



AIR EMISSION PERMIT NO. 05500003-004

IS ISSUED TO

Northern Engraving Corporation

NORTHERN ENGRAVING CORPORATION

202 4th Avenue Northeast
Spring Grove, Houston County, MN 55974

The emission units, control equipment and emission stacks at the stationary source authorized in this permit amendment are as described in the Permit Applications Table.

This permit amendment supersedes Air Emission Permit No. 05500003-003, and authorizes the Permittee to operate and modify 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.


Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the SIP under 40 CFR § 52.1220, and as such as are enforceable by U.S. Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act.

Permit Type: State; Limits to Avoid Pt 70/Limits to Avoid NSR

Operating Permit Issue Date: April 8, 2002

Minor Amendment Issue Date: December 1, 2010

Expiration Date: Non-Expiring – Title I Conditions do not expire.


for Don Smith, P.E., Manager
Air Quality Permits Section
Industrial Division

for Paul Eger
Commissioner
Minnesota Pollution Control Agency

Permit Applications Table

Permit Type	Application Date	Permit Action
Total Facility Operating Permit	June 15, 1995	001
Moderate Amendment	June 27, 2002	002
Major Amendment	July 30, 2003	003
Minor Amendment	April 27, 2006	004

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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:

Northern Engraving Corporation manufactures decorated metal and plastic nameplates and automotive parts. Plastic parts may be produced by melting and molding plastic pellets into parts. Plastic and metal sheets may also be used to make parts. Parts are decorated by the application of various inks, coatings, or paints. Sheets may be coated by either priming before printing or adding a protective coating following lithographic or screened printing.

Lithography is a printing process in which the image configuration to be printed is rendered on a surface and treated so that it will retain ink. The non-image areas are treated to repel ink. Screening is a process where ink is pushed through open areas of a screen onto a metal or plastic sheet below the screen. Spraying is the application of paint by a spray gun either by hand or automatically. All decorated parts are dried and cured in ovens.

Once decorated, the flat parts may be punched out (blanked) and curve and angle formed. The parts are washed and are then ready for inspection, packing, and shipping.

The coatings, inks, and paints are sources of volatile organic compounds (VOCs) and Hazardous Air Pollutant (HAPs).

Permit Action 002

This permit action authorized the modification of EU 024 (PSO-SG-51). The screening line consisted of two screening machines, and an oven. The two screening machines were replaced. The facility name was also changed from Northern Automotive LLC to Northern Engraving Corporation.

Northern also added a screening line, EU 044 (PSO-SG-75) consisting of two screening machines and an oven.

Lastly, Northern replaced EU 025 (PSO-SG-52), EU 026 (PSO-SG-53), EU 030 (PSO-SG-64), and EU 031 (PSO-SG-65). These units are now identified as EU 045, EU 046, EU 047, and EU 048. Each of these units also consists of two screening machines and an oven.

Permit Action 003

This major amendment authorized the installation of a spray booth (EU 049) and a conveyor/UV oven (EU 050). In addition, this permitting action revised the total facility VOC and HAP limits language so that future additions, replacements, or modifications of VOC and HAP emission sources (excluding indirect heating equipment) would automatically be subject to the limits and associated compliance requirements.

Permit Action 004

This permit action is for two minor amendments. The first is a minor amendment to replace three of the facility's screening lines in GP 003 (EU's 045, 048 and 024) with EU's 058, 059, 060; each new EU has two screening machines and an oven. The second minor amendment is to modify EU 051, resulting in an increase in VOCs. The space heaters and miscellaneous indirect heating equipment at the facility add up to a combined capacity of 16.7 mmbtu/hr. These units have been combined and added to the permit as EU 061, and are listed in Appendix II to the permit.

