AIR EMISSION PERMIT NO. 14500080-003

IS ISSUED TO

NAHAN PRINTING INC.
7000 Saukview Drive
St. Cloud, Stearns County, MN 56302

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

Permit Type	Application Date	Issue Date	Action #
Total Facility Operating Permit	April 14, 1995	August 20, 2004	001
Administrative Amendment	MPCA Reopening	September 10, 2004	002
Major Amendment	April 17, 2006	See Below	003

This permit supersedes permit 14500080-002 and authorizes the Permittee to operate and construct at the stationary source at the address listed above. 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: State; Limits to Avoid Pt 70/Limits to Avoid NSR

Authorization to Construct and Operate Issuance Date: November 30, 2006

Final Permit Amendment Issuance Date: November 30, 2006

Expiration: August 20, 2014
Title I Conditions do not expire.

Richard J. Sandberg, Manager
Air Quality Permits Section
Industrial Division

for Brad Moore
Acting Commissioner
Minnesota Pollution Control Agency

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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:

Nahan Printing operates a commercial printing facility. The equipment used in the current operation comprises heat-set web presses, sheet-fed presses, cold-set forms presses, ultraviolet forms presses, chillers, dryers, thermal oxidizers, aqueous coating units, and parts washers. This permitting action is a state total facility permit with limits and requirements to avoid major source status under Part 70, Part 63, and New Source Review.

This permit allows certain pre-authorized changes. The following new units may be added:

- One new ten unit double web heat-set press, dryer, and parts washer. The heat-set operation will be controlled by existing CE 001 or a future CE 007.

In addition, units may be modified, added, or replaced providing that all applicable permit conditions are met. The pre-authorized changes will allow the Permittee to maintain non-major source status for Part 70, Part 63, and New Source Review.

MAJOR AMENDMENT (PER 003) DESCRIPTION:

This major amendment is to add one ten-unit double web heat-set press, and replace the existing thermal oxidizer (CE 001) with a larger recuperative thermal oxidizer. The press will be equipped with two natural gas direct-fired dryers that will vent to the new thermal oxidizer, which will also control the emissions from existing Press 280 (EU 008) and Press 281 (EU 025). This amendment will also include total facility emission limits on VOCs and HAPs, this will eliminate the need for the external combustion capacity limit in the current permit.

TABLE A: LIMITS AND OTHER REQUIREMENTS

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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
FLEXIBLE PERMIT REQUIREMENTS	hdr
This permit establishes limits on the facility to keep it a minor source under New Source Review, Part 70, and Part 63. The Permittee cannot make any change at the source that would make the source a major source under New Source Review, Part 70, or Part 63 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: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subp. 2
Equipment Labeling: The Permittee shall permanently affix a unique number to each emissions unit for tracking purposes. The numbers shall correlate the unit to the appropriate EU and GP numbers used in this permit. The number can be affixed by placard, stencil, or other means. The number shall be maintained so that it is readable and visible at all times from a safe distance. The Permittee shall maintain a written list of all emissions units on site. The list shall correlate the units to the numbers used in this permit (EU, GP, and CE) and shall include the data included in Appendix D of this permit. The Permittee shall update the list to include any replaced, added, or modified equipment prior to making the pre-authorized change.	Minn. R. 7007.0800, subp.2
EMISSION CAP LIMITS	hdr
Volatile Organic Compounds: less than or equal to 90.0 tons/year using 12-month Rolling Sum for the total facility. VOC contents for each VOC-containing material shall be determined as described under the Material Content requirement. The calculation of VOCs used may take into account recovered/recycled VOCs as described under the Waste Credit requirement.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2
HAP-Single: less than or equal to 9.0 tons/year using 12-month Rolling Sum for the total facility. HAP contents for each HAP-containing material shall be determined as described under the Material Content requirement. The calculation of HAPs used may take into account recovered/recycled HAPs as described under the Waste Credit requirement.	Title I Condition: To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subp. 2
HAPs - Total: less than or equal to 22.5 tons/year using 12-month Rolling Sum for the total facility. HAP contents for each HAP-containing material shall be determined as described under the Material Content requirement. The calculation of HAPs used may take into account recovered/recycled HAPs as described under the Waste Credit requirement.	Title I Condition: To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subp. 2
All VOC-emitting equipment is subject to the VOC limit. If the Permittee replaces any VOC-emitting equipment, adds new VOC-emitting equipment, or modifies the existing equipment, such equipment is subject to the permit limit and all of the requirements under EMISSION CAP LIMITS listed as Total Facility requirements. Prior to making the change, the Permittee shall apply for and obtain the appropriate permit amendment. The Permittee is not required to repeat the calculations described in Minn. R. 7007.1200, subp. 2. A permit amendment is needed regardless of the emissions change if the change will be subject to new applicable requirements or requires revisions to the limits or monitoring and recordkeeping in this permit. Changes to existing monitoring, recordkeeping, or reporting requirements require a major amendment.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2

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All HAP-emitting equipment is subject to the HAP limits. If the Permittee replaces any HAP-emitting equipment, adds any HAP-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit and all of the requirements under EMISSION CAP LIMITS listed as Total Facility requirements. Prior to making the change, the Permittee shall apply for and obtain the appropriate permit amendment. The Permittee is not required to repeat the calculations described in Minn. R. 7007.1200, subp. 2. A permit amendment is needed regardless of the emissions change if the change will be subject to new applicable requirements or requires revisions to the limits or monitoring and recordkeeping in this permit. Changes to existing monitoring, recordkeeping, or reporting requirements require a major amendment.	Title I Condition: To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; MInn. R. 7007.0800, subp. 2
VOC contents for each VOC-containing material shall be determined as described under the Material Content requirement. The calculation of VOCs used may take into account recovered/recycled VOCs as described under the Waste Credit requirement.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2
HAP contents for each HAP-containing material shall be determined as described under the Material Content requirement. The calculation of HAPs used may take into account recovered/recycled HAPs as described under the Waste Credit requirement.	Title I Condition: To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subp. 2
Material Usage Recordkeeping. By the 21st day of each month, the Permittee shall calculate and record and maintain record of the quantity of each ink material, fountain solution, manual blanket wash, automatic blanket wash, and any other VOC and/or HAP-containing materials used during the previous month. This shall be based on either written usage logs, or purchase/delivery records.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 2 & 5
Vapor Pressure Records: For materials used for either automatic or manual blanket wash, the Permittee shall document if the vapor pressure is equal to, less than, or greater than 10 mm Hg at 20 degrees centigrade, for each material. If the vapor pressure is unknown, the Permittee shall assume that it is greater than 10 mm Hg in the applicable permit calculations until such time that it is determined to be otherwise.	Minn. R. 7007.0800, subps. 4 & 5
Monthly Recordkeeping -- VOC Emissions By the 21st of the month, the Permittee shall calculate and record the following: 1. The total usage of each VOC-containing material for the previous calendar month using the material usage records. This record shall also include the VOC contents of each material as determined by the Material Content requirement of this permit. 2. The VOC emissions for the previous month using formulas specified in Appendix B of 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. 4. The total natural gas usage of all combustion equipment for the previous calendar month. The 12-month rolling sum VOC combustion emissions for the previous 12-month period. Any noncompliance with an applicable VOC limit shall be reported as a deviation in the semiannual deviation report required in Table B of this permit.	Minn. R. 7007.0800, subps. 4 & 5
Monthly Recordkeeping -- HAP Emissions By the 21st of the month, the Permittee shall calculate and record the following: 1. The total usage of each HAP-containing material for the previous calendar month using the material usage records. This record shall also include the individual and total HAP contents of each material as determined by the Material Content requirement of this permit. 2. The individual and total HAP emissions for the previous month using formulas specified in Appendix B of this permit. 3. The 12-month rolling sum individual and total HAP emissions for the previous 12-month period by summing the monthly HAP emissions data for the previous 12 months. Any noncompliance with an applicable HAP limit shall be reported as a deviation in the semiannual deviation report required in Table B of this permit.	Minn. R. 7007.0800, subps. 4 & 5

