

AIR EMISSION PERMIT NO. 08500049-001

IS ISSUED TO

3M

3M - HUTCHINSON TAPE MANUFACTURING PLANT

915 Highway 22 South
Hutchinson, McLeod County, MN 55350

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
Total Facility Operating Permit	Original - 4/15/1995 Revised – 5/5/03, amended 7/18/03 & 10/1/03
Major Amendment	4/15/04, supplemented 6/22/05
Major Amendment	11/4/05

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal; Part 70/Major

Authorization to Construct (40 CFR § 52.21) Issuance Date: 04/04/2006

Final Permit Issuance Date: April 19, 2006

Expiration: April 19, 2011
All Title I Conditions do not expire.

Richard Sandberg
Manager, Air Quality Permits Section
Industrial Division

for Sheryl A. Corrigan
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. Certain requirements which have been determined not to apply are listed in Table A of this permit. 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:

This facility manufactures pressure sensitive tape and other products. Common operations include manufacture of adhesives and webs, coating the webs, drying the coated webs, molding product dispensers, and converting the coated webs into products.

The emission units (not classified as insignificant activities) at the facility consist of numerous coating stations, as well as ovens associated with these processes. Additionally, mixing equipment exists at the facility, as well as various drying and curing ovens.

Particulate matter and Particulate Matter less than 10 um in size (PM₁₀) at the facility are controlled on some equipment by fabric filters or venturi scrubbers. Other control equipment that controls Volatile Organic Compounds (VOC), as well as Hazardous Air Pollutants (HAP), includes thermal oxidizers and a solvent recovery unit.

This permit action incorporates all past modifications and emission unit limitations into one comprehensive air emissions operating permit under Minn. R. 7007. This includes all past modifications and emission unit limitations which occurred under permit number 08500008 and 08500049. Previously, these unique permit numbers applied to distinct buildings at the facility, rather than being grouped under the same permit number for the entire facility.

CHANGES AUTHORIZED BY THIS PERMIT:

The following changes are authorized through this permit action:

Change to LM3 BACT limit

This limit was originally set in Air Emission Permit No. 08500049-005 (8/26/05). At this time, the limit is being revised to allow the Permittee to not use the thermal oxidizer when using low-VOC coatings, defined as those coatings with a VOC content less than 4 by weight, since the oxidizer is 96 percent efficient. This eliminates natural gas combustion emissions at times when minimal VOC abatement would be achieved. The Permittee submitted a new Best Available Control Technology (BACT) analysis, which is included in the Technical Support Document.

ST5 & ST6 BACT combination

The individual limits for the ST5 and ST6 lines were originally set in Air Emission Permit No. 08500049-005 (8/26/05). At this time, the limits are being combined into a single limit.

Voyager line

The Permittee proposes to install a new line, the Voyager line. This is subject to New Source Review, and the BACT analysis is included in the Technical Support Document (TSD).

1L VOC usage

The allowed VOC usage was originally set because that was the number that was used as a basis for the Air Toxics Review. With the installation of the Voyager coating line, 3M sought to avoid triggering additional environmental review, and so elected to decrease the amount of VOC used at the 1L line, so that the overall increase in VOC emissions associated with the Voyager line is less than 100 tons per year.

5L – changed “lb/hr” to “ton/month”

The agreed upon ton per month limit is less than the original lb/hour limit multiplied by the hours in a month. Since documentation on the origin or reason for the original limit was not located, and because of the age of the unit, it was assumed that this was not a BACT limit or a limit set as a result of modeling.

Other miscellaneous

Other miscellaneous changes were made to bring language up to date with current practices, and to provide adequate periodic monitoring where it was not provided in previous permits (gap-filling).

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant
 Permit Number: 08500049 - 001

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

Subject Item: Total Facility

What to do	Why to do it
PERMIT SHIELD - MAGNETIC TAPE COATING	hdr
The facility no longer manufactures magnetic tape. Therefore, the requirements of 40 CFR Sections 60.710 - 60.718 (Standards of Performance for Magnetic Tape Coating Facilities) and 40 CFR Sections 63.701 - 63.708 (National Emission Standards for Magnetic Tape Manufacturing Operations) no longer apply to units at the facility. The Permittee may in the future operate coaters originally dedicated to magnetic tape (Coaters 25 and 26) for applications other than magnetic tape. In that case, those units would likely be subject instead to the requirements of 40 CFR Sections 60.440 - 60.447 (Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations) and 40 CFR Sections 63.3280 - 63.03420 (National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating).	Minn. R. 7007.1800(A)(2); 40 CFR Section 60. 710; 40 CFR Section 63.701; Minn. R. 7011.3450; Minn. R. 7011.7300
COMPLIANCE WITH NATIONAL AND MINNESOTA AMBIENT AIR STANDARDS	hdr
The Permittee shall comply, and upon written request demonstrate compliance, with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080.	40 CFR pt. 50; Minn. Stat. Sec. 116.07, subds. 4a and 9; Minn. R. 7007.0100, subps. 7A, 7L and 7M; Minn. R. 7007.0800, subps. 1, 2, and 4; Minn. R. 7009.0010-7009.0080
DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW UNDER 40 CFR SECTION 52.21(a)(2)(iv)(c)	hdr
These requirements apply where there is a reasonable possibility that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test and found to not be part of a major modification, may result in a significant emissions increase. If the ATPA test is not used for a particular project, or if there is not a reasonable possibility that the proposed project could result in a significant emissions increase, then these requirements do not apply to that project. Even though a particular modification is not subject to New Source Review, a permit amendment, recordkeeping, or notification may still be required under Minn. R. 7007.1150 - 7007.1500.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000
Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following information: 1. A description of the project 2. Identification of the emission unit(s) whose emissions of an NSR pollutant could be affected 3. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the potential emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the unit(s) could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination. The Permittee shall maintain records of this documentation.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>The Permittee must submit a report to the Agency if the annual summed emissions (actual plus potential, if any part of the project was analyzed using potential emissions) differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain:</p> <p>a. The name and ID number of the facility, and the name and telephone number of the facility contact person</p> <p>b. The annual emissions (actual plus potential, if any part of the project was analyzed using potential emissions) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded.</p> <p>c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.</p>	<p>Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5</p>
<p>OPERATIONAL REQUIREMENTS</p>	<p>hdr</p>
<p>Any emission unit may process any HAP containing material as long as the material does not trigger a new NESHAP.</p>	<p>Minn. R. 7007.0150</p>
<p>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.</p>	<p>Minn. R. 7011.0020</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)</p>
<p>Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.</p>	<p>Minn. R. 7019.1000, subp. 4</p>
<p>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.</p>	<p>Minn. R. 7011.0150</p>
<p>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.</p>	<p>Minn. R. 7030.0010 - 7030.0080</p>
<p>Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).</p>	<p>Minn. R. 7007.0800, subp. 9(A)</p>
<p>The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.</p>	<p>Minn. R. 7007.0800, subp. 16</p>
<p>PERFORMANCE TESTING</p>	<p>hdr</p>
<p>Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.</p>	<p>Minn. R. ch. 7017</p>
<p>Performance Test Notifications and Submittals:</p> <p>Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.</p> <p>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</p> <p>The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.</p>	<p>Minn. Rs. 7017.2030, subp. 1-4, 7017.2018 and Minn. R. 7017.2035, subp. 1-2</p>
<p>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.</p>	<p>Minn. R. 7017.2025</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

MONITORING REQUIREMENTS	hdr
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
RECORDKEEPING	hdr
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
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
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 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
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 through Minn. R. 7019.3100

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
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TABLE A: LIMITS AND OTHER REQUIREMENTS

A-5

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 001 NSPS Subpart RR requirements

Associated Items: EU 038 6L Precoat 1
EU 039 6L Precoat 1 Oven
EU 040 6L Precoat 2
EU 041 6L Precoat 2 Oven
EU 112 27 Coater Oven
EU 113 27 Coater Applicators
EU 114 28 Coater Oven
EU 115 28 Coater Applicator/Enclosure
EU 123 SMS Line 70
EU 125 H1 Extruder 3
EU 316 LM3 Coating Station 1
EU 317 LM3 Drying Oven 1
EU 318 LM3 Curing Oven 1
EU 319 LM3 Coating Station 2
EU 320 LM3 Drying Oven 2
EU 321 LM3 Curing Oven 2
EU 322 LM3 Cleaning
EU 325 ST5 Coating Station
EU 326 ST5 Curing Oven
EU 330 ST6 Coating Station
EU 331 ST6 Curing Oven
EU 346 H1 Coating
EU 351 7LPrecoat/Oven 1
EU 352 7LPrecoat/Oven 3
EU 353 7L Adhesive Coater/Oven
EU 355 3L Coater Station 1
EU 356 3L Dryer 1
EU 357 3L Coater Station 2
EU 358 3L Dryer 2
EU 359 3L Coater Station 3
EU 360 3L Dryer 3
EU 361 3L Coater Station 4
EU 362 3L Dryer 4
EU 363 3L Coater Station 5
EU 364 3L Dryer 5
EU 365 3L Coater Station 6
EU 366 3L Dryer 6
EU 367 3L Dryer 7
EU 368 3L Dryer 8