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-1 12/07/10

Facility Name: Northern Engraving Corp

Permit Number: 05500003 - 004

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
SOURCE-SPECIFIC REQUIREMENTS	hdr
Permit Appendices: This permit contains two appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in the appendices.	Minn. R. 7007.0800, subp. 2
<p>Volatile Organic Compounds: less than or equal to 95.0 tons/year using 12-month Rolling Sum (calculated by the 15th day of each month for the previous 12-month period). All VOC-emitting equipment at the Facility, including insignificant activities, is subject to this limit except indirect heating equipment.</p> <p>Excluding indirect heating equipment, if the Permittee replaces or modifies any existing VOC-emitting equipment, or adds new VOC-emitting equipment, such equipment is subject to this permit limit, as well as all of the applicable requirements listed in the Total Facility and GP 002 subject items of this permit. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. The Permittee is not required to repeat VOC calculations described in Minn. R. 7007.1200, subp. 2.</p> <p>A permit amendment will still be needed regardless of the emissions increase if the change will be subject to a new applicable requirement or requires revisions to the limits or monitoring and recordkeeping requirements in this permit.</p>	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
<p>Reporting - Changes of VOC Emitting Equipment: For all VOC-emitting equipment changes made at the facility, the Permittee shall submit an annual report of such changes by January 31st of each year. The report shall describe changes made at the facility during the previous calendar year regardless if the change required a permit amendment. For all changes that didn't require a permit amendment, the changes shall be described by the Permittee using current applicable MPCA application forms for the new or replaced emission units, stack/vents, groups, and control equipment. The report shall be submitted with the annual Compliance Certification listed in Table B of this permit and include the twelve monthly-calculated 12-month rolling sum VOC emission values for the previous calendar year. As part of the annual report, the Permittee shall certify that the facility has maintained minor source status for part 70 and New Source Review.</p>	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
<p>HAPs - Total: less than or equal to 24.5 tons/year using 12-month Rolling Sum (calculated by the 15th day of each month for the previous 12-month period). All HAP-emitting equipment at the Facility, including insignificant activities, is subject to this limit except indirect heating equipment.</p> <p>Excluding indirect heating equipment, if the Permittee replaces any existing HAP-emitting equipment or adds new HAP-emitting equipment, such equipment is subject to this permit limit as well as all of the applicable requirements listed in the Total Facility and GP 002 subject items of this permit.</p> <p>Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. A permit amendment may be needed if the change will be subject to a new applicable requirement or requires revisions to limits or the monitoring and recordkeeping requirements in this permit.</p>	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
<p>HAP-Single: less than or equal to 9.5 tons/year using 12-month Rolling Sum (calculated by the 15th day of each month for the previous 12-month period). All HAP-emitting equipment at the Facility, including insignificant activities, is subject to this limit except indirect heating equipment.</p> <p>Excluding indirect heating equipment, if the Permittee replaces any existing HAP-emitting equipment or adds new HAP-emitting equipment, such equipment is subject to this permit limit as well as all of the applicable requirements listed in the Total Facility and GP 002 subject items of this permit.</p> <p>Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. A permit amendment may be needed if the change will be subject to a new applicable requirement or requires revisions to limits or the monitoring and recordkeeping requirements in this permit.</p>	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Permitted Fuel Types: Limited to natural gas or liquidified propane gas for all combustion equipment at the facility.	Minn. R. 7005.0100, subp. 35a