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Material Content: VOC and HAPs contents in materials shall be determined by: 1. A Material Safety Data Sheet (MSDS); 2. A Letter of Certification, provided by the supplier for each material used; or 3. EPA or ASTM reference method. If a material content range is given, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC and HAPs contents. The Commissioner reserves the right to require the Permittee to determine the VOC and/or HAP 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 supercede the MSDS or letter of certification.	Minn. R. 7007.0800, subps. 4 & 5
Waste Credit: If the Permittee elects to obtain credit for HAPs and/or VOC shipped in waste materials, the Permittee shall use either item 1 or 2 to determine the VOC and/or total and individual HAP content for each credited shipment. All VOC/HAP-containing wastes must be kept in closed air-tight containers. 1. The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, total HAPs, and each individual HAP.	Minn. R. 7007.0800, subps. 4 & 5
2. The Permittee may use supplier data for raw materials to determine the VOC 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 and total and individual HAP content of any of the materials. If the Permittee uses item 1 or 2 to obtain emissions credit for VOC/HAP shipped offsite, the Permittee shall include this credit in the monthly emissions calculations for the month in which the waste was shipped.	(continued from above)
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, unless otherwise noted in Table A.	Minn. R. 7007.0800, subps. 2 & 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 & 16(J)
Operation Changes: In any shutdown, breakdown, or deviation, the Permittee shall immediately take all practical steps to modify operations to reduce the emissions 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.	Minn. R. ch. 7017

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Performance Test Notifications and Submittals; 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 specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit and completion of permit reopening and reissuance. If limits serve to cause more stringent operating conditions, resulting changes to facility operation need to be made immediately. If limits serve to relax current operating conditions, resulting changes to facility operation must not be made prior to issuance of permit amendment with new limit incorporated.	Minn. R. 7017.2025
MONITORING	hdr
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment.	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 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)
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

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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
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

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Subject Item: **GP 002 Direct Heating Equipment**

Associated Items: CE 001 Thermal Oxidizer

CE 002 Thermal Oxidizer

CE 003 Thermal Oxidizer

CE 004 Thermal Oxidizer

CE 005 Thermal Oxidizer

CE 007 Thermal Oxidizer

EU 013 Aqueous Coater Dryer for Web Heatset Press (single) #280

EU 015 Dryer - Web Heatset Press (single) #280

EU 026 Dryer - Web Heatset Press (single) #281

EU 038 Upper Dryer - Web Heatset Press (double) #288

EU 039 Lower Dryer - Web Heatset Press (double) #288

EU 053 Upper Dryer - Web Heatset Press (double) #289

EU 054 Lower Dryer - Web Heatset Press (double) #289

What to do	Why to do it
These requirements apply to each individual emission unit listed in GP 002.	hdr
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.	Minn. R. 7011.0610, subp. 1(A)(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. 7011.0610, subp. 1(A)(2)
Fuel Usage: Natural gas only, by design.	Minn. R. 7005.0100, subp. 35a

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Subject Item: **GP 003 Heat-set Presses**

Associated Items: CE 001 Thermal Oxidizer

CE 002 Thermal Oxidizer

CE 003 Thermal Oxidizer

CE 004 Thermal Oxidizer

CE 005 Thermal Oxidizer

CE 007 Thermal Oxidizer

EU 008 Web Heatset Press (single) #280

EU 015 Dryer - Web Heatset Press (single) #280

EU 025 Web Heatset Press (single) #281

EU 026 Dryer - Web Heatset Press (single) #281

EU 037 Web Heatset Press (double) #288

EU 038 Upper Dryer - Web Heatset Press (double) #288

EU 039 Lower Dryer - Web Heatset Press (double) #288

EU 052 Web Heatset Press (double) #289

EU 053 Upper Dryer - Web Heatset Press (double) #289

EU 054 Lower Dryer - Web Heatset Press (double) #289

What to do	Why to do it
For all Heatset Press Operations (presses and dryers), the Permittee shall control the emissions from all emission units in GP 003 with control devices described by CE 001, CE 007, or GP 004 at all times that the given press is operating. The current and proposed control equipment configurations are documented in Appendix D of this permit.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subp. 2
Press Operations Controlled by Oxidizers: The Permittee may replace the control devices listed in GP 003, so long as all press operation emissions are controlled by control devices described by either CE 001, CE 007, or GP 004.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subp. 2

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Subject Item: **GP 004 Thermal Oxidizers for Heatset Press #288**

Associated Items: CE 002 Thermal Oxidizer

CE 003 Thermal Oxidizer

CE 004 Thermal Oxidizer

CE 005 Thermal Oxidizer

What to do	Why to do it
These requirements apply separately to each control device listed in GP 004.	hdr
LIMITS	hdr
The permittee shall operate and maintain the control equipment such that it achieves a destruction efficiency for Volatile Organic Compounds: greater than or equal to 95 percent destruction efficiency	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 2 & 14
The Permittee shall operate and maintain each thermal oxidizer any time that any process equipment controlled by thermal oxidizer is in operation.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 2 & 14
Temperature: greater than or equal to 1353 degrees F as a three-hour rolling average at the Combustion Chamber, of each thermal oxidizer, unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 2 & 14
PERFORMANCE TESTING	hdr
Performance Test: due 1,825 days after 02/03/2005 for VOC destruction efficiency of any one thermal oxidizer chosen from either CE 002, CE 003, CE 004, or CE 005.	Minn. R. 7017.2020, subp. 1
MONITORING	hdr
Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring, of each thermal oxidizer, required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.	Minn. R. 7007.0800, subp. 4
The Permittee shall maintain and operate a thermocouple monitoring device, for each thermal oxidizer, that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	Minn. R. 7007.0800, subps. 4 & 5
The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings for each combustion chamber. The Permittee shall also maintain the calculated three-hour rolling average temperatures for the combustion chamber.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 4 & 5
Daily Monitoring: The Permittee shall physically check the temperature of each thermal oxidizer recording device at least once each operating day to verify that it is working and recording properly.	Minn. R. 7007.0800, subps. 4 & 5
Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.	Minn. R. 7007.0800, subps. 4, 5, & 14
Annual Calibration: The Permittee shall calibrate each temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subps. 4, 5, & 14

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For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee shall use either one of the following when completing the VOC and HAP calculations as required elsewhere in this permit: 1. The overall control efficiency limit specified in this permit for this equipment (95%); or 2. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 4 & 5
Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or 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 thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subps. 4, 5, & 14
The Permittee shall operate and maintain the thermal oxidizer in accordance with the 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

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

Subject Item: **GP 005 Chiller Units**

Associated Items: EU 016 Chiller #1

EU 017 Chiller #4

EU 018 Chiller #2

SV 008 Chiller #1 (EU 016)

SV 009 Chiller #4 (EU 017)

SV 010 Chiller #2 (EU 018)

What to do	Why to do it
These requirements apply to each individual emission unit listed in GP 005.	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 of either Minn. R. 7011.0730 or Minn. R. 7011.0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
Fuel Usage: Natural gas only, by design.	Minn. R. 7005.0100, subp. 35a