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

- Associated Items:**
- EU 370 Enterprise Coater Station
 - EU 371 Enterprise Dryer 1
 - EU 372 Enterprise Dryer 2
 - EU 381 6L Functional Coat
 - EU 390 27 Coater Curing Chamber
 - EU 394 3L Coater Corona Treater
 - EU 399 27 Coater Corona Treater
 - EU 412 ST7 Coating Station
 - EU 413 ST7 Curing Chamber
 - EU 414 8L Precoat 1
 - EU 415 8L Precoat 1 Oven
 - EU 416 8L Precoat 2
 - EU 417 8L Precoat 2 Oven
 - EU 418 8L Adhesive Coater
 - EU 419 8L Adhesive Oven
 - EU 420 LT3 Saturator
 - EU 421 LT3 Saturant Oven
 - EU 422 LT3 Backsize Coating Station
 - EU 423 LT3 Backsize Oven
 - EU 424 Voyager Coater Station 1
 - EU 425 Voyager Dryer 1
 - EU 426 Voyager Dryer 2
 - EU 427 Voyager Coater Station 2
 - EU 428 Voyager Dryer 3
 - EU 429 Voyager Dryer 4

What to do	Why to do it
<p>An affected facility (as defined at 40 CFR Section 60.440(a)) which inputs to the coating process 45 Mg (50 tons) or less of VOC per 12 month period is not subject to the emission limits in 40 CFR Section 60.442(a). The affected facility remains subject to all other applicable requirements of 40 CFR pt. 60, subp. RR.</p> <p>When the amount of VOC input to an affected facility exceeds 49.6 tons per year, the affected facility becomes subject to 60.442(a) and all other applicable requirements.</p>	<p>40 CFR Section 60.440(b); Minn. R. 7011.2560</p>
<p>The owner or operator of an affected facility operating at the conditions specified in 40 CFR Section 60.440(b) (less than 50 tons per year VOC applied) shall maintain a 12-month record of the amount of solvent applied in the coating at the affected facility.</p>	<p>40 CFR Section 60.445(d); Minn. R. 7011.2560</p>
<p>EMISSION AND OPERATING LIMITS - AFFECTED FACILITIES USING 50 TONS OR MORE OF VOC PER 12 MONTH PERIOD</p>	<p>hdr</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Volatile Organic Compounds: less than or equal to 0.20 kilograms/kilograms (kg VOC emitted per kg coating solids applied) calculated as a weighted average for each calendar month; OR</p> <p>- Demonstrate a 90 percent overall VOC emission reduction as calculated over a calendar month for each affected facility; OR</p> <p>- Demonstrate the percent overall VOC emission reduction specified in 40 CFR Section 60.443(b) as calculated over a calendar month.</p> <p>The requirement applies individually to each affected facility (coating line), as defined at 40 CFR Section 60.440(a).</p>	<p>40 CFR Section 60.442(a)(1); Minn. R. 7011.2560</p>
<p>MONITORING</p>	<p>hdr</p>
<p>Monitoring: The Permittee shall calculate a weighted average of the mass of solvent used per mass of coating solids applied for a one calendar month period according to the following procedures:</p> <p>(1) Determine the weight fraction of organics and the weight fraction of solids of each coating applied by using Reference Method 24, by the coating manufacturer's formulation data, or an alternative method approved by the Commissioner (see Note 1).</p> <p>(2) Compute the weighted average by the equation in 40 CFR 60.443(a)(2).</p> <p>To determine emission reduction to be compared with Section 60.442(a)(2), the Permittee shall calculate the required overall VOC emission reduction according to the equation in 40 CFR Section 60.443(b).</p>	<p>40 CFR Section 60.443(a); Minn. R. 7011.2560</p>
<p>Monitoring: When a solvent destruction device is used, the owner or operator shall compare the monthly required overall VOC emission reduction specified in paragraph (b) of this section to the overall VOC emission reduction demonstrated in the most recent performance test which complied with Section 60.442(a)(2). The monthly required overall VOC emission reduction must be less than or equal to the overall VOC reduction of the most recent performance test.</p>	<p>40 CFR Section 60.443(d); Minn. R. 7011.2560</p>
<p>RECORDKEEPING</p>	<p>hdr</p>
<p>Monthly Records: By the 15th day of each calendar month, the Permittee shall calculate and maintain a record of the VOC emission limit and/or percentage reduction required for the previous calendar month for each affected facility, and the actual VOC emissions and/or percentage reduction achieved for each affected facility.</p>	<p>40 CFR Section 60.443(f); Minn. R. 7011.2560</p>
<p>Recordkeeping: The Permittee shall maintain a calendar month record of all coatings used and the results of the reference test method specified in Section 60.446(a) or the manufacturer's formulation data used for determining the VOC content of those coatings.</p>	<p>40 CFR Section 60.445(a); Minn. R. 7011.2560</p>
<p>For any affected facility controlled by a solvent destruction device which uses a hood or enclosure to capture fugitive VOC emissions, the Permittee shall install, calibrate, maintain and operate a monitoring device which continuously indicates that the hood or enclosure is operating.</p> <p>A monitor is not required if the Permittee can demonstrate that the hood/enclosure is interlocked with the affected facility's oven recirculation air system.</p>	<p>40 CFR Section 60.445(g); Minn. R. 7011.2560</p>
<p>Note 1: During times when the emission limits of NSPS Subpart RR do not apply (when VOC input to a line does not exceed 45 Mg (50 tons) per 12 consecutive months), an MPCA-approved alternative to Method 24 may be used. However, when Subpart RR applies, no alternative method is allowed in the absence of written approval from EPA, specific to the line in question, allowing an alternative method.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-8

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 002 NESHAP Subpart JJJJ requirements

Associated Items: EU 003 1L Precoat 1
EU 004 1L Precoat 1 Oven
EU 005 1L Precoat 2
EU 006 1L Precoat 2 Oven
EU 007 1L Adhesive Coater
EU 008 1L Adhesive Oven
EU 009 2L Coating Station 1
EU 010 2L Coating Station 2
EU 011 2L Adhesive Oven
EU 033 5L Adhesive Station
EU 034 5L Adhesive Oven
EU 038 6L Precoat 1
EU 039 6L Precoat 1 Oven
EU 040 6L Precoat 2
EU 041 6L Precoat 2 Oven
EU 102 22 Coater Oven
EU 103 22 Coater Applicators
EU 112 27 Coater Oven
EU 113 27 Coater Applicators
EU 114 28 Coater Oven
EU 115 28 Coater Applicator/Enclosure
EU 123 SMS Line 70
EU 125 H1 Extruder 3
EU 316 LM3 Coating Station 1
EU 317 LM3 Drying Oven 1
EU 318 LM3 Curing Oven 1
EU 319 LM3 Coating Station 2
EU 320 LM3 Drying Oven 2
EU 321 LM3 Curing Oven 2
EU 325 ST5 Coating Station
EU 326 ST5 Curing Oven
EU 330 ST6 Coating Station
EU 331 ST6 Curing Oven
EU 346 H1 Coating
EU 351 7LPrecoat/Oven 1
EU 352 7LPrecoat/Oven 3
EU 353 7L Adhesive Coater/Oven
EU 355 3L Coater Station 1
EU 356 3L Dryer 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Associated Items:

- EU 357 3L Coater Station 2
- EU 358 3L Dryer 2
- EU 359 3L Coater Station 3
- EU 360 3L Dryer 3
- EU 361 3L Coater Station 4
- EU 362 3L Dryer 4
- EU 363 3L Coater Station 5
- EU 364 3L Dryer 5
- EU 365 3L Coater Station 6
- EU 366 3L Dryer 6
- EU 367 3L Dryer 7
- EU 368 3L Dryer 8
- EU 370 Enterprise Coater Station
- EU 371 Enterprise Dryer 1
- EU 372 Enterprise Dryer 2
- EU 381 6L Functional Coat
- EU 390 27 Coater Curing Chamber
- EU 391 Enterprise Curing Chamber
- EU 394 3L Coater Corona Treater
- EU 399 27 Coater Corona Treater
- EU 412 ST7 Coating Station
- EU 413 ST7 Curing Chamber
- EU 414 8L Precoat 1
- EU 415 8L Precoat 1 Oven
- EU 416 8L Precoat 2
- EU 417 8L Precoat 2 Oven
- EU 418 8L Adhesive Coater
- EU 419 8L Adhesive Oven
- EU 420 LT3 Saturator
- EU 421 LT3 Saturant Oven
- EU 422 LT3 Backsize Coating Station
- EU 423 LT3 Backsize Oven
- EU 424 Voyager Coater Station 1
- EU 425 Voyager Dryer 1
- EU 426 Voyager Dryer 2
- EU 427 Voyager Coater Station 2
- EU 428 Voyager Dryer 3
- EU 429 Voyager Dryer 4