TABLE A: LIMITS AND OTHER REQUIREMENTS
A-2 12/07/10

Facility Name: Northern Engraving Corp

Permit Number: 05500003 - 004

VOC and HAP Material Content Monitoring: Obtain from the supplier a MSDS or Environmental Data Sheet (EDS) for all VOC-containing and HAP-containing materials used at the facility. The supplier data shall specify the VOC content and HAP content of each HAP in each material. Material content may be expressed in pounds per gallon or as a percent by weight if the density of the material is also indicated. Maintain supplier data for a minimum of five years.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
If the MSDS or EDS contains a range of a VOC or individual HAP content, the Permittee shall use the upper range for the monthly calculations, or other more specific information as provided by the manufacturer to the Permittee, or sampling.	Minn. R. 7007.0800, subp. 4
VOC/HAP Vapor Extraction Recordkeeping: by the 15th day of each month, record the quantity of VOC/HAP, from the vapor extraction (soil remediation) unit emitted during the previous month.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Monthly VOC Material Usage and VOC Usage Recordkeeping: by the 15th day of each month, record the quantity for each VOC-containing material and its VOC content used during the previous month. Separate records shall be kept for each material quantity and VOC content.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Monthly and 12-month rolling sum VOC Emissions Recordkeeping: 1) by the 15th day of each month, calculate VOC emissions for the previous month as follows: $\sum_{i=1}^n [(U_i \times C_i \times D_i)/2000] + (R/2000) - (W/2000) = \text{VOC Emissions}$ where: n = number of all VOC containing materials used during month U _i = VOC monthly usage (gallons) for material i C _i = Percent VOC content, by weight, for material i D _i = VOC material density (lb/gal) for material i R = VOC content emitted from vapor extraction unit (pounds) W = VOC waste shipped off-site (pounds) 2) by the 15th day of each month, calculate VOC emissions for previous 12-month period by summing the monthly VOC emissions for the previous 12 months.	Minn. R. 7007.0800, subp. 5
Monthly HAP Material Usage and HAP Usage Recordkeeping: by the 15th day of each month, record the quantity of each HAP from each HAP containing material and its HAP contents used during the previous month. Separate records shall be kept for each material's quantity of each HAP and each of its HAP's content.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Monthly and 12-month rolling sum Single HAP Emissions Recordkeeping: 1) by the 15th day of each month, calculate single HAP emissions, for all HAP containing materials, for the previous month as follows: $\sum_{i=1}^n [(U_i \times C_i \times D_i)/2000] + (R/2000) - (W/2000) = \text{HAP Emissions}$ where: n = number of all materials containing same HAP used during the month U _i = HAP monthly usage (gallons) for material i C _i = Percent HAP content, by weight, for material i D _i = HAP material density (lb/gal) for material i R = HAP content emitted from vapor extraction unit (pounds) W = HAP content shipped off-site (pounds) 2) by the 15th day of each month, calculate single HAP emissions, for all HAP containing materials, for previous 12-month period by summing the monthly HAP emissions for the previous 12 months.	Minn. R. 7007.0800, subp. 5
Monthly and 12-month Rolling Sum Total HAP Emissions Calculations: By the 15th day of each month: 1) Calculate and record the total HAP emissions for the previous month by summing the individual HAP emissions from the previous month; 2) Calculate and record the total HAP emissions for the previous 12-month period by summing the total monthly HAP emissions from the previous 12 months.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-3**

12/07/10

Facility Name: Northern Engraving Corp

Permit Number: 05500003 - 004

Waste Credit: If the Permittee elects to obtain credit for HAPs, solids, and/or VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment. 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, solids, total HAP, and each individual HAP, excluding water. 2) The Permittee may use supplier data for raw materials to determine the VOC, solids, and total and individual HAP contents 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, solids, and total and individual HAP content of any of the materials.	Minn. R. 7007.0800, subps. 4 and 5
OPERATIONAL REQUIREMENTS	hdr
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
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
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 control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices 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 practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subps. 14 and 16(J)
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
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
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
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)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
PERFORMANCE TESTING	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A and/or B.	Minn. R. ch. 7017
Performance Test Notifications and Submittals: Performance Tests are due as outlined in Table A of the permit. See Table B for additional testing requirements. Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2018; Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change.	Minn. R. 7017.2025, subp. 3

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-4**

12/07/10

Facility Name: Northern Engraving Corp

Permit Number: 05500003 - 004

MONITORING REQUIREMENTS	hdr
Monitoring Equipment Calibration: The Permittee shall calibrate all required monitoring equipment at least once every 12 months (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 and/or B, 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)
RECORDKEEPING	hdr
Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, 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)
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)
If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. These records shall be kept for a period of five years from the date that the change was made. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.	Minn. R. 7007.1200, subp. 4
REPORTING/SUBMITTALS	hdr
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
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

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-5**

12/07/10

Facility Name: Northern Engraving Corp

Permit Number: 05500003 - 004

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 - 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)
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance, to be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 - 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 - 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Northern Engraving Corp
Permit Number: 05500003 - 004

Subject Item: GP 001 Boilers
Associated Items: EU 001 Boiler PB-01-SG
EU 002 Boiler PB-02-SG
EU 003 Boiler PB-03-SG

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.60 lbs/million Btu heat input . This limit applies individually to each unit in the group.	Minn. R. 7011.0510, subp. 2
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 1
Fuel Usage: Natural Gas and Propane only.	Minn. R. 7005.0100, subp. 35a

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-7**

12/07/10

Facility Name: Northern Engraving Corp

Permit Number: 05500003 - 004

Subject Item: GP 002 Paint Spray Booths and Control Equipment**Associated Items:** CE 001 Mat or Panel Filter