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

Subject Item: **GP 006 Baler Paper Scrap Units**

Associated Items: CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

EU 042 Baler Paper Scrap

EU 043 Baler Paper Scrap

SV 021 Baler Paper Scrap/Baghouse

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.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. See CE 006 for Fabric Filter requirements.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2
Pre-Authorized Changes: The Permittee may modify listed emission units and replace listed emission units with emission units having similar rated capacity and air flow discharge conditions. All other permit conditions are to be met. In addition, the Permittee is specifically pre-authorized to install two future baler paper scrap units. These emission units must be similar to those listed in GP 006. The new units must have similar rated capacity and air flow discharge conditions. The air flow must be vented, internally, 100% of the time, after the fabric filter control. All other permit conditions are to be met. If a proposed change triggers an applicable requirement that is not contained in this permit, the change must go through the appropriate procedures in Minn. R. ch. 7007.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

Subject Item: **GP 007 Boilers**

Associated Items: EU 049 Boiler #1

EU 050 Boiler #2

EU 051 Boiler #3

SV 023 Boiler #1

SV 024 Boiler #2

SV 025 Boiler #3

What to do	Why to do it
These requirements apply to each individual emission unit listed in GP 007.	hdr
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input .	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.	Minn. R. 7011.0510, subp. 2
Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input .	Minn. R. 7011.0510, subp. 1
Fuel Usage: Natural gas only, by design.	Minn. R. 7005.0100, subp. 35a

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

Subject Item: **GP 008 Presses/Parts Washers**

Associated Items: EU 006 Halm Jet

EU 008 Web Heatset Press (single) #280

EU 012 Cold Set Press - Concept #260

EU 019 Sheetfed Parts Washer

EU 021 Web Heatset Press (single) Parts Washer

EU 023 Aqueous Coater Unit on Web Heatset Press (single) #280

EU 025 Web Heatset Press (single) #281

EU 027 Sheetfed Press CD 6 - Color #242

EU 028 Coating Unit - Sheetfed Press CD 6 - Color #242

EU 031 Cold Set Press - Concept #261

EU 032 Cold Set Press - Concept #262

EU 033 Sheetfed Press 10 - Color Perfector #243

EU 034 UV Press Drent - 8 Unit #266

EU 035 UV Press Drent - 10 Unit #267

EU 037 Web Heatset Press (double) #288

EU 040 Parts Washer - Web Heatset Press (double) #288

EU 041 UV Coating Dell - Web Heatset Press (double) #288

EU 052 Web Heatset Press (double) #289

What to do	Why to do it
These requirements apply to each individual emission unit listed in GP 008.	hdr
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.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

Subject Item: **CE 001 Thermal Oxidizer**

Associated Items: EU 026 Dryer - Web Heatset Press (single) #281

GP 002 Direct Heating Equipment

GP 003 Heat-set Presses

What to do	Why to do it
CE 001 Thermal Oxidizer will be replaced by CE 007 Thermal Oxidizer.	hdr
Any operation of a heatset press without being controlled by the thermal oxidizer shall be reported as a deviation. During such time, emission calculations shall use a 0% destruction efficiency. If the thermal oxidizer is not operational after 24 hours, the heatset press that it controls shall be shutdown until such time that the thermal oxidizer shall become operational.	Minn. R. 7007.0800, subp. 2
LIMITS	hdr
The Permittee shall operate and maintain the control equipment such that it achieves a destruction efficiency for Volatile Organic Compounds: greater than or equal to 95 percent destruction efficiency	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 2 & 14
The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment controlled by thermal oxidizer is in operation. Upon completion of the CE 007 installation, the Permittee must comply with the pollution control equipment requirements listed under CE 007 in this permit, and any permit conditions related to CE 001 will no longer be applicable.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 2 & 14
Temperature: greater than or equal to 1300 degrees F as a three-hour rolling average at the Combustion Chamber unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 2 & 14
MONITORING	hdr
Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.	Minn. R. 7007.0800, subp. 4
The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	Minn. R. 7007.0800, subps. 4 & 5
The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings for the combustion chamber. The Permittee shall also maintain the calculated three-hour rolling average temperatures for the combustion chamber.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 4 & 5
Daily Monitoring: The Permittee shall physically check the temperature recording device at least once each operating day to verify that it is working and recording properly.	Minn. R. 7007.0800, subps. 4 & 5
Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.	Minn. R. 7007.0800, subps. 4, 5, & 14
Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subps. 4, 5, & 14

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee shall use either one of the following when completing the VOC and HAP calculations as required elsewhere in this permit: 1. The overall control efficiency limit specified in this permit for this equipment (95 %); or 2. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 4 & 5
Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or 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 thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subps. 4, 5, & 14
The Permittee shall operate and maintain the thermal oxidizer in accordance with the 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

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

Subject Item: **CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**

Associated Items: EU 042 Baler Paper Scrap

EU 043 Baler Paper Scrap

GP 006 Baler Paper Scrap Units

What to do	Why to do it
The Permittee shall follow the manufacturer's specifications for the operation and maintenance of the fabric filters.	Minn. R. 7007.0800, subp. 2
While venting externally, the Permittee shall operate and maintain the control equipment such that it achieves for Total Particulate Matter: greater than or equal to 99.0 percent control efficiency	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2
While venting externally, the Permittee shall operate and maintain the control equipment such that it achieves for Particulate Matter < 10 micron: greater than or equal to 99.0 percent control efficiency	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2
Visible Emissions: While venting externally, the Permittee shall check each vent associated with the control equipment listed above for visible emissions or dust accumulation, daily. These observations will be made near the vent discharge inside the building.	Minn. R. 7007.0800, subp. 4
Recordkeeping of Visible Emissions (VE): The Permittee shall keep records on the time and date of VE inspection, and whether or not any VEs or dust accumulation were observed.	Minn. R. 7007.0800, subp. 5
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - Visible emissions or dust accumulations are observed; or, - The fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall eliminate visible emissions or dust accumulations, and/or 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 fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subps. 4, 5 & 14
Periodic Inspections: At least once per calendar year, 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, subps. 4, 5 & 14
Pre-Authorized Changes: The Permittee may replace listed fabric filter units with similar fabric filter units. All other permit conditions are to be met. In addition, the Permittee is specifically pre-authorized to install two future fabric filter units to control the two future baler paper scrap units. These fabric filter units must be vented, internally, 100% of the time. All other permit conditions are to be met. If a proposed change triggers an applicable requirement that is not contained in this permit, the change must go through the appropriate procedures in Minn. R. ch. 7007.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Section 70.2; Minn. R. 7007.0800, subp. 2

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

Subject Item: **CE 007 Thermal Oxidizer**

Associated Items: EU 008 Web Heatset Press (single) #280

EU 015 Dryer - Web Heatset Press (single) #280

EU 025 Web Heatset Press (single) #281

EU 026 Dryer - Web Heatset Press (single) #281

EU 052 Web Heatset Press (double) #289

EU 053 Upper Dryer - Web Heatset Press (double) #289

EU 054 Lower Dryer - Web Heatset Press (double) #289

GP 002 Direct Heating Equipment

GP 003 Heat-set Presses

What to do	Why to do it
CE 001 Thermal Oxidizer will be replaced by CE 007 Thermal Oxidizer.	hdr
Any operation of a heatset press without being controlled by the thermal oxidizer shall be reported as a deviation. During such time, emission calculations shall use a 0% destruction efficiency. If the thermal oxidizer is not operational after 24 hours, the heatset press that it controls shall be shutdown until such time that the thermal oxidizer shall become operational.	Minn. R. 7007.0800, subp. 2
LIMITS	hdr
The Permittee shall operate and maintain the control equipment such that it achieves a destruction efficiency for Volatile Organic Compounds: greater than or equal to 95 percent destruction efficiency	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 2 & 14
The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment (EU 008, EU 025, EU 052) controlled by thermal oxidizer is in operation. Upon completion of the CE 007 installation, the Permittee must comply with the pollution control equipment requirements listed under CE 007 in this permit, and any permit conditions related to CE 001 will no longer be applicable.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 2 & 14
Temperature: greater than or equal to 1300 degrees F as a three-hour rolling average at the Combustion Chamber unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 2 & 14
PERFORMANCE TESTING	hdr
Initial Performance Test: due 180 days after Install of EU 052 for VOC destruction efficiency of CE 007.	Minn. R. 7017.2020, subp. 1
MONITORING	hdr
Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.	Minn. R. 7007.0800, subp. 4
The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	Minn. R. 7007.0800, subps. 4 & 5
The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings for the combustion chamber. The Permittee shall also maintain the calculated three-hour rolling average temperatures for the combustion chamber.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 4 & 5
Daily Monitoring: The Permittee shall physically check the temperature recording device at least once each operating day to verify that it is working and recording properly.	Minn. R. 7007.0800, subps. 4 & 5