What to do**Why to do it**

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

EMISSION AND OPERATING LIMITS	hdr
<p>The Permittee must limit organic HAP emissions to the level specified below: (1) No more than 5 percent of the organic HAP applied each month (95 percent reduction); OR (2) No more than 4 percent of the mass of coating materials applied for each month; OR (3) No more than 20 percent of the mass of coating solids applied for each month; OR (4) If an oxidizer is used to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 ppmv by compound on a dry basis is achieved and the efficiency of the capture system is 100 percent.</p> <p>These limits apply to the collection of all web coating lines (as defined at 40 CFR Section 63.3310).</p>	40 CFR Section 63.3320(b); Minn. R. 7011.7385
<p>If a thermal oxidizer is used to comply with the emission limits, the average combustion temperature in any 3-hour period must not fall below the combustion temperature limit established according to 40 CFR Section 63.3360(e)(3)(i).</p>	40 CFR Section 63.3321(a); Minn. R. 7011.7385
MONITORING AND RECORDKEEPING REQUIREMENTS	hdr
<p>Bypass and coating use monitoring: For any web coating lines with intermittently-controlled work stations, the Permittee must monitor bypasses of the control device and the mass of each coating material applied at the work station during each bypass. If using a control device to comply with Subpart JJJJ, the Permittee must demonstrate that any coating material applied on a never-controlled or an intermittently-controlled work station operated in bypass mode is allowed in the compliance demonstration according to 63.3370(n) and (o). Bypass monitoring must be conducted using at least one of the following procedures:</p> <p>(1) Flow control position indicator (40 CFR Section 63.3350(c)(1)); OR (2) Car-seal or lock-and-key valve closures (40 CFR Section 63.3350(c)(2)); OR (3) Valve closure continuous monitoring (40 CFR Section 63.3350(c)(3)); OR (4) Automatic shutdown system (40 CFR Section 63.3350(c)(4)).</p>	40 CFR Section 63.3350(c); Minn. R. 7011.7385
<p>If using a control device to comply with the emission standard, the Permittee must install, operate, and maintain the continuous parameter monitoring system (CPMS) specified in 40 CFR Section 63.3350(e)(9), 63.3350(e)(10), and/or 63.3350(f).</p> <p>See individual requirements at the "CE" level (Subject Item: CE xxx) for specific requirements.</p>	40 CFR Section 63.3350(e); Minn. R. 7011.7385
<p>Maintain the following records on a monthly basis:</p> <p>(1) Records specified in 40 CFR Section 63.10(b)(2) of all measurements need to demonstrate compliance, including:</p> <p>(i) continuous emission monitor data in accordance with 40 CFR Section 63.3350(d); (ii) control device and capture system operating parameter data in accordance with 40 CFR Section 63.3350(c), (e), and (f); (iii) organic HAP content data used for demonstrating compliance in accordance with 40 CFR Section 63.3360(c); (iv) volatile matter and coating solids content data used for demonstrating compliance with 40 CFR Section 63.3360(d); (v) overall control efficiency determination using capture efficiency and control device destruction or removal efficiency test results in accordance with 40 CFR Section 63.3360(e) and (f);</p> <p>(continued below)</p>	40 CFR Section 63.3410(a); 40 CFR Section 63.10(b)(1); Minn. R. 7011.7385
<p>(vi) material usage, organic HAP usage, volatile matter usage, and coating solids usage and compliance demonstrations using these data in accordance with 40 CFR Section 63.3370(b), (c), and (d).</p> <p>(2) Records specified in 40 CFR Section 63.01(c) for each CMS operated in accordance with 40 CFR Section 63.3350(b).</p>	40 CFR Section 63.3410(a); 40 CFR Section 63.10(b)(1); Minn. R. 7011.7385 (continued from above)
TESTING REQUIREMENTS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>If organic HAP is controlled on any individual coating line or group of coating lines by limiting organic HAP or volatile matter content of coatings, the Permittee must determine the organic HAP or volatile matter and coating solids content of the coating materials according to the procedures in 40 CFR Section 63.3360(c) and (d). If applicable, determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere according to 40 CFR Section 63.3360(g).</p>	<p>40 CFR Section 63.3360(a); Minn. R. 7011.7385</p>
<p>If organic HAP is controlled on any individual coating line or group of coating lines by using a capture and control system, the Permittee must conduct a performance test for each capture and control system to determine the destruction or removal efficiency of each control device other than solvent recovery according to 40 CFR Section 63.3360(e), and the capture efficiency of each capture system according to 40 CFR Section 63.3360(f). If applicable, determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere according to 40 CFR Section 63.3360(g).</p>	<p>40 CFR Section 63.3360(a); Minn. R. 7011.7385</p>
<p>If determining compliance with the emission standards by means other than determining overall organic HAP control efficiency of a control device, the Permittee must determine the organic HAP mass fraction of each coating material "as-purchased" by following one of the procedures in 40 CFR Section 63.3360(c)(1)-(3), and determine the organic HAP mass fraction of each coating material "as-applied" by following the procedures in 40 CFR Section 63.3360(c)(4). If the organic HAP content values are not determined using the procedures in 40 CFR Section 63.3360(c)(1)-(3), the Permittee must submit an alternative test method for determining the values for approval by the Administrator in accordance with 40 CFR Section 63.7(f). The recovery efficiency of the test method must be determined for all of the target organic HAP and a correction factor, if necessary, must be determined and applied.</p>	<p>40 CFR Section 63.3360(c); Minn. R. 7011.7385</p>
<p>Method 311 - The Permittee may test the coating material in accordance with Method 311 of Appendix A of Part 63. The Method 311 determination may be performed by the manufacturer of the coating material and the results provided to the Permittee. The organic HAP content must be calculated according to the criteria and procedures in 40 CFR Section 63.3360(c)(1)(i)-(iii).</p>	<p>40 CFR Section 63.3360(c)(1); Minn. R. 7011.7385</p>
<p>Method 24 - The Permittee may determine the volatile organic content of coatings as mass fraction of nonaqueous volatile matter and use it as a substitute for organic HAP using Method 24 of Appendix A of Part 60. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to the Permittee.</p>	<p>40 CFR Section 63.3360(c)(2); Minn. R. 7011.7385</p>
<p>Formulation Data - The Permittee may use formulation data to determine the organic HAP mass fraction of a coating material. Formulation data may be provided to the Permittee by the manufacturer of the material. In the event of an inconsistency between Method 311 test data and a facility's formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR Section 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used.</p>	<p>40 CFR Section 63.3360(c)(3); Minn. R. 7011.7385</p>
<p>As-applied organic HAP mass fraction - If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied organic HAP mass fraction is equal to the as-purchased organic HAP mass fraction. Otherwise, the as-applied organic HAP mass fraction must be calculated using Equation 1a of 40 CFR Section 63.3370.</p>	<p>40 CFR Section 63.3360(c)(4); Minn. R. 7011.7385</p>
<p>If determining compliance with the emission standards by means other than determining the overall organic HAP control efficiency of a control device and you choose to use the volatile organic content as a surrogate for the organic HAP content of coatings, you must determine the as-purchased volatile organic content and coating solids content of each coating material applied by following the procedures in 40 CFR Section 63.3360(d)(1) or (2), and the as-applied volatile organic content and coating solids content of each coating material by following the procedures of 40 CFR Section 63.3360(d)(3).</p>	<p>40 CFR Section 63.3360(d); Minn. R. 7011.7385</p>
<p>Method 24 - The Permittee may determine the volatile organic and coating solids mass fraction of each coating using Method 24 of Part 60 Appendix A. The Method 24 determination may be performed by the manufacturer of the material and the results provided to the Permittee. If these values cannot be determined using Method 24, the Permittee must submit an alternative technique for determining their values for approval by the Administrator.</p>	<p>40 CFR Section 63.3360(d)(1); Minn. R. 7011.7385</p>
<p>Formulation Data - The Permittee may determine the volatile organic content and coating solids content of a coating material based on formulation data and may rely on volatile organic content data provided by the manufacturer of the material. In the event of any inconsistency between the formulation data and results of Method 24, and the Method 24 results are higher, the results of Method 24 will govern.</p>	<p>40 CFR Section 63.3360(d)(2); Minn. R. 7011.7385</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