CE 003 Mat or Panel Filter

CE 004 Mat or Panel Filter

CE 005 Mat or Panel Filter

CE 006 Mat or Panel Filter

CE 007 Mat or Panel Filter

CE 009 Mat or Panel Filter

EU 005 Paint Booth PSB-10-SG

EU 008 Paint Booth PSB-13-SG

EU 009 Paint Booth PSB-14-SG

EU 010 Paint Booth PSB-15-SG

EU 015 Paint Booth PSB-25-SG

EU 016 Paint Booth PSB-26-SG

EU 018 Paint Booth PSB-34-SG

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.30 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 individually to every unit in the group.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent . This applies individually to every unit in the group.	Minn. R. 7011.0715, subp. 1(B)
CONTROL EQUIPMENT REQUIREMENTS	hdr
The Permittee shall operate and maintain the control equipment such that it achieves an overall collection efficiency for PM < 10 micron: greater than or equal to 68 percent collection efficiency	Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves an overall collection efficiency for Total Particulate Matter: greater than or equal to 68 percent collection efficiency	Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the panel filters any time that any process equipment controlled by the panel filters is in operation.	Minn. R. 7007.0800, subp. 2 and 14
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.	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(s). 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
Initial Hood Certification and Evaluation: due 150 days after Permit Issuance. The control device hood must conform to the requirements listed in Minn. R. 7011.0072, subp. 2(B), and the Permittee shall certify this as specified in Minn. R. 7011.0072, subps. 2 and 3. The Permittee shall maintain a copy of the evaluation and certification on site. This requirement applies to each control device in GP 002.	Minn. R. 7007.0800, subps. 4, 5 and 14; Minn. R. 7011.0072, subp. 2(B)
Annual Hood Evaluation: The Permittee shall measure and record at least once every 12 months the fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method. The Permittee shall maintain a copy of the annual evaluation on site.	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-8**

12/07/10

Facility Name: Northern Engraving Corp

Permit Number: 05500003 - 004

Subject Item: GP 003 Ovens**Associated Items:** EU 011 Oven STO-16-SG

EU 012 Oven STO-17-SG

EU 033 UV Litho Line SLO-70-SG

EU 037 Oven SDO-45-SG

EU 039 Coating Line, PCO-69-SG, with oven, 2 coaters

EU 046 Screening line (PSO-SG-53), with oven and two screening machines, and one coater

EU 047 Screening line (PSO-SG-64), with oven and two screening machines

EU 058 Screening Line (PSO-SG-78), with 2 screening machines and one oven

EU 059 Screening Line (PSO-SG-79), with 2 screening machines and one oven

EU 060 Screening Line (PSO-SG-80), with 2 screening machines and one oven

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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 individually to each unit in the group.	Minn. R. 7011.0610, subp. 1
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1
Fuel Usage: Natural Gas and Propane only.	Minn. R. 7005.0100, subp. 35a

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-9**

12/07/10

Facility Name: Northern Engraving Corp

Permit Number: 05500003 - 004

Subject Item: EU 051 IP Oiler**Associated Items:** GP 004 Miscellaneous VOC Units

SV 086 Hood exhaust-washer

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.10 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. Because it has been shown that the facility does not cause a violation of ambient air quality standards, and there is no solids content in the material the Parts Lubricator applies, EU 051 is considered to be in compliance with this requirement.	Minn. R. 7011.0715, subps. 1(A) and 3
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-10**

12/07/10

Facility Name: Northern Engraving Corp

Permit Number: 05500003 - 004

Subject Item: EU 061 Space Heaters

What to do	Why to do it
<p>This emission unit includes all of the space heaters and other miscellaneous indirect heating equipment identified in the application as "insignificant activities." These emission units qualify individually as insignificant activities; however, when combined they are a significant source of emissions. The permit includes emission limits such that the facility is a non-major source under NSR, and the potential emissions of the units must be included in the permit and emission inventory.</p> <p>The Permittee shall maintain a written list of all emissions units included in EU 061, currently listed in Appendix II. The Permittee shall update the list to include any replaced, modified, or new equipment prior to making the change. The list shall contain the Manufacturer, Model Number, and Heating Capacity of the space heater. The date of construction shall be the date the change was made for replaced, modified, or new equipment.</p>	Minn. R. 7007.0800, subp. 2
<p>The Permittee is pre-authorized to make the following changes:</p> <ol style="list-style-type: none"> 1). Move or modify EU061 listed emission units; 2). Replace listed emission units with ones similar to those listed in EU061; and 3). Add indirect heating equipment with heat input less than .5 MMBtu/hr. <p>Provided the following conditions are met:</p> <ol style="list-style-type: none"> 1). For replacement units: the capacity is less than or equal to the unit it replaces; 2). VOC emissions are tracked and calculate as specified in this permit; and 3). All equipment must meet the requirements for EU 061. <p>If a proposed change triggers an applicable requirement that is not contained in this permit, the change must be permitted using the appropriate procedure in Minn. R. ch. 7007.</p>	<p>Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2, Minn. R. 7007.0200, and 40 CFR Section 63.2</p>
Total Particulate Matter: less than or equal to 0.40 lbs/million Btu heat input . The potential to emit from the unit is 0.013 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.0515, 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.	Minn. R. 7011.0515, subp. 2