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.	Minn. R. 7007.0800, subps. 4, 5, & 14
Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subps. 4, 5, & 14
For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee shall use either one of the following when completing the VOC and HAP calculations as required elsewhere in this permit: 1. The overall control efficiency limit specified in this permit for this equipment (95 %); or 2. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid classification as a major source under 40 CFR Sections 63.2 and 70.2; Minn. R. 7007.0800, subps. 4 & 5
Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or 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 thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subps. 4, 5, & 14
The Permittee shall operate and maintain the thermal oxidizer in accordance with the 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

TABLE B: SUBMITTALS

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

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:

AQ Permit Technical Advisor
Industrial 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:

AQ Compliance Tracking Coordinator
Industrial 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

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

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 Actual Date of Initial Startup	due 15 days after Initial Startup of CE 007 Thermal Oxidizer.	CE007
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU 052 Web Heatset Press (double) #289.	GP003
Notification of the date of Equipment Removal/Dismantlement	due 15 days after Equipment Removal and/or Dismantlement of CE 001 Thermal Oxidizer.	CE001
Testing Frequency Plan	due 60 days after Initial Performance Test of EU 052 for VOC destruction efficiency of CE 007. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	CE007

TABLE B: RECURRENT SUBMITTALS

Facility Name: Nahan Printing Inc

Permit Number: 14500080 - 003

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 09/10/2004. 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 31 days after end of each calendar year starting 09/10/2004. The Permittee shall submit an annual report by January 31st that describes the changes made at the facility during the previous calendar year using the lastest MPCA application forms. The report shall include the emission unit, stack/vent, group, and control equipment data for any new or replaced units or control devices. The report shall document the VOC and HAP 12-month rolling sum calculations for the previous 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, Part 70, and Part 63.	Total Facility
Compliance Certification	due 31 days after end of each calendar year starting 09/10/2004 (for the previous calendar year). Submit the certification to the Commissioner on a form approved by the Commissioner. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX B
Emission Calculation Equations
Facility Name: Nahan Printing, Inc.
Permit Number: 14500080-003

1. VOC Calculation Methods

The Permittee shall calculate monthly emissions using the formulas below. For nonheatset presses only, DE is zero in equation A, CA is zero in equations C and E, and the Permittee shall ignore equations B and D. If the Permittee tracks material usage on a volume basis, the Permittee shall also record the necessary material density or VOC content in pounds/gallon, and perform the necessary conversions to calculate emissions in tons/month. The determination as to the amounts of chemicals used at each press will be determined based on the number of impressions run through the corresponding press and time period.

VOC (tons) = A + B + C + D + E + F + G + H – I

A = VOC emissions, in tons, from ink usage (heatset, nonheatset, and U.V.)

A = [(U1 x V1 x (1-R) x (1-DE)) + (U2 x V2 x (1-R) x (1-DE)) + …..]/2000

U# = amount of each VOC-containing ink material used in the previous month, in pounds
V# = weight percent VOC in U#, as a fraction (e.g., 10% is 0.10)
R = weight fraction of ink material retained in product,
0.20 for heatset;
0.95 for nonheatset; and
1.00 for U.V.
DE = destruction efficiency of the applicable control system (0 for nonheatset presses)

B = VOC emissions, in tons, from fountain solution that is carried over to a dryer (heatset only)

B = [(U1 x V1 x (CA) x (1-DE)) + (U2 x V2 x (CA) x (1-DE)) + …..]/2000

U# = amount of each VOC-containing fountain solution used in the previous month, in pounds
V# = weight percent VOC in U#, as a fraction (e.g., 10% is 0.10)
CA = carryover of fountain solution to the dryer, 0.70
DE = destruction efficiency of the applicable control system

C = VOC emissions, in tons, from fountain solution usage that is not carried over to a dryer (heatset and nonheatset)

C = [(U1 x V1 x (1-CA)) + (U2 x V2 x (1-CA)) + …..]/2000

U# = amount of each VOC-containing fountain solution used in the previous month, in pounds
V# = weight percent VOC in U#, as a fraction (e.g., 10% is 0.10)
CA = carryover of fountain solution to the dryer, 0.70 for heatset and 0.00 for nonheatset

D = VOC emissions, in tons, from automatic blanket wash that is carried over to the dryer (heatset only)

D = [(U1 x V1 x (CA) x (1-DE)) + (U2 x V2 x (CA) x (1-DE)) + …..]/2000

U# = amount of each VOC-containing automatic blanket wash used in the previous month, in pounds
V# = weight percent VOC in U#, as a fraction (e.g., 10% is 0.10)
CA = carryover of automatic blanket wash to the dryer. For materials that have a vapor pressure $\leq$ 10 mm Hg, CA = 0.40, for materials that have a vapor pressure > 10 mm Hg, CA = 0
DE = destruction efficiency of the applicable control system

E = VOC emissions, in tons, from automatic blanket wash that is not carried over to the dryer (heatset and nonheatset)

E = [(U1 x V1 x (1-CA)) + (U2 x V2 x (1-CA)) + …..]/2000

U# = amount of each VOC-containing automatic blanket wash used in the previous month, in pounds
V# = weight percent VOC in U#, as a fraction (e.g., 10% is 0.10)
CA = carryover of automatic blanket wash to the dryer. For heatset materials that have a vapor pressure $\leq$ 10 mm Hg, CA = 0.40, for materials that have a vapor pressure > 10 mm Hg and for all nonheatset materials, CA = 0

F = VOC emissions, in tons, from manual wash solution (heatset and nonheatset)

F = [(U1 x V1 x (CA)) + (U2 x V2 x (CA)) + …..]/2000

U# = amount of each VOC-containing manual wash solution used in the previous month, in pounds
V# = weight percent VOC in U#, as a fraction (e.g., 10% is 0.10)
CA = weight fraction of wash solution remaining in rags as waste. For materials that have a vapor pressure $\leq$ 10 mm Hg, CA = 0.50, for materials that have a vapor pressure > 10 mm Hg, CA = 0

G = VOC emissions, in tons, from all other VOC-containing materials such as parts washer, remoistenable adhesives, and coating materials

G = [(U1 x V1) + (U2 x V2) + …..]/2000

U# = amount of each VOC-containing material used in the previous month, in pounds
V# = weight percent VOC in U#, as a fraction (e.g., 10% is 0.10)

H = the amount of VOC from monthly natural gas combustion at the facility, in tons

H = [(EF1 x A) x B1/C + (EF2 x A) x B2/C]/2000

EF1 = external combustion VOC emission factor for natural gas from AP-42, Section 1.4
EF2 = internal combustion VOC emission factor for natural gas from AP-42, Section 3.2
A = monthly natural gas consumption for the facility
B1 = total maximum heat input for external combustion sources at the facility
B2 = total maximum heat input for internal combustion sources (i.e. chillers) at the facility
C = total maximum heat input for external and internal combustion sources at the facility

I = the amount of VOC shipped in waste, other than rags, in tons

I = [(W1 x V1) + (W2 x V2) + …..]/2000

W# = amount, in pounds, of each VOC-containing waste shipped in the previous month. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero.
V# = weight percent VOC in W#, as a fraction (e.g., 10% is 0.10)

Waste may be credited at the individual variable level (e.g., A, B, C, etc.) or as a separate variable, I.