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<p>As-applied volatile organic content and coating solids content - If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied volatile organic content is equal to the as-purchased volatile content and the as-applied coating solids content is equal to the as-purchased coating solids content. Otherwise, the as-applied volatile organic content must be calculated using Equation 1b of 40 CFR Section 63.3370 and the as-applied coating solids content must be calculated using Equation 2 of 40 CFR Section 63.3370.</p>	<p>40 CFR Section 63.3360(d)(3); Minn. R. 7011.7385</p>
<p>Control Device Efficiency - If using an add-on control device (other than solvent recovery) to comply with emission standards, the Permittee must conduct a performance test to establish the destruction or removal efficiency of the control device according to the methods and procedures in 40 CFR Section 63.3360(e)(1) and (2). During the test, operating limits required by 40 CFR Section 63.3321 must be established according to 40 CFR Section 63.3360(e)(3).</p>	<p>40 CFR Section 63.3360(e); Minn. R. 7011.7385</p>
<p>Capture Efficiency - If compliance is demonstrated using the requirements of 40 CFR Section 63.3370(e), (f), (g), (h), (i)(2), (k), (n)(2), or (p), capture efficiency must be determined using the procedures in 40 CFR Section 63.3360(f)(1), (2), or (3).</p>	<p>40 CFR Section 63.3360(f); Minn. R. 7011.7385</p>
<p>Volatile matter retained in the coated web or otherwise not emitted to the atmosphere - If you choose to take this into account when determining compliance with the emission standards, you must develop a testing protocol to determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere and submit it to the Administrator for approval with your site-specific test plan under 40 CFR Section 63.7(f). If you intend to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere and demonstrate compliance according to 40 CFR Section 63.3370(c)(3), (c)(4), (c)(5), or (d), then the protocol must determine the mass of organic HAP retained in the coated web or otherwise not emitted to the atmosphere. Otherwise, compliance must be shown using the volatile organic matter content as a surrogate for the HAP content of the coatings.</p>	<p>40 CFR Section 63.3360(g); Minn. R. 7011.7385</p>
<p>COMPLIANCE DEMONSTRATION</p>	<p>hdr</p>
<p>If you choose to demonstrate compliance by use of "as-purchased" compliant coating materials, then you must demonstrate that</p> <p>(i) each coating material used does not exceed 0.04 kg organic HAP per kg coating material as purchased, using the procedures in 40 CFR Section 63.3370(b);</p> <p>OR</p> <p>(ii) each coating material does not exceed 0.2 kg organic HAP per kg coating solids as purchased, using the procedures in 40 CFR Section 63.3370(b).</p>	<p>40 CFR Section 63.3370(a)(1); Minn. R. 7011.7385</p>
<p>If you choose to demonstrate compliance by use of "as-applied" compliant coating materials, then you must demonstrate that</p> <p>(i) each coating material used does not exceed 0.04 kg organic HAP per kg coating material as applied, using the procedures set out in 40 CFR Section 63.3370(c)(1). Use either Equation 1a or 1b of 40 CFR Section 63.3370 to determine compliance with 40 CFR Section 63.3320(b)(2), in accordance with 40 CFR Section 63.3370(c)(5)(i).</p> <p>OR</p> <p>(ii) each coating material does not exceed 0.2 kg organic HAP per kg coating solids as applied, using the procedures set out in 40 CFR Section 63.3370(c)(2). Use Equations 2 and 3 of 40 CFR Section 63.3370 to determine compliance with 40 CFR Section 63.3320(b)(3) in accordance with 40 CFR Section 63.3370(c)(5)(i).</p> <p>OR</p> <p>(continued below)</p>	<p>40 CFR Section 63.3370(a)(2); Minn. R. 7011.7385</p>
<p>(iii) the monthly average of all coating materials used does not exceed 0.04 kg organic HAP per kg coating material as-applied, using the procedures set out in 40 CFR Section 63.3370(c)(3). Use Equation 4 of 40 CFR Section 63.3370 to determine compliance with 40 CFR Section 63.3320(b)(2) in accordance with 40 CFR Section 63.3370(c)(5)(ii).</p> <p>OR</p> <p>(iv) the monthly average of all coating material used does not exceed 0.2 kg organic HAP per kg coating solids as-applied, using the procedures set out in 40 CFR Section 63.3370(c)(4). Use Equation 5 of 40 CFR Section 63.3370 to determine compliance with 40 CFR Section 63.3320(b)(3) in accordance with 40 CFR Section 63.3370(c)(5)(iii).</p>	<p>40 CFR Section 63.3370(a)(2); Minn. R. 7011.7385 (continued from above)</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

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<p>If you choose to demonstrate compliance by tracking total monthly organic HAP applied, then you must demonstrate that the total monthly organic HAP applied does not exceed the calculated limit based on emission limitations. Follow the procedures set out in 40 CFR Section 63.3370(d). Show that the monthly HAP applied (Equation 6 of 40 CFR Section 63.3370) is less than the calculated equivalent allowable organic HAP (Equation 13a or 13b of 40 CFR Section 63.3370).</p>	<p>40 CFR Section 63.3370(a)(3); Minn. R. 7011.7385</p>
<p>If you choose to demonstrate compliance by use of a capture system and control device, then you must demonstrate that</p> <p>(i) overall organic HAP control efficiency is equal to 95 percent on a monthly basis, or oxidizer outlet organic HAP concentration is no greater than 20 ppmv by compound and capture efficiency is 100 percent, or operating parameters are continuously monitored. Follow the procedures set out in 40 CFR Section 63.3370(e) to determine compliance with 40 CFR Section 63.3320(b)(1) according to 40 CFR Section 63.3370(i) if using a solvent recovery device or 40 CFR Section 63.3370(j) if using a control device with continuous parameter monitoring system or 40 CFR Section 63.3370(k) if using an oxidizer.</p> <p>OR</p> <p>(continued below)</p>	<p>40 CFR Section 63.3370(a)(4); Minn. R. 7011.7385</p>
<p>(ii) overall organic HAP emission rate does not exceed 0.2 kg organic HAP per kg coating solids on a monthly average as-applied basis. Use the procedures in 40 CFR Section 63.3370(f) to determine compliance with 40 CFR Section 63.3320(b)(3) according to 40 CFR Section 63.3370(i) if using a solvent recovery device or 40 CFR Section 63.3370(k) if using an oxidizer.</p> <p>OR</p> <p>(iii) overall organic HAP emission rate does not exceed 0.04 kg organic HAP per kg coating material on a monthly average as-applied basis. Use the procedures in 40 CFR Section 63.3370(g) to determine compliance with 40 CFR Section 63.3320(b)(2) according to 40 CFR Section 63.3370(i) if using a solvent recovery device or 40 CFR Section 63.3370(k) if using an oxidizer;</p> <p>OR</p> <p>(continued below)</p>	<p>40 CFR Section 63.3370(a)(4); Minn. R. 7011.7385 (continued from above)</p>
<p>(iv) overall organic HAP emission rate does not exceed the calculated limit based on emission limitations. Use the procedures in 40 CFR Section 63.3370(h). Show that the monthly organic HAP emission rate is less than the calculated equivalent allowable organic HAP emission rate (Equation 13a or 13b of 40 CFR Section 63.3370). Calculate the monthly organic HAP emission rate according to 40 CFR Section 63.3370(i) if using a solvent recovery device or 40 CFR Section 63.3370(k) if using an oxidizer.</p>	<p>40 CFR Section 63.3370(a)(4); Minn. R. 7011.7385 (continued from above)</p>
<p>If you choose to demonstrate compliance by use of multiple capture and/or control devices, then you must demonstrate that</p> <p>(i) overall organic HAP control efficiency is equal to 95 percent on a monthly basis. Use the procedures in 40 CFR Section 63.3370(d) to determine compliance with 40 CFR Section 63.3320(b)(1) according to 40 CFR Section 63.3370(e)(1) or (2).</p> <p>OR</p> <p>(ii) average equivalent organic HAP emission rate does not exceed 0.2 kg per kg coating solids on a monthly average as-applied basis. Use the procedures in 40 CFR Section 63.3370(f) to determine compliance with 40 CFR Section 63.3320(b)(3) according to 40 CFR Section 63.3370(n).</p> <p>OR</p> <p>(continued below)</p>	<p>40 CFR Section 63.3370(a)(5); Minn. R. 7011.7385</p>
<p>(iii) average equivalent organic HAP emission rate does not exceed 0.04 kg organic HAP per kg coating material on a monthly average as-applied basis. Use the procedures in 40 CFR Section 63.3370(g) to determine compliance with 40 CFR Section 63.3320(b)(2) according to 40 CFR Section 63.3370(n).</p> <p>OR</p> <p>(iv) average equivalent organic HAP emission rate does not exceed the calculated limit based on emission limitations. Use the procedures in 40 CFR Section 63.3370(h). Show that the monthly organic HAP emission rate is less than the calculated equivalent allowable organic HAP emission rate (Equation 13a or 13b of 40 CFR Section 63.3370) according to 40 CFR Section 63.3370(n).</p>	<p>40 CFR Section 63.3370(a)(5); Minn. R. 7011.7385 (continued from above)</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>If you choose to demonstrate compliance by use of a combination of compliance coatings and control devices, then you must demonstrate that</p> <p>(i) average equivalent organic HAP emission rate does not exceed 0.2 kg organic HAP per kg coating solids on a monthly average as-applied basis. Use the procedures in 40 CFR Section 63.3370(f) to determine compliance with 40 CFR Section 63.3320(b)(3) according to 40 CFR Section 63.3370(n).</p> <p>OR</p> <p>(ii) average equivalent organic HAP emission rate does not exceed 0.04 kg organic HAP per kg coating material on a monthly average as-applied basis. Follow the procedures in 40 CFR Section 63.3370(g) to determine compliance with 40 CFR Section 63.3320(b)(2) according to 40 CFR Section 63.3370(n).</p> <p>OR</p> <p>(continued below)</p>	<p>40 CFR Section 63.3370(a)(6); Minn. R. 7011.7385</p>
<p>(iii) average equivalent organic HAP emission rate does not exceed the calculated limit based on emission limitations. Use the procedures in 40 CFR Section 63.3370(h). Show that the monthly organic HAP emission rate is less than the calculated equivalent allowable organic HAP emission rate (Equation 13a or 13b of 40 CFR Section 63.3370) according to 40 CFR Section 63.3370(n).</p>	<p>40 CFR Section 63.3370(a)(6); Minn. R. 7011.7385 (continued from above)</p>
<p>Semiannual Continuous Compliance Report: due 30 days after end of each calendar half-year following Permit Issuance applicable to each emission unit subject to a standard in 40 CFR Part 63. This may be submitted with the semiannual compliance report required under Part 70 (See Table B of this permit). The report must contain the information listed in 40 CFR Section 63.3400(c)(2).</p>	<p>40 CFR Section 63.3400(c); Minn. R. 7011.7385</p>
<p>GENERAL PROVISIONS, 40 CFR pt. 63, subp. A</p>	<p>hdr</p>
<p>Proper Operation and Maintenance: At all times the Permittee shall operate and maintain the emission unit subject to the MACT standard and its associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards.</p>	<p>40 CFR Section 63.6(e)(1)(i); Minn. R. 7011.7000</p>
<p>Malfunions: Malfunions shall be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan.</p>	<p>40 CFR Section 63.6(e)(1)(ii); Minn. R. 7011.7000</p>
<p>Startup, Shutdown, and Malfunction: During periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain the source in accordance with the procedures specified in the startup, shutdown, and malfunction plan.</p>	<p>40 CFR Section 63.6(e)(3)(ii); 40 CFR Section 63.6(e)(3)(iii); Minn. R. 7011.7000</p>
<p>Startup, Shutdown, and Malfunction Plan (SSMP): The Permittee shall prepare and implement a Startup, Shutdown, and Malfunction Plan (SSMP) for each of the emission units subject to Maximum Control Technology Standards by December 5, 2005 for Subpart JJJJ. The SSMP is a federally enforceable part of the permit and shall be prepared in accordance with 40 CFR Section 63.6(e)(3) and include requirements specified therein. The SSMP must be located at the plant site and must be kept updated. When the SSMP is updated, the Permittee must keep all previous versions of the SSMP for a period of 5 years. The Permittee must submit the SSMP when required.</p>	<p>40 CFR Section 63.6(e)(3)(i); 40 CFR Section 63.6(e)(3)(v); Minn. R. 7011.7000</p>
<p>Startup, Shutdown, and Malfunction Plan, CONTINUED: A written SSMP must contain the minimum of the following information:</p> <ol style="list-style-type: none"> 1. A procedure that documents how any startup, shutdown, or malfunction event that has occurred will be addressed and documented; 2. Information regarding the operation of the source and its associated pollution control devices during a startup, shutdown, or malfunction event in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards; and 3. Adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable. 	<p>40 CFR Section 63.6(e)(3)(vii); Minn. R. 7011.7000</p>
<p>Recordkeeping: The Permittee shall maintain files of all information required by this part in a form suitable and readily available for expeditious inspection and review. The files should be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Only the most recent two years of information must be kept on site.</p>	<p>40 CFR Section 63.10(b)(1)</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