TABLE B: SUBMITTALS

B-1 12/07/10

Facility Name: Northern Engraving Corp
Permit Number: 05500003 - 004

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.

Send any application for a permit or permit amendment to:

AQ Permit Technical Advisor
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

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.

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.

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

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

AQ Compliance Tracking Coordinator
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

TABLE B: RECURRENT SUBMITTALS**B-2** 12/07/10

Facility Name: Northern Engraving Corp

Permit Number: 05500003 - 004

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
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). The Permittee shall submit this to the Commissioner on a form approved by the Commissioner. This report covers all deviations experienced during the calendar year.	Total Facility
Report	due 31 days after end of each calendar year starting 11/20/2003 . This is the report of all changes of VOC-emitting equipment made at the facility. This report shall be submitted with the annual compliance certification that is submitted to the Commissioner. See the requirement titled "Reporting - Changes of VOC Emitting Equipment" in the Total Facility subject item in Table A of this permit for additional information about the content of this report.	Total Facility

APPENDIX I: Insignificant Activities

Facility Name: Northern Engraving Corporation

Permit Number: 05500003-004

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Likely Applicable Requirement
3(B)	(1) Infrared electric ovens; and <ul style="list-style-type: none">▪ Permittee operates one infrared electric oven to heat metal sheets in association with a laminator	Minn. R. 7011.0515
3(G)	Emissions from a laboratory, as defined in the subpart. <ul style="list-style-type: none">▪ Permittee has a paint mixing lab on site, exhausted through vent and hood.▪ Permittee has an ink mixing lab on site, exhausted through vent and hood.	Minn. R. 7011.0710/0715
3(H)	Miscellaneous:	
	3. brazing, soldering or welding equipment; <ul style="list-style-type: none">▪ Maintenance: welding, plasma cutting, torching, brazing – hood exhaust▪ Tool room: welding, cutting, torching – hood exhaust, EDM machine with ventilation	Minn. R. 7011.0510/.0515 + Minn. R. 7011.0610 + Minn. R. 7011.0710/0715
3(I)	Individual emissions units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than: 1. 4,000 lbs/year of carbon monoxide; and 2. 2,000 lbs/year each of nitrogen oxide, sulfur dioxide, particulate matter, particulate matter less than ten microns, volatile organic compounds (including hazardous air pollutant-containing VOC), and ozone. <ul style="list-style-type: none">▪ One sheet prep applicator area which applies a water and < 1% VOC solution onto metal sheets for cleaning.▪ 3 conveyors with infrared heat units: 2 used to dry off washed metal sheets, one used to dry machine lubricant off formed parts.▪ Screen making area: screen cleaning booth, exhausted, used for removing emulsions from screens with water, aqueous cleaners and haze remover with < 10% sodium hydroxide, 250,000 Btu box oven used for drying washed screen making equipment.	Minn. R. 7011.0710/0715