2. Total and Individual HAP Calculation Methods

The Permittee shall separately calculate the monthly emissions of each individual HAP and total HAP, using the formulas below. For nonheatset presses only, DE is zero in equation A, CA is zero in equations C and E, and the Permittee shall ignore equations B and D. If the Permittee records material usage on a volume basis, the Permittee shall also record the necessary material density or HAP contents in pounds/gallon, and perform the necessary conversions to calculate emissions in tons/month. All HAPs are volatile HAPs. The determination as to the amounts of chemicals used at each press will be determined based on the number of impressions run through the corresponding press and time period.

Pollutant (tons) = A + B + C + D + E + F + G – H

Pollutant = each individual HAP and total HAPs

A = Pollutant emissions, in tons, from ink usage (heatset, nonheatset, and U.V.)

A = [(U1 x V1 x (1-R) x (1-DE)) + (U2 x V2 x (1-R) x (1-DE)) + …..]/2000

U# = amount of each HAP-containing ink material used in the previous month, in pounds
V# = weight percent of pollutant in U#, as a fraction (e.g., 10% is 0.10)
R = weight fraction of ink material retained in product,
0.20 for heatset;
0.95 for nonheatset; and
1.00 for U.V.
DE = destruction efficiency of the applicable control system (0 for nonheatset presses)

B = Pollutant emissions, in tons, from fountain solution usage that is carried over to the dryer (heatset only)

B = [(U1 x V1 x (CA) x (1-DE)) + (U2 x V2 x (CA) x (1-DE)) + …..]/2000

U# = amount of each HAP-containing fountain solution used in the previous month, in pounds
V# = weight percent of pollutant in U#, as a fraction (e.g., 10% is 0.10)
CA = carryover of fountain solution to the dryer, 0.70
DE = destruction efficiency of the applicable control system

C = Pollutant emissions, in tons, from fountain solution usage that is not carried over to the dryer (heatset and nonheatset)

C = [(U1 x V1 x (1-CA)) + (U2 x V2 x (1-CA)) + …..]/2000

U# = amount of each HAP-containing fountain solution used in the previous month, in pounds
V# = weight percent of pollutant in U#, as a fraction (e.g., 10% is 0.10)
CA = carryover of fountain solution to the dryer, 0.70 for heatset and 0.00 for nonheatset

D = Pollutant emissions, in tons, from automatic blanket wash that is carried over to the dryer (heatset only)

D = [(U1 x V1 x (CA) x (1-DE)) + (U2 x V2 x (CA) x (1-DE)) + …..]/2000

U# = amount of each HAP-containing automatic blanket wash used in the previous month, in pounds
V# = weight percent of pollutant in U#, as a fraction (e.g., 10% is 0.10)
CA = carryover of automatic blanket wash to the dryer. For materials that have a vapor pressure $\leq$ 10 mm Hg, CA = 0.40, for materials that have a vapor pressure > 10 mm Hg, CA = 0
DE = destruction efficiency of the applicable control system

E = Pollutant emissions, in tons, from automatic blanket wash that is not carried over to the dryer (heatset and nonheatset)

E = [(U1 x V1 x (1-CA)) + (U2 x V2 x (1-CA)) + …..]/2000

U# = amount of each HAP-containing automatic blanket wash used in the previous month, in pounds
V# = weight percent of pollutant in U#, as a fraction (e.g., 10% is 0.10)
CA = carryover of automatic blanket wash to the dryer. For heatset materials that have a vapor pressure $\leq$ 10 mm Hg, CA = 0.40, for materials that have a vapor pressure > 10 mm Hg and for all nonheatset materials, CA = 0

F = Pollutant emissions, in tons, from manual wash solution (heatset and nonheatset)

F = [(U1 x V1 x (CA)) + (U2 x V2 x (CA)) + …..]/2000

U# = amount of each HAP-containing manual wash solution used in the previous month, in pounds
V# = weight percent of pollutant in U#, as a fraction (e.g., 10% is 0.10)
CA = weight fraction of wash solution remaining in rags as waste. For materials that have a vapor pressure $\leq$ 10 mm Hg, CA = 0.50, for materials that have a vapor pressure > 10 mm Hg, CA = 0

G = Pollutant emissions, in tons, from all other HAP-containing materials such as parts washer, remoistenable adhesives, and coating materials

G = [(U1 x V1) + (U2 x V2) + …..]/2000

U# = amount of each HAP-containing material used in the previous month, in pounds
V# = weight percent of pollutant in U#, as a fraction (e.g., 10% is 0.10)

H = the amount of the specific HAP shipped in waste, other than rags, in tons

H = [(W1 x V1) + (W2 x V2) + …..]/2000

W# = amount, in pounds, of each HAP-containing waste shipped in the previous month. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero.
V# = weight percent of pollutant in W#, as a fraction (e.g., 10% is 0.10)

Waste may be credited at the individual variable level (e.g., A, B, C, etc.) or as a separate variable, H.

APPENDIX C
Insignificant Activities and General Applicable Requirements
Facility Name: Nahan Printing, Inc.
Permit Number: 14500080-003

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(A)	Fuel use: space heaters fueled by, kerosene, natural gas, or propane. *Nahan has space heaters with a total capacity of 3.02 MMBtu/hr*	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. *Nahan has paper shredder generation and collection that is controlled and vented internally.*	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. *Nahan has several gluing operations, 2 air handling unit heaters, and 5 water-based ink jet units that qualify under this subpart.*	Minn. R. 7011.0715 (PM and opacity)

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(H)(4)	2 welding machines	Minn. R. 7011.0715 (PM and opacity)
3(I)	5 cooling towers	Minn. R. 7011.0715 (PM and opacity)

Conditionally Insignificant Activities:

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

Minn. R. 7008.4110	Rule Description of the Activity	General Applicable Requirement(s)
	2 baler paper scrap units controlled by fabric filters, venting internally 100% of the time	Minn. R. 7011.0715 (PM and opacity)

APPENDIX D
Operations Numbering Summary Descriptions
Facility Name: Nahan Printing, Inc.
Permit Number: 14500080-003