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<p>Recordkeeping, CONTINUED: The Permittee shall maintain, at a minimum, the following information in the files:</p> <ol style="list-style-type: none"> 1) the occurrence and duration of each startup, shutdown, or malfunction of operation; 2) the occurrence and duration of each malfunction of the air pollution control equipment; 3) all maintenance performed on the pollution control equipment; 4) actions taken during periods of startup, shutdown, and malfunction when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (SSMP). In this case, the Permittee shall report this action within 2 days of occurrence and follow by a written notification within 7 days of occurrence. 5) all information necessary to demonstrate conformance with the affected source's SSMP and actions taken in accordance with SSMP; 	40 CFR Section 63.10(b)(2)
<p>Recordkeeping, CONTINUED:</p> <ol style="list-style-type: none"> 6) each period during which a continuous monitoring system (CMS) is malfunctioning or inoperative; 7) all required measurements needed to demonstrate compliance with a relevant standard; 8) all results of performance test, CMS performance evaluations, and opacity and visible emission observations; 9) all measurements as may be necessary to determine the conditions of performance tests and performance evaluations; 10) all CMS calibration checks; 11) all adjustments and maintenance performed on CMS; 12) any information demonstrating whether a source is meeting the requirements for a waiver of record keeping or reporting requirements under this part; 13) all documents supporting initial notifications and notifications of compliance status. 	40 CFR Section 63.10(b)(2)
<p>Reporting: Startup, shutdown, and malfunction reports shall be submitted only if there is an occurrence of startup, shutdown, or malfunction during the reporting period and shall be delivered or postmarked by the 30th day following the end of each calendar half year.</p>	40 CFR Section 63.10(d)(5)(i)
<p>Deviations from SSMP: If the Permittee deviates from the startup, shutdown, and malfunction plan (SSMP) during a startup, shutdown or malfunction, the Permittee shall record the actions taken for that event and report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event. The report must contain name, title, and signature of a responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the SSMP, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.</p>	40 CFR Section 63.6(e)(3)(iv); 40 CFR Section 63.10(d)(5)(ii); Minn. R. 7011.7000
<p>Comply with emission standards at all times except during startup, shutdown, and malfunction</p>	40 CFR Section 63.6(f)(1); Minn. R. 7011.7000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 003 Fuel Oil Sulfur Content Monitoring

Associated Items: EU 001 Boiler 3

EU 002 Boiler 4

EU 037 Boiler 5

What to do	Why to do it
<p>Fuel Oil Sulfur Content: The Permittee shall determine the sulfur content using either Method 1 or Method 2:</p> <p>Method 1: The Permittee shall obtain and maintain a fuel supplier receipt for each shipment of fuel oil delivered, certifying that each shipment complies with the appropriate ASTM specifications, and that the sulfur content of each shipment is less than or equal to 1.35 percent by weight as determined in accordance with the current ASTM method. If certification that each shipment contains less than or equal to 1.35 weight percent sulfur is not available, the Method 2 shall be used.</p> <p>Method 2: The Permittee shall calculate and record the sulfur content of the fuel oil in the tank after each delivery of fuel oil to the tank, by using the following procedure:</p>	<p>Minn. R. 7007.0800, subp. 4(B)</p>
<p>a) The Permittee shall sample fuel oil from the tank prior to the initial delivery of fuel oil when using this method. Sampling of the tank shall be conducted at least once per calendar year for any calendar year in which this method is used. The Permittee shall analyze the oil sample to determine the sulfur content of the fuel oil in the tank in percent by weight in accordance with the current ASTM method. The percent sulfur of the sample shall be used as "A(P)" when determining the average percent sulfur using the equation below.</p> <p>b) The Permittee shall obtain a sample from each delivery of fuel oil and analyze the sample in accordance with the current ASTM method, to determine the actual sulfur content of the oil delivered.</p> <p>c) By the 15th day of each month, the Permittee shall use the results of each fuel analysis for the previous month to calculate the percent sulfur of the fuel oil mixture in the tank following that specific delivery, using the following equation:</p>	<p>Minn. R. 7007.0800, subp. 4(B), continued from above</p>
<p>$A(N) = \{[A(P) \times V(P)] + \{[S(D) \times V(D)]\} / V(N)$</p> <p>Where: A(N) = the new average sulfur content of the fuel oil in the tank, as of the delivery of sample N A(P) = the previously calculated average sulfur content of the fuel oil in the tank V(P) = the previously calculated volume of oil in the tank (prior to delivery) S(D) = the sulfur content of fuel oil delivery N (analysis results) V(D) = the volume of oil delivered in delivery N V(N) = the new volume of oil in tank = V(P) + V(D) - (the total quantity of oil burned since V(P) was last calculated</p>	<p>Minn. R. 7007.0800, subp. 4(B), continued from above</p>
<p>The Permittee shall obtain a fuel oil supplier certification for each shipment of fuel oil received. The certification must show the sulfur content of the shipment of fuel oil.</p>	<p>Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000 Minn. R. 7007.0800, subp. 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-17

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 004 Subpart Kb Tanks, no floating roof**Associated Items:** EU 238 Solvent Tank 47

EU 322 LM3 Cleaning

What to do	Why to do it
Maintain permanent records of tank dimensions, capacity, and contents.	40 CFR Section 60.116(b); Minn. R. 7011.1520(C)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 005 Units Subject to Pre-1969 Industrial Process Equipment Rule

- Associated Items:**
- EU 003 1L Precoat 1
 - EU 005 1L Precoat 2
 - EU 007 1L Adhesive Coater
 - EU 009 2L Coating Station 1
 - EU 010 2L Coating Station 2
 - EU 020 1N Churn
 - EU 021 1N Mixer
 - EU 022 1S Churn
 - EU 023 1S Mixer
 - EU 024 3W Blender
 - EU 027 8J Extruder
 - EU 028 2E Blender
 - EU 029 2W Blender
 - EU 030 Mogul 1
 - EU 103 22 Coater Applicators
 - EU 113 27 Coater Applicators
 - EU 115 28 Coater Applicator/Enclosure
 - EU 405 Drum/Tote Mixer
 - EU 406 Drum/Tote Mixer
 - EU 407 Drum/Tote Mixer
 - EU 408 Drum/Tote Mixer
 - EU 409 Drum/Tote Mixer
 - EU 410 Drum/Tote Mixer

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each unit listed under Associated Items.	Minn. R. 7011.0710, subp. 1(A)
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This limit applies individually to each unit listed under Associated Items.	Minn. R. 7011.0710, subp. 1(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-19

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 006 Direct Heating Equipment

Associated Items: EU 004 1L Precoat 1 Oven
EU 006 1L Precoat 2 Oven
EU 008 1L Adhesive Oven
EU 011 2L Adhesive Oven
EU 034 5L Adhesive Oven
EU 039 6L Precoat 1 Oven
EU 041 6L Precoat 2 Oven
EU 042 6L Thermal Oxidizer
EU 043 1L Thermal Oxidizer
EU 044 2L Thermal Oxidizer
EU 045 3L-1 Thermal Oxidizer
EU 046 3L-2 Thermal Oxidizer
EU 102 22 Coater Oven
EU 112 27 Coater Oven
EU 114 28 Coater Oven
EU 116 27/28 Coater Thermal Oxidizer
EU 317 LM3 Drying Oven 1
EU 318 LM3 Curing Oven 1
EU 320 LM3 Drying Oven 2
EU 321 LM3 Curing Oven 2
EU 323 LM3 Thermal Oxidizer
EU 326 ST5 Curing Oven
EU 331 ST6 Curing Oven
EU 351 7LPrecoat/Oven 1
EU 352 7LPrecoat/Oven 3
EU 353 7L Adhesive Coater/Oven
EU 354 7L Flame Treater A
EU 356 3L Dryer 1
EU 358 3L Dryer 2
EU 360 3L Dryer 3
EU 362 3L Dryer 4
EU 364 3L Dryer 5
EU 366 3L Dryer 6
EU 367 3L Dryer 7
EU 368 3L Dryer 8
EU 371 Enterprise Dryer 1
EU 372 Enterprise Dryer 2
EU 373 Enterprise Thermal Oxidizer
EU 389 7L Flame Treater B