APPENDIX II: EU 061 – Miscellaneous Space Heaters List

Facility Name: Northern Engraving Corporation

Permit Number: 05500003-004

Unit Description	Manufacturer	Serial #	Capacity	
Dryer on washer	Eclipse	52721-1-79	0.4	mmbtu/hr
Dryer on washer	Eclipse	66186-7-83	0.4	mmbtu/hr
Tool Room	Johnson	2202-T	0.18	mmbtu/hr
Tank heater	LP mixing shed		0.66	mmbtu/hr
Space Heater	Hastings	38676-1	2.113	mmbtu/hr
Space Heater	Carrier	1786G16708	0.1	mmbtu/hr
Space Heater	Lennox	G059-653-150-1G	0.15	mmbtu/hr
Space Heater	Lennox	6808 Size CB-218	2.4	mmbtu/hr
Space Heater	Titan	1417	1.5	mmbtu/hr
Space Heater	Titan	1416	1.5	mmbtu/hr
Space Heater	Renzor	VB933N450	0.15	mmbtu/hr
Space Heater	Rapid	929041	3	mmbtu/hr
Space Heater	Rapid	919135	2.75	mmbtu/hr
Space Heater	Co-Ray-Vac		0.5	mmbtu/hr
Space Heater	Co-Ray-Vac		0.6	mmbtu/hr
Space Heater	Co-Ray-Vac		0.25	mmbtu/hr
Space Heater	Co-Ray-Vac		0.075	mmbtu/hr
Total			16.73	mmbtu/hr

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 05500003-004

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. General Information

1.1 Applicant and Stationary Source Location:

Table 1. Applicant and Source Address

Applicant/Address	Stationary Source/Address (SIC Code: 3089 & 3469)
Northern Engraving Corporation 803 South Black River Street Sparta, WI 54656	202 4th Ave NE Spring Grove Houston County
Contact: Mary Goodman Phone: 608-269-6911	

1.2 Facility Description

Northern Engraving (formerly Northern Automotive) manufactures decorated metal and plastic nameplates and automotive parts. Plastic parts may be produced by melting and molding plastic pellets into parts. Plastic and metal sheets may also be used to make parts. Parts are decorated by the application of various inks, coatings, or paints. Sheets may be coated by either priming before printing or adding a protective coating following lithographic or screened printing.

Lithography is a printing process in which the image configuration to be printed is rendered on a surface and treated so that it will retain ink. The non-image areas are treated to repel ink. Screening is a process where ink is pushed through open areas of a screen onto a metal or plastic sheet below the screen. Spraying is the application of paint by hand or automatically. All decorated parts are dried and cured in ovens. Once decorated, the flat parts may be punched out (blanked) and curve- or angle-formed. The parts are washed and are then ready for inspection, packing, and shipping.

The coating, inks, and paints are sources of Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs).

1.3 Description of the Activities Allowed by this Permit Action

This permit action is for two minor amendments. The first is a minor amendment to replace three of the facility's screening lines in GP 003 (EU's 045, 048 and 024) with EU's 058, 059, 060; each new EU has two screening machines and an oven. The second minor amendment is to modify EU 051, resulting in an increase in VOCs. The space heaters and miscellaneous indirect heating equipment at the facility add up to a combined capacity of 16.7 mmbtu/hr. These units have been combined and added to the permit as EU 061, and are listed in Appendix II to the permit.

The PTE of the facility was recalculated and several citations were updated according to current MPCA policy.

1.4. Facility Emissions:

Table 2. Non-Title I Emissions Increase Summary for EU's 058-060

Pollutant	After Change (lb/hr)	Before Change (lb/hr)	Net Change (lb/hr)	Insignificant Modification Thresholds (lb/hr <)	Minor and Moderate Amendment Thresholds (lb/hr < or ≥)	Type of Amendment (Minor or Moderate)
PM ₁₀	0.033	0.033	0	0.855	3.42	N/A
NO _x	0.672	0.672	0	2.28	9.13	N/A
SO ₂	0.048	0.048	0	2.28	9.13	N/A
CO	0.378	0.378	0	5.70	22.80	N/A
VOC	49.82	44.61	5.21	2.28	9.13	Minor
Lead	0	0	0	0.025	0.11	N/A

Table 3. Non-Title I Emissions Increase Summary for EU 051

Pollutant	After Change (lb/hr)	Before Change (lb/hr)	Net Change (lb/hr)	Insignificant Modification Thresholds (lb/hr <)	Minor and Moderate Amendment Thresholds (lb/hr < or ≥)	Type of Amendment (Minor or Moderate)
PM ₁₀	0	0	0	0.855	3.42	N/A
NO _x	0	0	0	2.28	9.13	N/A
SO ₂	0	0	0	2.28	9.13	N/A
CO	0	0	0	5.70	22.80	N/A
VOC	4.76	0.4	4.36	2.28	9.13	Minor
Lead	0	0	0	0.025	0.11	N/A

Table 3. Total Facility Potential to Emit Summary (tpy)