Current Configuration

EU	Emission Unit Description	GP	S/V	CE	Op ID
001-005	Removed	N/A			
006	Halm Jet	008			
007	Removed	N/A			
008	Web Heatset Press (single)	003 008	007 015	001	280
009-011	Removed	N/A			
012	Cold Set Press – Concept	008			280
013	Aqueous Coater Dryer for Web Heatset Press (single)	002	006		280
014	Removed	N/A			
015	Dryer – Web Heatset Press (single)	002 003	007 015	001	280
016	Chiller #1	005	008		
017	Chiller #4	005	009		
018	Chiller #2	005	010		
019	Sheet Fed Parts Washer	008			
020	Removed	N/A			
021	Web Heatset Press (single) Parts Washer	008			
022	Maintenance Parts Washer	IA			
023	Aqueous Coater Unit on Web Heatset Press (single)	008	006		280
024	Removed	N/A			
025	Web Heatset Press (single)	003 008	007 016		281
026	Web Heatset Press (single) Dryer	002 003	007 016	001	281
027	Sheetfed Press CD 6 – Color	008	012		242
028	Coating Unit for Sheetfed Press CD 6 – Color	008	013		242
029-030	Removed	N/A			
031	Cold Set Press – Concept	008			261
032	Cold Set Press – Concept	008			262
033	Sheetfed Press 10 – Color Perfector	008	017 022		243
034	UV Press Drent – 8 Unit	008			266
035	UV Press Drent – 10 Unit	008			267
036	Removed	N/A			
037	Web Heatset Press (double)	003 008	018		288
038	Upper Dryer – Web Heatset Press (double)	002 003	018	002 003	288
039	Lower Dryer – Web Heatset Press (double)	002 003	018	004 005	288
040	Parts Washer – Web Heatset Press (double)	008			288
041	UV Coating Dell – Web Heatset Press (double)	008	019 020		288
042	Baler Paper Scrap	006	021	006	
043	Baler Paper Scrap	006	021	006	
044	Baler Paper Scrap (future)	IA			
045-047	Never Installed	N/A			
048	Baler Paper Scrap (future)	IA			
049	Boiler #1	007	023		
050	Boiler #2	007	024		
051	Boiler #3	007	025		

IA = Insignificant activity
EU = Emission Unit #
GP = Group ID #
S/V = Stack/Vent ID #
CE = Control Equipment ID #
Op ID = Operator ID #

Proposed Configuration

EU	Emission Unit Description	GP	S/V	CE	Op ID
001-005	Removed	N/A			
006	Halm Jet	008			
007	Removed	N/A			
008	Web Heatset Press (single)	003 008	006 015 026	007	280
009-011	Removed	N/A			
012	Cold Set Press – Concept	008			280
013	Aqueous Coater Dryer for Web Heatset Press (single)	002	006		280
014	Removed	N/A			
015	Dryer – Web Heatset Press (single)	002 003	007 015	007	280
016	Chiller #1	005	008		
017	Chiller #4	005	009		
018	Chiller #2	005	010		
019	Sheet Fed Parts Washer	008			
020	Removed	N/A			
021	Web Heatset Press (single) Parts Washer	008			
022	Maintenance Parts Washer	IA			
023	Aqueous Coater Unit on Web Heatset Press (single)	008	006		280
024	Removed	N/A			
025	Web Heatset Press (single)	003 008	007 016	007	281
026	Web Heatset Press (single) Dryer	002 003	007 016	007	281
027	Sheetfed Press CD 6 – Color	008	012		242
028	Coating Unit for Sheetfed Press CD 6 – Color	008	013		242
029-030	Removed	N/A			
031	Cold Set Press – Concept	008			261
032	Cold Set Press – Concept	008			262
033	Sheetfed Press 10 – Color Perfector	008	017 022		243
034	UV Press Drent – 8 Unit	008			266
035	UV Press Drent – 10 Unit	008			267
036	Removed	N/A			
037	Web Heatset Press (double)	003 008	018		288
038	Upper Dryer – Web Heatset Press (double)	002 003	018	002 003	288
039	Lower Dryer – Web Heatset Press (double)	002 003	018	004 005	288
040	Parts Washer – Web Heatset Press (double)	008			288
041	UV Coating Dell – Web Heatset Press (double)	008	019 020		288
042	Baler Paper Scrap	006	021	006	
043	Baler Paper Scrap	006	021	006	
044	Baler Paper Scrap (future)	IA			
045-047	Never Installed	N/A			
048	Baler Paper Scrap (future)	IA			
049	Boiler #1	007	023		
050	Boiler #2	007	024		
051	Boiler #3	007	025		
052	Web Heatset Press (double)	008	026 027	007	289
053	Upper Dryer – Web Heatset Press (double)	002	026 027	007	289
054	Lower Dryer – Web Heatset Press (double)	002	026 027	007	289

IA = Insignificant activity
EU = Emission Unit #
GP = Group ID #
S/V = Stack/Vent ID #
CE = Control Equipment ID #
Op ID = Operator ID #

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 14500080-003

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

Stationary Source/Address (SIC Code: **2752**)	Mailing Address
7000 Saukview Drive St. Cloud Stearns County	Nahan Printing, Inc. 7000 Saukview Drive St. Cloud, MN 56303
Contact: Doug Roob Phone: 320-251-7611	

1.2 Description of the Facility

Nahan Printing, Inc. (Nahan) operates a commercial printing facility located in St. Cloud, Minnesota. The equipment used in the current operation comprises heat-set web presses, sheet-fed presses, cold-set forms presses, ultraviolet forms presses, chillers, dryers, thermal oxidizers, aqueous coating units, and parts washers. Nahan is currently operating under Air Emission Permit No. 14500080-002, with federally enforceable synthetic minor limits to avoid major source status under Part 70, Part 63, and NSR.

Emissions from printing and coating operations are compromised of Volatile Organic Compound (VOC) and Hazardous Air Pollutant (HAP) emissions from inks, coatings, fountain solutions, and press wash solvents, as well as emissions due to the fuel burned by the press dryers and oxidizers. The main sources of VOC/HAP emissions are the press operations. The heat-set presses have control equipment. There are small amounts of VOCs from the remoistenable adhesives. In addition, there are Particulate Matter (PM) Particulate Matter less than 10 µm in size (PM_{10}) emissions from the paper scrap balers and the UV coating systems. Nahan also has several activities (12 space heaters, 5 ink jets, bindery glues, etc.) that qualify as insignificant activities under Minn. R. 7007.1300, subp. 3.

1.3 Description of the Activities Allowed by this Permit Action

This is a major amendment to the existing permit. The purpose of this amendment is to add one ten-unit double web heat-set press, and replace the existing thermal oxidizer (CE 001) with a larger recuperative thermal oxidizer. The press will be equipped with two natural gas direct-fired dryers that will vent to the new thermal oxidizer, which will also control the emissions from existing Press 280 (EU 008) and Press 281 (EU 025). This amendment will also include total facility emission limits on VOCs and HAPs, this will eliminate the need for the external combustion capacity limit in the current permit.

1.4 Permit History

Permit Number and Issuance Date	Action Authorized
14500080-002 (9/10/04)	Administrative amendment to correct permit expiration date
14500080-001 (8/20/04)	State Total Facility Permit issuance

1.5 Facility Emissions

Table 1. Title I Emissions Increase Summary

Pollutant	Emissions Increase from the Modification (tpy)	Limited Emissions Increase from the Modification (tpy)	Net Emissions Increase (tpy)	PSD/112(g) Significant Thresholds for minor sources (tpy)	NSR/112(g) Review Required?
PM	0.32	0.32	N/A	250	No
PM_{10}	0.32	0.32	N/A	250	No
NO_x	4.17	4.17	N/A	250	No
SO_2	0.025	0.025	N/A	250	No
CO	3.50	3.50	N/A	250	No
Ozone (VOC)	90.0*	90.0*	N/A	250	No
Lead	0	0	N/A	250	No
HAPs	0.2	0.2	N/A	10/25	No

Table 2. Total Facility Potential to Emit Summary

	PM (tpy)	PM_{10} (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)	HAPs (tpy)	
							Single	All
Total Facility Limited Potential Emissions	17.7	16.2	0.13	81.5	72.7	90.0*	9.0**	22.5**
Total Facility Actual Emissions (2005)	0.15	0.15	0.01	2.61	1.48	39.75	HAPs not reported in emission inventory	

* Facility wide emission limit on VOC is 90.0 tpy

** Facility wide emission limits of 9.0 tpy for single HAPs and 22.5 tpy for total HAPs

Table 3. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD		VOC	PM, PM_{10}, SO_2, NO_x, CO, Pb
Part 70 Permit Program		VOC, HAP	PM, PM_{10}, SO_2, NO_x, CO
Part 63 NESHAP		HAP	

2. Regulatory and/or Statutory Basis

New Source Review

The facility has limits to keep it a synthetic minor source under New Source Review regulations.