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-20

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Associated Items: EU 415 8L Precoat 1 Oven
 EU 417 8L Precoat 2 Oven
 EU 419 8L Adhesive Oven
 EU 421 LT3 Saturant Oven
 EU 423 LT3 Backsize Oven
 EU 425 Voyager Dryer 1
 EU 426 Voyager Dryer 2
 EU 428 Voyager Dryer 3
 EU 429 Voyager Dryer 4
 EU 430 Voyager Thermal Ozidizer (CE018)

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each unit listed in GP006.	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. This limit applies individually to each unit listed in GP006.	Minn. R. 7011.0610, subp. 1(A)(2)

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-21

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 007 Units Subject to Post-1969 Industrial Process Equipment Rule

Associated Items: EU 033 5L Adhesive Station
EU 036 10J Extruder
EU 038 6L Precoat 1
EU 040 6L Precoat 2
EU 049 Mogul 2
EU 120 SMS Line 67
EU 121 SMS Line 68
EU 122 SMS Line 69
EU 123 SMS Line 70
EU 124 SMS Line 71
EU 125 H1 Extruder 3
EU 316 LM3 Coating Station 1
EU 319 LM3 Coating Station 2
EU 325 ST5 Coating Station
EU 327 ST6 Compounding Area A
EU 328 ST6 Compounding Area B
EU 330 ST6 Coating Station
EU 332 LM3 Compounding Tank 1
EU 333 LM3 Compounding Tank 2
EU 334 LM3 Compounding Tank 3
EU 335 LM3 Compounding Tank 4
EU 336 LM3 Compounding Tank 11
EU 337 LM3 Compounding Tank 12
EU 338 LM3 Compounding Tank 13
EU 339 LM3 Compounding Tank 14
EU 346 H1 Coating
EU 347 Drum/Tote Mixer
EU 348 Drum/Tote Mixer
EU 349 Drum/Tote Mixer
EU 350 Drum/Tote Mixer
EU 355 3L Coater Station 1
EU 357 3L Coater Station 2
EU 359 3L Coater Station 3
EU 361 3L Coater Station 4
EU 363 3L Coater Station 5
EU 365 3L Coater Station 6
EU 370 Enterprise Coater Station
EU 374 19J Extruder
EU 375 Mogul 106

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

- Associated Items:**
- EU 376 Churn 207
 - EU 377 Churn 911
 - EU 378 Churn 1914
 - EU 379 Churn 2141
 - EU 380 Mixing Station 101
 - EU 381 6L Functional Coat
 - EU 382 SMS Line 60
 - EU 383 SMS Line 61
 - EU 384 SMS Line 62
 - EU 385 SMS Line 63
 - EU 386 SMS Line 64
 - EU 387 SMS Line 65
 - EU 388 SMS Line 66
 - EU 402 Drum/Tote Mixer
 - EU 403 Drum/Tote Mixer
 - EU 404 Drum/Tote Mixer
 - EU 411 SMS Line 59
 - EU 412 ST7 Coating Station
 - EU 414 8L Precoat 1
 - EU 416 8L Precoat 2
 - EU 418 8L Adhesive Coater
 - EU 420 LT3 Saturator
 - EU 422 LT3 Backsize Coating Station
 - EU 424 Voyager Coater Station 1
 - EU 427 Voyager Coater Station 2
 - EU 431 19J Extruder Material Handling
 - EU 432 10J Extruder Material Handling

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn R. 7011.0730 or Minn. R. 7011.0735. This limit applies individually to each unit listed in GP007.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity .This limit applies individually to each unit listed in GP007.	Minn. R. 7011.0715, subp. 1(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 008 7L BACT Conditions

Associated Items: EU 351 7LPrecoat/Oven 1

EU 352 7LPrecoat/Oven 3

EU 353 7L Adhesive Coater/Oven

EU 354 7L Flame Treater A

EU 389 7L Flame Treater B

What to do	Why to do it
EMISSION LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 0.14 kilograms/kilograms calculated on a weighted average basis for a calendar month.</p> <p>This is a limit on emissions, not a usage limit, and is equivalent to 0.14 lbs of VOC emitted/lb of coating solids applied.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000</p>
<p>Volatile Organic Compounds: less than or equal to 85 tons/year using 12-month Rolling Sum (total mass of VOC) basis to be calculated by the 15th day of each month for the previous 12-month period.</p> <p>VOC content for each VOC-containing material shall be recorded by the Permittee. The calculation of VOCs used may take into account recovered/recycled VOCs as described under the Waste Credit requirement.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000</p>
RECORDKEEPING REQUIREMENTS	hdr
<p>Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings and other VOC-containing materials used in Group 008. This shall be based on production records maintained in written form or as computer files.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 15th of the month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1) The total usage of VOC-containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC content of each material, determined as described in the Material Content section below. 2) The weighted average VOC emissions for the previous month using the formulas specified in 40 CFR Section 60.443(a)(2) (same calculation used for NSPS subp. RR - see also GP001) 3) VOC emissions for the previous month using the formulas specified below 4) 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. 	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly Calculation -- VOC Emissions.</p> <p>The Permittee shall calculate VOC emissions using the following equations:</p> $\text{VOC (tons/month)} = V - W$ $V = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + C3 \times D3) + \dots$	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly VOC Emissions Calculation Continued:</p> <p>where:</p> <p>V = total VOC used in tons/month;</p> <p>A# = amount of each VOC containing material used, in tons/month;</p> <p>B# = weight percent VOC in A#, as a fraction;</p> <p>W = the amount of VOC shipped in waste, in tons/month;</p> <p>C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and</p> <p>D# = weight percent of VOC in C#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-24

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <ol style="list-style-type: none">1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC.2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 009 8L BACT Conditions

Associated Items: EU 414 8L Precoat 1

EU 415 8L Precoat 1 Oven

EU 416 8L Precoat 2

EU 417 8L Precoat 2 Oven

EU 418 8L Adhesive Coater

EU 419 8L Adhesive Oven

What to do	Why to do it
EMISSION LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 0.14 kilograms/kilograms calculated on a weighted average basis for a calendar month.</p> <p>This is a limit on emissions, not a usage limit, and is equivalent to 0.14 lbs of VOC emitted/lb of coating solids applied.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000</p>
RECORDKEEPING REQUIREMENTS	hdr
<p>Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings and other VOC-containing materials used in Group 009. This shall be based on production records maintained in written form or as computer files.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000; Minn. R. 7007.0800. subp. 4 and 5</p>
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 15th of the month, the Permittee shall calculate and record the following:</p> <p>1) The total usage of VOC-containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC content of each material, determined as described in the Material Content section below.</p> <p>2) The weighted average VOC emissions for the previous month using the formulas specified in 40 CFR Section 60.443(a)(2) (same calculation used for NSPS subp. RR - see also GP001)</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000</p>
<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <p>1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC.</p> <p>2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 010 LT3 BACT Conditions

Associated Items: EU 420 LT3 Saturator

EU 421 LT3 Saturant Oven

EU 422 LT3 Backsize Coating Station

EU 423 LT3 Backsize Oven

What to do	Why to do it
EMISSION LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 0.14 kilograms/kilograms calculated on a weighted average basis for a calendar month.</p> <p>This is a limit on emissions, not a usage limit, and is equivalent to 0.14 lbs of VOC emitted/lb of coating solids applied.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000</p>
RECORDKEEPING REQUIREMENTS	hdr
<p>Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings and other VOC-containing materials used in Group 010. This shall be based on production records maintained in written form or as computer files.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 15th of the month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1) The total usage of VOC-containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC content of each material, determined as described in the Material Content section below. 2) The VOC emissions for the previous month using the formulas specified in 40 CFR Section 60.443(a)(2) (same calculation used for NSPS subp. RR - see also GP001) 	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000</p>
<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <ol style="list-style-type: none"> 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC. 2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials. 	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 011 7L, 8L, and LT3 combined BACT limit

- Associated Items:**
- EU 351 7LPrecoat/Oven 1
 - EU 352 7LPrecoat/Oven 3
 - EU 353 7L Adhesive Coater/Oven
 - EU 354 7L Flame Treater A
 - EU 389 7L Flame Treater B
 - EU 414 8L Precoat 1
 - EU 415 8L Precoat 1 Oven
 - EU 416 8L Precoat 2
 - EU 417 8L Precoat 2 Oven
 - EU 418 8L Adhesive Coater
 - EU 419 8L Adhesive Oven
 - EU 420 LT3 Saturator
 - EU 421 LT3 Saturant Oven
 - EU 422 LT3 Backsize Coating Station
 - EU 423 LT3 Backsize Oven

