing is not feasible.
Processing operations: Equipment venting PM/PM ₁₀ inside a building, provided that emissions from the equipment are: a). filtered through an air cleaning system; and b). vented inside of the building 100% of the time	Y	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0715)	For these units, it is highly unlikely that they could violate the applicable requirement. In addition, these units are vented inside a building, so testing for PM or opacity is not feasible.
Emissions from laboratory operations, as defined in Minn. R. 7007.1300, subp. 3(G)	Y	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0715)	These are very small, intermittent, bench-top operations that typically do not even have any emissions. It is highly unlikely that they could violate the applicable requirement.
Brazing, soldering or welding equipment	Y	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are operated and vented inside a building, so testing for PM or opacity is not feasible.

Insignificant Activity	Currently on site? (Y/N)	General Applicable Emission limit	Discussion
Blueprint copiers and photographic processes	N	Opacity \leq 20% (Minn. R. 7011.0110)	While no emissions estimation method exists for these units, based on general knowledge of how they operate, it is highly unlikely that they could generate visible emissions. In addition, these units would be operated and vented directly into the building, so monitoring or testing is not feasible.
Cleaning operations: alkaline/phosphate cleaners and associated burners	Y	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0610 + Minn. R. 7011.0715)	For these units, there are some factors available for the burners, but very little information regarding the cleaning operation itself. However, based on general knowledge of how they operate, it is highly unlikely that they could violate the applicable requirement or that testing would be feasible.
Individual emissions units, each of which have a potential to emit the following pollutants in amounts less than: 1. 2 tpy of CO; and 2. 1 tpy each of NO _x , SO ₂ , PM/PM ₁₀ , VOC (including HAP - containing VOC), and ozone	Y	PM, variable depending on airflow Opacity \leq 20% (with exceptions) (Minn. R. 7011.0715 and Minn. R. 7011.610) or SO ₂ \leq 0.5 lb/MMBtu Opacity \leq 20% (Minn. R. 7011.2300)	These are 4 natural gas combustion units, an emergency generator, and a specialty mixing area. For the natural gas units and generator, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, all of these units are operated and vented inside a building, so testing for PM or opacity is not feasible. The mixing area is not expected to generate particulate matter.
Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities	Y	PM, variable depending on airflow or process weight rate Opacity \leq 20% (Minn. R. 7011.0715)	While spray equipment will have the potential to emit particulate matter, these particular activities are those not associated with production, so they would be infrequent and usually occur outdoors. Testing or monitoring is not feasible.
Individual units that have actual emissions less than 1 tpy of each criteria pollutant.	Y	PM \leq 0.4 lb/MMBtu Opacity \leq 20 % (Minn. R. 7011.0515) or PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0715)	These units consist of 2 natural gas air make up units and mixing room. For the natural gas units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are operated and vented inside a building, so testing for PM or opacity is not feasible. The mixing room is not reasonably expected to generate particulate matter.

4.0 Conclusion

Based on the information provided by Tennant, the MPCA has reasonable assurance that the proposed operation of the emission Facility, as described in the Air Emission Permit No. 05300143-001 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Permit Engineer: Peggy Bartz

Enforcement Staff: Bob Berg

Attachments

- 1 Form GI-07 (Facility Emissions Summary)
- 2 Form CD-01 (Compliance Plan)
- 3 MPCA's Emissions Calculations
- 4 Facility Description from Delta

ATTACHMENT 1
FACILITY EMISSIONS SUMMARY
(Form GI-07, paper copy only)

ATTACHMENT 2
COMPLIANCE PLAN
(Form CD-01, paper copy only)

ATTACHMENT 3
EMISSIONS CALCULATIONS

Attachment 3
Engineered Polymers Corporation
Potential to Emit

This attachment contains the following spreadsheets:

Title	Description
PTE Summary	Summary of all criteria pollutant PTEs from all spreadsheets.
Mixed Coatings	Tables showing the contents of the various mixed coatings.
Coatings	Tables showing maximum contents of the various pollutants.
Spray Booths PM/PM ₁₀	Tables showing the PM/PM ₁₀ PTE of these operations.
Spray Booths VOC/HAP	Tables showing the VOC and HAP PTEs of these operations.
Spray Booths HAP Alternative	Alternative HAP PTE calculations.
Engine Exhaust	PTE calculations for the engine exhaust areas of the Facility.
Combustion PTE	PTE calculations for the significant combustion devices at the site (using AP-42 emissions factors).
Allowable Emissions	Comparison of calculated process PTE with the allowable by rule for all units subject to the industrial process equipment rule (IPER).
Insignificant Activities	PTE calculations as needed for these units.

ATTACHMENT 4
FACILITY DESCRIPTION
(paper copy only)