Part 70 Permit Program

The facility is a synthetic minor source under the Part 70 permit program. Although the permit is a state permit, it is not non-expiring. The permit has a 10-year term because Flex Cap flexibility warrants permit expiration to facilitate updating of the permit through the reissuance process.

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 usage such that it is a non-major source under 40 CFR pt. 63. Thus, no NESHAPs apply. This source uses the offset lithographic printing process that is not subject to 40 CFR pt. 63, subp. KK, which applies to flexographic (as defined in 40 CFR § 63.822(a)) and rotogravure printing.

Minnesota State Rules

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

- 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 4. Regulatory Overview of Units Affected by the Modification/Permit Amendment

Unit	Applicable Regulations	Comments
Total Facility	Title I limit to avoid 40 CFR § 52.21 & Part 70	Facility wide limit of 90.0 tpy VOC taken to avoid major source and modification classification under PSD and Part 70 for all emissions of VOC. This permit pre-authorizes the replacement, modification, and addition of the listed units. All emissions tracked under the cap.
	Title I limit to avoid 40 CFR § 63.2	Total facility limits taken to avoid major source classification under 40 CFR § 63 for both total and individual HAPs.
GP 003 Heat-set Presses	Minn. R. ch. 7017.2020	Performance Test for new thermal oxidizer for VOC control efficiency after install of new press.
	N/A	Added EU 052, EU 053, EU 054, and CE 008 Removed CE 007 from GP 003
GP 004 Thermal Oxidizers	Minn. R. 7017.2025	Increased minimum temperature in each thermal oxidizer to 1353 degrees F.
GP 006	N/A	Added CE 006 and SV 021 to GP 006
GP 008 Presses/ Parts Washers	Minn. R. 7011.0715, subp. 1(A)	Industrial Process Equipment rule for PM: < 0.3 grains/dscf
	Minn. R. 7011.0715, subp. 1(B)	Industrial Process Equipment rule for Opacity: < 20 percent opacity

3. Technical Information

3.1 Calculations of Potential to Emit

Emissions are calculated according to MPCA guidance for calculating emissions from heat-set and non-heat-set offset lithographic printing presses. Generally, the basic procedure for the heat-set operations is a mass balance approach assuming certain percentages of materials are captured by the dryer and vented to the control device. All calculations are based on worst-case material contents (e.g., highest VOC, highest HAPs) from the manufacturer. The controlled VOC emissions are not considered condensable particulate for applicability purposes. For the non heat-set operations, the calculations are also based on a mass balance (e.g., machine capacity x maximum content) and are completed for each type of non heat-set printer (UV press, cold set press, sheet-fed press, etc.).

Specifically, the calculations assume that 100% of inks are "carried over" to the dryer (i.e., capture efficiency) and therefore controlled, 70% of fountain solutions are captured, 40% of blanket wash (with certain vapor pressure restrictions) is captured, and 50% of manual wash solutions are assumed to stay in the waste rags shipped off site (with certain vapor pressure restrictions).

These same assumptions are used for the HAP calculations. While these assumptions might not apply to all 188 listed HAPs, they do apply to the HAPs used at printers – all are similar solvent materials used in the various wash solutions. The vapor pressure restrictions apply to the HAPs as well. In terms of the control efficiencies given for VOC versus HAP, it was determined that due to the types of HAPs used at this facility, the VOC efficiency is representative of the HAP efficiency. Testing for specific HAP destruction efficiencies is not reasonable since they are small components of the vapor stream (e.g., only used in cleanup and a low percentage of those materials).

The facility HAPs and their PTEs are based on the current and projected coatings and formulations for this Facility. The Facility can change materials at any time, as long as the new materials continue to meet the various permit limits. While the numbers and chemicals in Attachment 1 are intended to project the various HAPs the Facility may emit, the Facility is not currently restricted to these coatings and formulations. Therefore, the HAPs and PTEs of those HAPs may change after permit issuance.

Emission calculations are shown in Attachment 1. A summary of the calculations (in tpy) is shown below. The proposed press will be very similar to Press #288, so similar emissions will be expected.

Pollutant	Maximum Emissions		Press #288 Actuals
	Uncontrolled	Controlled	
PM	0.32	0.32	0.045
PM_{10}	0.32	0.32	0.045
SO_x	0.03	0.03	0.004
NO_x	4.17	4.17	0.596
VOC	1104.16	175.05	8.654
CO	3.50	3.50	0.501
HAP	8.98	5.78	N/A
Total HAPs	14.88	8.88	N/A

3.2 Insignificant Activities

Nahan has several operations which are classified as insignificant activities. These are listed in Appendix C to the permit.

3.3 Permit Organization

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

3.4 Additional Information

For GP 004, Press #288 is set up in a way that it will not operate if the thermal oxidizers do not operate; therefore there is no need for a deviation calculation requirement similar to that for CE 001 and CE 007.

The calculations in Attachment 1 were created by the Permittee and modified by MPCA staff.

3.5 Comments Received

Public Notice Period: October 21, 2006 – November 20, 2006
EPA 30-day Review Period: October 21, 2006 – November 20, 2006
No Comments were received during the review period.

4. Conclusion

Based on the information provided by Nahan Printing, Inc., the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 14500080-003 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Trevor Shearen (permit writer/engineer)
Dave Crowell (enforcement)
Andy Place (stack testing)
Bruce Braaten (peer reviewer)

Attachments: 1. Press Emission Calculations (Emission Calculations.xls in Delta)