What to do	Why to do it
EMISSION LIMIT	hdr
<p>Volatile Organic Compounds: less than or equal to 136.5 tons/year using 12-month Rolling Sum . This is a total limit on emissions (not usage) for all three lines (7L, 8L, and LT3) combined.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000; limit to avoid requirement to complete environmental review under Minn. R. 4410.4300, subps. 1 and 15(A)</p>
RECORDKEEPING REQUIREMENTS	hdr
<p>Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings and other VOC-containing materials used in Group 011. This shall be based on production records maintained in written form or as computer files.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 15th of the month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1) The total usage of VOC-containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC content of each material, determined as described in the Material Content section below. 2) VOC emissions for the previous month using the formulas specified below 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. 	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly Calculation -- VOC Emissions.</p> <p>The Permittee shall calculate VOC emissions using the following equations:</p> $\text{VOC (tons/month)} = V - W$ $V = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + C3 \times D3) + \dots$	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly VOC Emissions Calculation Continued:</p> <p>where:</p> <p>V = total VOC used in tons/month;</p> <p>A# = amount of each VOC containing material used, in tons/month;</p> <p>B# = weight percent VOC in A#, as a fraction;</p> <p>W = the amount of VOC shipped in waste, in tons/month;</p> <p>C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and</p> <p>D# = weight percent of VOC in C#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-28

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <ol style="list-style-type: none">1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC.2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 014 5L PSD Synthetic Minor Limits, 5L SRU Requirements

Associated Items: CE 008 Activated Carbon Adsorption

EU 032 5L SRU Air Stripper

EU 033 5L Adhesive Station

EU 034 5L Adhesive Oven

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 113 tons/month using 12-month Rolling Average (total mass of VOC) to be calculated by the 15th day of each month for the previous 12-month period.</p> <p>This is a limit on emissions, not a usage limit.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<p>VOC Usage: less than or equal to 3018 lbs/hour of VOC applied at the subject emission unit, as a calendar month average based on records of the amount of VOC applied and actual time in operation.</p>	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
CONTROL REQUIREMENTS	hdr
<p>Volatile Organic Compounds: greater than or equal to 80 percent control efficiency when running high VOC coatings on the line. Low VOC coatings (as defined herein) may be run without control. See Subject Item CE008 for specific operating requirements.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
<p>For purposes of GP014, coating solutions are considered to be "low VOC" when the VOC content is less than or equal to 10 percent by weight.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
RECORDKEEPING REQUIREMENTS	hdr
<p>Maximum VOC usage in lb/hr shall be determined in the following manner:</p> <p>The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements).</p> <p>The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined according to Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Daily Recordkeeping. The Permittee shall keep complete and detailed daily records of all VOC usage at the equipment included in GP014. These daily records shall include, but are not limited to, the VOC weight fraction of each material used, the total weight of material used, and the time periods during which coatings or solutions that are not "low VOC" coatings or solutions are in use. The VOC content shall be determined as specified under the Material Content condition listed below. Records shall be maintained in written form or as computer files.</p>	Title I Condition: to avoid classification as major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<p>Keep records of the periods during which the subject control equipment (CE008) was not operated.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 15th of the month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1) The total usage of VOC containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12 month rolling average VOC emissions for the previous 12 month period by summing the monthly VOC emissions data for the previous 12 months and dividing by 12. 	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Monthly Calculation -- VOC Emissions. The Permittee shall calculate VOC emissions using the following equations:</p> <p>VOC (tons/month) = V - W $V = (A1 \times B1 \times [1-EF]) + (A2 \times B2 \times [1-EF]) + (A3 \times B3 \times [1-EF]) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + C3 \times D3) + \dots$</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly VOC Emissions Calculation Continued:</p> <p>where: V = total VOC used in tons/month; A# = amount of each VOC containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; EF = the control efficiency of controls used when using this coating. If no control was used for this coating because it is "low VOC" or "water based", EF = 0 for that coating. W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC content for each credited shipment.</p> <ol style="list-style-type: none"> 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, excluding water. 2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials. 	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>MONITORING REQUIREMENTS</p>	<p>hdr</p>
<p>Install, calibrate, maintain, and operate a hydrocarbon analyzer(s) which continually indicates the concentration of VOC in the CE008 carbon adsorbers bed exhaust. The analyzer(s) shall be equipped with an audible and visible alarm system.</p>	<p>Minn. R. 7007.0800</p>
<p>Install, calibrate, maintain, and operate a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis.</p>	<p>40 CFR Section 63.3350(d)(2); Minn. R. 7011.7385</p>
<p>Perform a monthly liquid-liquid material balance as specified in paragraphs 40 CFR Section 63.3370(i)(1)(i) through 63.3370(i)(1)(v)</p>	<p>40 CFR Section 63.3370(i)(1); Minn. R. 7011.7385</p>
<p>The permittee shall maintain records of all liquid-liquid material balances performed in accordance with the requirements of 40 CFR Section 63.3370.</p>	<p>40 CFR Section 63.3410(b); Minn. R. 7011.7385</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 015 6L BACT Conditions

Associated Items: CE 009 Thermal Oxidizer

EU 038 6L Precoat 1

EU 039 6L Precoat 1 Oven

EU 040 6L Precoat 2

EU 041 6L Precoat 2 Oven

EU 381 6L Functional Coat

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 0.037 kilograms/kilograms (total mass of VOC) as a calendar month average.</p> <p>This is a limit on emissions, not a usage limit, and is equivalent to 0.037 lbs of VOC emitted/lb of coating solids applied.</p> <p>When applying low-solvent coatings (coatings with less than 0.037 lb VOC/lb coating solids applied), this limit may be met without the operation of pollution control equipment (See Subject Item CE009).</p>	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
VOC Usage: less than or equal to 3725 lbs/hour of VOC applied at the subject emission unit, as a calendar month average based on records of the amount of VOC applied and actual time in operation.	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
CONTROL REQUIREMENTS	hdr
Volatile Organic Compounds: greater than or equal to 96 percent control efficiency when running high VOC coatings on the line. Low VOC coatings (as defined herein) may be run without control. See Subject Item CE009 for specific operating requirements.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
For purposes of GP015, coating solutions are considered to be "low VOC" when the VOC content is less than or equal to 0.037 pounds of VOC per pound of solids applied.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
RECORDKEEPING REQUIREMENTS	hdr
<p>Maximum VOC usage in lb/hr shall be determined in the following manner:</p> <p>The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements).</p> <p>The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined by Reference Method 24, the Material Content requirements of this permit, or an alternative method approved by the Commissioner.</p>	Minn. R. 7007.0800, subp. 4 and 5
Daily Recordkeeping. The Permittee shall keep complete and detailed daily records of all VOC usage at the equipment included in GP015. These daily records shall include, but are not limited to, the VOC weight fraction of each material used, the total weight of material used, and the time periods during which coatings or solutions that are not "low VOC" coatings or solutions are in use. The VOC content shall be determined as specified under the Material Content condition listed below. Records shall be maintained in written form or as computer files.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 15th of the month, the Permittee shall calculate and record the following:</p> <p>1) The total usage of VOC-containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC content of each material, determined as described in the Material Content section below.</p> <p>2) The weighted average VOC emissions for the previous month using the formulas specified in 40 CFR Section 60.443(a)(2) (same calculation used for NSPS subp. RR - see also GP001)</p>	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-32

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <ol style="list-style-type: none">1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC.2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials.	Minn. R. 7007.0800, subp. 4 and 5
<p>Keep records of the periods during which the subject control equipment (CE009) was not operated.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 016 LM3 Ancillary Equipment BACT Conditions

- Associated Items:** EU 332 LM3 Compounding Tank 1
 EU 333 LM3 Compounding Tank 2
 EU 334 LM3 Compounding Tank 3
 EU 335 LM3 Compounding Tank 4
 EU 336 LM3 Compounding Tank 11
 EU 337 LM3 Compounding Tank 12
 EU 338 LM3 Compounding Tank 13
 EU 339 LM3 Compounding Tank 14

What to do	Why to do it
EMISSION AND OPERATION LIMITS	hdr
Volatile Organic Compounds: less than or equal to 6.0 tons/year using 12-month Rolling Sum (total mass of VOC). This BACT limit applies only to the ancillary equipment associated with the coating line LM3.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
RECORDKEEPING REQUIREMENTS	hdr
Daily Recordkeeping. The Permittee shall keep complete and detailed daily records of all VOC usage at the equipment included in GP016. These daily records shall include, but are not limited to, the VOC weight fraction of each material used and the total weight of material used. The VOC content shall be determined as specified under the Material Content condition listed below. Records shall be maintained in written form or as computer files.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
Monthly Recordkeeping -- VOC Emissions. By the 15th of the month, the Permittee shall calculate and record the following: 1) The total usage of VOC containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12 month rolling sum VOC emissions for the previous 12 month period by summing the monthly VOC emissions data for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
Monthly Calculation -- VOC Emissions. The Permittee shall calculate VOC emissions using the following equations: VOC (tons/month) = V - W V = (A1 x B1) + (A2 x B2) + (A3 x B3) + W = (C1 x D1) + (C2 x D2) + C3 x D3) +	Minn. R. 7007.0800, subp. 4 and 5
Monthly VOC Emissions Calculation Continued: where: V = total VOC used in tons/month; A# = amount of each VOC containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.	Minn. R. 7007.0800, subp. 4 and 5
Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-34