	PM	PM₁₀	PM_{2.5}	SO₂	NO_x	CO	VOC	Single HAP	All HAPs
Total Facility Limited Potential Emissions	42.5	42.5	42.5	2.2	35.6	21.0	95.0	9.5	24.5
Total Facility Actual 2008 Emissions	0.16	0.16	Not reported	0.01	1.24	1.04	15.98	HAPs not reported in emission inventory	

Table 4. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD		VOC	PM, PM ₁₀ , PM _{2.5} , NO _x , SO ₂ , CO
Part 70 Permit Program		VOC	PM, PM ₁₀ , PM _{2.5} , NO _x , SO ₂ , CO
Part 63 NESHAP		HAPs	

2. Regulatory and/or Statutory Basis

New Source Review

The facility is an existing non- major source under New Source Review regulations.
No changes are authorized by this permit.

Part 70 Permit Program

The facility is a non-major source under the Part 70 permit program.

New Source Performance Standards (NSPS)

There are no New Source Performance Standards applicable to the operations at this facility.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility has accepted limits on HAP emissions such that it is an area source under 40 CFR pt. 63. Thus, no major source NESHAPs apply. In addition, the Permittee has stated that no area source NESHAPs apply to the facility.

Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.0610 Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment

Table 6. Regulatory Overview of Units Affected by the Modification/Permit Amendment

Level*	Applicable Regulations	Comments:
FC	Title I Conditions	VOC and HAP limits.
GP 003	Minn. R. 7011.0610, subp. 1	Direct Heating Rule.
EU 051	Minn. R. 7011.0715, subps. 1(A & B), 3(B)	Industrial Process Equipment Rule
EU 061	Minn. R. 7011.0510	Indirect Heating Rule for various space heaters.

*Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

3. Technical Information

The first minor amendment replaced three of the screening lines, increasing the VOC lb/hr and lowering the other pollutant PTE's by changing the oven sizes from 1.5 to 1.25 MMBtu/hr. In addition to the first minor amendment the Permittee also submitted an insignificant modification to change the size of the ovens in EU's 058 - 060 from 1.25 to 1.5 MMBtu/hr. Therefore the lb/hr of VOCs is increasing and the other pollutants show no change.

3.1 Calculations of Potential to Emit

Attachment 1 to this TSD contains detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

3.2 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 considers the following:

- The likelihood of 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 table below summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 7. Periodic Monitoring

Level*	Requirement (rule basis)	Additional Monitoring	Discussion
FC	VOC Limit: ≤ 95 tpy Total HAPs Limit: ≤ 24.5 tpy Single HAP Limit: ≤ 9.5 tpy (Title I Conditions)	Routine monitoring, monthly recordkeeping, annual reporting, inspections.	Limits to avoid being a major source for PSD and Part 70 requirements.
GP 003	PM Limit: $\leq .30$ gr/dscf Opacity Limit: ≤ 20 % (Minn. R. 7011.0610, subp. 1)		No additional monitoring is needed due to the design and fuel limits of the units.
EU 051	PM Limit: $\leq .10$ gr/dscf Opacity Limit: ≤ 20 % (Minn. R. 7011.0715, subps. 1(A & B))		No additional monitoring is needed due to the design and fuel limits of the units.
EU 061	PM Limit: $\leq .40$ gr/dscf Opacity Limit: ≤ 20 % (Minn. R. 7011.0515, subps. 1 & 2)	A list of the insignificant activities included in this emission unit is contained in Appendix II to the permit.	No additional monitoring is needed due to the design and fuel limits of the units.

*Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

3.3 Insignificant Activities

Northern Engraving Corporation has several operations which are classified as insignificant activities. These are listed in Appendix I to the permit.

3.4 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements.

4. Permit Fee Assessment

Attachment 3 to this TSD contains the MPCA's assessment of Application and Additional Points used to determine the permit application fee for this permit action as required by Minn. R. 7002.0019. The permit action includes two minor permit amendment applications, one received before the effective date of the rule (July 1, 2009), and one received after the effective date. This permit action does not include any additional points.

5. Conclusion

Based on the information provided by Northern Engraving Corporation, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 05500003-004, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Chris Buntjer (permit writer/engineer)
 Jennifer Lovett (enforcement)
 Marc Severin (stack testing)
 Kelsey Suddard (peer reviewer)

AQ File No. 1889; DQ 1038

Attachments: 1. Calculation Spreadsheets
 2. Facility Description and CD-01 Forms
 3. Fee Assessment