Table A: External Combustion Emissions for Proposed Press and Dryers

Emission Unit		Maximum Throughput	Pollutant	Emission Factor[1]	Maximum Uncontrolled Emissions[2]	
ID	Description	(MM Btu/hr)		(lb/MM cf)	(lb/hr)	(tpy)
EU 052	Proposed Press	3.700	PM	7.6	0.07	0.32
EU 053	Upper Dryer	3.002	PM_{10}	7.6	0.07	0.32
EU 054	Lower Dryer	3.002	SO_x	0.6	5.7E-03	0.03
	Total:	9.704	NO_x	100	0.95	4.17
			VOC	5.5	0.05	0.23
	Fuel: Natural Gas		CO	84	0.80	3.50
			HAPs			
			Lead	5.0E-04	4.8E-06	2.1E-05
			2-Methylnaphthalene	2.4E-05	2.3E-07	1.0E-06
			3-Methylchloranthrene	1.8E-06	1.7E-08	7.5E-08
			7,12-Dimethylbenz(a)anthracene	1.6E-05	1.5E-07	6.7E-07
			Acenaphthene	1.8E-06	1.7E-08	7.5E-08
			Acenaphthylene	1.8E-06	1.7E-08	7.5E-08
			Anthracene	2.4E-06	2.3E-08	1.0E-07
			Benz(a)anthracene	1.8E-06	1.7E-08	7.5E-08
			Benzene	2.1E-03	2.0E-05	8.8E-05
			Benzo(a)pyrene	1.2E-06	1.1E-08	5.0E-08
			Benzo(b)fluoranthene	1.8E-06	1.7E-08	7.5E-08
			Benzo(g,h,i)perylene	1.2E-06	1.1E-08	5.0E-08
			Benzo(k)fluoranthene	1.8E-06	1.7E-08	7.5E-08
			Chrysene	1.8E-06	1.7E-08	7.5E-08
			Dibenzo(a,h)anthracene	1.2E-06	1.1E-08	5.0E-08
			Dichlorobenzene	1.2E-03	1.1E-05	5.0E-05
			Fluoranthene	3.0E-06	2.9E-08	1.3E-07
			Fluorene	2.8E-06	2.7E-08	1.2E-07
			Formaldehyde	7.5E-02	7.1E-04	3.1E-03
			Hexane	1.8E+00	1.7E-02	7.5E-02
			Indeno(1,2,3-cd)pyrene	1.8E-06	1.7E-08	7.5E-08
			Naphthalene	6.4E-04	6.1E-06	2.7E-05
			Phenanathrene	1.7E-05	1.6E-07	7.1E-07
			Pyrene	5.0E-06	4.8E-08	2.1E-07
			Toluene	3.4E-03	3.2E-05	1.4E-04
			Arsenic	2.0E-04	1.9E-06	8.3E-06
			Beryllium	1.2E-05	1.1E-07	5.0E-07
			Cadmium	1.1E-03	1.0E-05	4.6E-05
			Chromium	1.4E-03	1.3E-05	5.8E-05
			Cobalt	8.4E-05	8.0E-07	3.5E-06
			Manganese	3.8E-04	3.6E-06	1.6E-05
			Mercury	2.6E-04	2.5E-06	1.1E-05
			Nickel	2.1E-03	2.0E-05	8.8E-05
			Selenium	2.4E-05	2.3E-07	1.0E-06
			TOTAL HAPs:		0.018	0.079

[1] AP-42, 7/98
NO_x and CO: Table 1.4-1 (Small, Uncontrolled Boiler)
Criteria Pollutants: Table 1.4-2
HAPS: Tables 1.4-3 and 1.4-4

[2] Maximum Uncontrolled Emissions (lb/hr) = Emission Factor (lb/MM cf) x Total Throughput (MM Btu/hr) x 1020 (MM cf/MM Btu)

Table B: VOC Emission Calculations

Name of ink, solvent, or fountain solution	VOC Content (lb/gal)	Solid Content (lb/gal)	Density (lb/gal)	Maximum Delivery[1] (gal/hr)	Maximum Emission Rate[2] (lb/hr)	Maximum Uncontrolled Emissions[3] (tpy)	Control Efficiency (%)	Maximum Controlled Emissions[4] (tpy)
INKS								
H/S H-SP Pro Yellow Ver. 2	3.14	5.12	8.26	77.0	193.4	847	95%	42.4
H/S H-SP Pro Magenta Ver. 2	3.09	5.50	8.59	74.0	183.0	802	95%	40.1
H/S H-SP Pro Cyan Ver. 2	3.24	5.35	8.59	74.0	191.9	841	95%	42.0
H/S H-SP Pro Black Ver. 2	2.88	5.96	8.84	71.9	165.8	726	95%	36.3
H/S PC Process Yellow 3	3.32	4.94	8.26	77.0	204.5	896	95%	44.8
H/S PC H-SPD Pro Magenta	3.54	4.72	8.26	77.0	218.1	955	95%	47.8
H/S PC Process Cyan Ver. 3	3.72	4.95	8.67	73.4	218.3	956	95%	47.8
H/S PC H-SPD Pro Black	3.24	5.27	8.51	74.7	193.7	848	95%	42.4
FOUNTAIN SOLUTION								
Emerald Premium MXEH IIS	1.97	N/A	8.84	71.9	4.6	19.9	95%	6.7
PRESSWASH								
MRC-NC	5.90	N/A	5.90	107.8	22.0	96.3	0%	96.3
Nahan Wash	6.63	N/A	6.96	91.4	24.7	108.1	0%	108.1
BLANKET WASH								
Turbo Auto Wash	6.72	N/A	6.76	94.1	4.5	19.7	95%	12.2
TOTAL[5]					252.0	1103.9		174.8

Press #288 Actuals (2005)	lbs used	lb/lb ink
Ink	192458	
Emerald Premium MXEH IIS	6179	0.032
MRC-NC	13311	0.069
Nahan Wash	15686	0.082
Turbo Auto Wash	1367	0.007

Retention Factor Assumptions	
INKS[6]	20%
FOUNTAIN SOLUTION[7]	70%
PRESSWASH[8]	50%
BLANKET WASH[9]	40%

Ink Delivery Determination	
Max Ink Fountain Delivery (lb/min)	0.53
Number of Ink Fountains	20
Maximum Delivery (lb/hr)	636

[1] Maximum Delivery (gal/hr) = Maximum Delivery (lb/hr) / Density (lb/gal)

[2] Maximum Emission Rate (lb/hr) = Maximum Delivery (gal/hr) x VOC Content (lb/gal) x …

- INKS: x (1 – Retention Factor)
- FOUNTAIN SOLUTION: x (lb/lb ink)
- PRESSWASH: x (lb/lb ink) x (1 – Retention Factor)
- BLANKET WASH: x (lb/lb ink)

[3] Maximum Uncontrolled Emissions (tpy) = Maximum Emission Rate (lb/hr) x 8760 (hr/yr) / 2000 (lb/ton)

[4] Maximum Controlled Emissions (tpy) = Maximum Uncontrolled Emissions (tpy) x …

- INKS: x (1 – Control Efficiency)
- FOUNTAIN SOLUTION: x ((1 – Control Efficiency) x Retention Factor + (1 – Retention Factor))
- PRESSWASH: x (1 – Control Efficiency)
- BLANKET WASH: x ((1 – Control Efficiency) x Retention Factor + (1 – Retention Factor))

[5] TOTAL = MAX(INKS) + + FOUNTAIN SOLUTION + MAX(PRESSWASH) + BLANKET WASH

[6] Inks retention to product

[7] VOC from fountain solution to dryer

[8] VOC remaining in rags

[9] VOC from Blanket Wash to dryer

Table C: HAP Emission Calculations

Name of ink, solvent, or fountain solution	HAP Percent	lbs used /lb ink	Maximum Emission Rate[1] (lb/hr)	Maximum Uncontrolled Emissions[2] (tpy)	Control Efficiency (%)	Maximum Controlled Emissions[3] (tpy)
FOUNTAIN SOLUTION						
Emerald Premium MXEH IIS	10.0%	0.032	2.04	8.9	95%	3.0
Butyl Carbitol (glycol ether) CAS 112-34-5						
PRESSWASH						
Nahan Wash	5.0%	0.082	1.30	5.7	0%	5.7
Propoxyethanol (glycol ether) CAS 2807-30-9						
BLANKET WASH						
Turbo Auto Wash	1.0%	0.007	0.045	0.2	95%	0.12
Napthalene CAS 91-20-3						
TOTAL			3.38	14.8		8.8

[1] Maximum Emission Rate (lb/hr) = 636 (gal/hr) x (lb/lb ink) x HAP Percent x (Retention for PRESSWASH)

[2] Maximum Uncontrolled Emissions (tpy) = Maximum Emission Rate (lb/hr) x 8760 (hr/yr) / 2000 (lb/ton)

[3] Maximum Controlled Emissions (tpy) = Maximum Uncontrolled Emissions (tpy) x …

FOUNTAIN SOLUTION: x ((1 - Control Efficiency) x Retention Factor + (1 - Retention Factor))

PRESSWASH: x (1 - Control Efficiency)

BLANKET WASH: x ((1 - Control Efficiency) x Retention Factor + (1 - Retention Factor))