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC content for each credited shipment.</p> <p>1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, excluding water.</p> <p>2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials.</p>	Minn. R. 7007.0800, subp. 4 and 5
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TABLE A: LIMITS AND OTHER REQUIREMENTS

A-35

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 017 Solvent Cleaning Tanks (South Plant), PSD Synthetic Minor**Associated Items:** EU 050 Cleaning Tank 1

EU 051 Cleaning Tank 2

EU 052 Cleaning Tank 3

What to do	Why to do it
Operating Hours: less than or equal to 346 hours/month using 12-month Rolling Average (EU050, EU051, EU052 combined). Hours of operations are defined as hours that at least one cleaning tank lid is open.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Daily Recordkeeping. The Permittee shall keep daily record of the hours of operation of the units in GP017. These records shall be maintained in an electronic format.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Monthly Recordkeeping -- By the 15th day of each month, the Permittee shall calculate and record the average hours of operation for the previous month and the previous 12 months (12-month rolling average)	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 018 27 Coater Synthetic Minor

Associated Items: CE 011 Thermal Oxidizer

EU 112 27 Coater Oven

EU 113 27 Coater Applicators

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 62 tons/year using 12-month Rolling Sum (total mass of VOC) basis to be calculated by the 15th day of each month for the previous 12-month period.</p> <p>This is a limit on emissions, not a usage limit.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<p>VOC Usage: less than or equal to 2810 lbs/hour applied at the subject emission units, as a calendar month average based on records of the amount of VOC applied and actual time in operation.</p>	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
CONTROL REQUIREMENTS	hdr
<p>Emissions from the sources in this group may be controlled by CE011.</p> <p>Control is not required for any source listed in GP018 but may be accounted for in documenting compliance with the emission limit described above. See Subject Item CE011 for detailed requirements.</p>	Minn. R. 7007.0800, subp. 4 and 5
RECORDKEEPING REQUIREMENTS	hdr
<p>Maximum VOC usage in lb/hr shall be determined in the following manner:</p> <p>The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements).</p> <p>The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined by Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Daily Recordkeeping. The Permittee shall keep complete and detailed daily records of all VOC usage at the equipment included in GP018. These daily records shall include, but are not limited to, the VOC weight fraction of each material used, the total weight of material used, and the time periods during which coatings or solutions that are not "low VOC" coatings or solutions are in use. The VOC content shall be determined as specified under the Material Content condition listed below. Records shall be maintained in written form or as computer files.</p>	Title I Condition: To avoid classification as major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 15th of the month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1) The total usage of VOC-containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC content of each material. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12 month rolling sum VOC emissions for the previous 12 month period by summing the monthly VOC emissions data for the previous 12 months. 	Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly Calculation -- VOC Emissions.</p> <p>The Permittee shall calculate VOC emissions using the following equations:</p> <p>VOC (tons/month) = V - W $V = (A1 \times B1 \times [1-EF]) + (A2 \times B2 \times [1-EF]) + (A3 \times B3 \times [1-EF]) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + C3 \times D3) + \dots$</p>	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Monthly VOC Emissions Calculation Continued:</p> <p>where: V = total VOC used in tons/month; A# = amount of each VOC containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; EF = the control efficiency of controls used when using this coating. If no control was used for this coating because it is "low VOC" or "water based", EF = 0 for that coating. W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <ol style="list-style-type: none"> 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC. 2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials. 	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Coating and wash tank emissions shall be calculated based on the following equation:</p> $\text{VOC Emitted} = [\text{VOC Applied} - \text{VOC Collected}] \times [1 - \text{Overall Control Efficiency}]$ <p>Where: VOC Applied is based on the records from the coater control system and/or material usage data. VOC Collected is based on records of material recovered through process recovery and scrap. Overall Control Efficiency is equal to the product of the unit-specific capture efficiency and the pollution control efficiency determined during the most recent approved performance test for the applicable control device. During periods of deviation by the applicable control device, emissions shall be considered uncontrolled.</p>	<p>Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000</p>
<p>Process kettle and tank emissions shall be calculated based on throughput and applicable control efficiency.</p>	<p>Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000</p>
<p>PERMIT SHIELD - MAGNETIC TAPE COATING</p>	<p>hdr</p>
<p>The facility no longer manufactures magnetic tape. Therefore, the requirements of 40 CFR Sections 60.710 - 60.718 (Standards of Performance for Magnetic Tape Coating Facilities) and 40 CFR Sections 63.701 - 63.708 (National Emission Standards for Magnetic Tape Manufacturing Operations) do not apply to the units in GP018.</p>	<p>Minn. R. 7007.1800(A)(2); 40 CFR Section 60.710; 40 CFR Section 63.701; Minn. R. 7011.3450; Minn. R. 7011.7300</p>
<p>Keep records of the periods during which the subject control equipment (CE011) was not operated.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-38

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 019 28 Coater Synthetic Minor

Associated Items: CE 011 Thermal Oxidizer

EU 114 28 Coater Oven

EU 115 28 Coater Applicator/Enclosure

What to do	Why to do it
EMISSION AND OPERATION LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 57.5 tons/year using 12-month Rolling Sum (total mass of VOC) basis to be calculated by the 15th day of each month for the previous 12-month period.</p> <p>This is a limit on emissions, not a usage limit.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<p>VOC Usage: less than or equal to 479 lbs/hour of VOC applied at the subject emission unit, as a calendar month average based on records of the amount of VOC applied and actual time in operation.</p>	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
CONTROL REQUIREMENTS	hdr
<p>Emissions from the sources in this group may be controlled by CE011.</p> <p>Control is not required for any source listed in GP019 but may be accounted for in documenting compliance with the emission limit described above. See Subject Item CE011 for detailed requirements.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
RECORDKEEPING REQUIREMENTS	hdr
<p>Maximum VOC usage in lb/hr shall be determined in the following manner:</p> <p>The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements).</p> <p>The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined by Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Daily Recordkeeping. The Permittee shall keep complete and detailed daily records of all VOC usage at the equipment included in GP019. These daily records shall include, but are not limited to, the VOC weight fraction of each material used, the total weight of material used, and the time periods during which coatings or solutions that are not "low VOC" coatings or solutions are in use. The VOC content shall be determined as specified under the Material Content condition listed below. Records shall be maintained in written form or as computer files.</p>	Title I Condition: To avoid classification as major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 15th of the month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1) The total usage of VOC-containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC content of each material. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12 month rolling sum VOC emissions for the previous 12 month period by summing the monthly VOC emissions data for the previous 12 months. 	Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly Calculation -- VOC Emissions.</p> <p>The Permittee shall calculate VOC emissions using the following equations:</p> <p>VOC (tons/month) = V - W $V = (A1 \times B1 \times [1-EF]) + (A2 \times B2 \times [1-EF]) + (A3 \times B3 \times [1-EF]) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + C3 \times D3) + \dots$</p>	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Monthly VOC Emissions Calculation Continued:</p> <p>where: V = total VOC used in tons/month; A# = amount of each VOC containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; EF = the control efficiency of controls used when using this coating. If no control was used for this coating because it is "low VOC" or "water based", EF = 0 for that coating. W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <ol style="list-style-type: none"> 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC. 2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials. 	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Keep records of the periods during which the subject control equipment (CE011) was not operated.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 021 SMS Synthetic Minor

- Associated Items:**
- EU 120 SMS Line 67
 - EU 121 SMS Line 68
 - EU 122 SMS Line 69
 - EU 123 SMS Line 70
 - EU 124 SMS Line 71
 - EU 382 SMS Line 60
 - EU 383 SMS Line 61
 - EU 384 SMS Line 62
 - EU 385 SMS Line 63
 - EU 386 SMS Line 64
 - EU 387 SMS Line 65
 - EU 388 SMS Line 66
 - EU 411 SMS Line 59

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 35 tons/year using 12-month Rolling Sum (total mass of VOC) to be calculated by the 15th day of each month for the previous 12-month period.</p> <p>This is a limit on emissions, not a usage limit.</p>	Title I Condition: To Avoid Classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
RECORDKEEPING REQUIREMENTS	hdr
<p>Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings and other VOC containing materials used at the facility. This shall be based on written or electronic usage logs.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800. subp. 4 and 5
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 15th of the month, the Permittee shall calculate and record the following:</p> <p>1) The total usage of VOC containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit.</p> <p>2) The VOC emissions for the previous month using the formulas specified in this permit.</p> <p>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.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly Calculation -- VOC Emissions.</p> <p>The Permittee shall calculate VOC emissions using the following equations:</p> <p>VOC (tons/month) = V - W</p> <p>$V = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$</p> <p>$W = (C1 \times D1) + (C2 \times D2) + C3 \times D3) + \dots$</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly VOC Emissions Calculation Continued:</p> <p>where:</p> <p>V = total VOC used in tons/month;</p> <p>A# = amount of each VOC containing material used, in tons/month;</p> <p>B# = weight percent VOC in A#, as a fraction;</p> <p>W = the amount of VOC shipped in waste, in tons/month;</p> <p>C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and</p> <p>D# = weight percent of VOC in C#, as a fraction.</p>	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-41

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC content for each credited shipment.</p> <ol style="list-style-type: none">1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, excluding water.2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 022 LM3 BACT Conditions

- Associated Items:** CE 012 Thermal Oxidizer
 EU 316 LM3 Coating Station 1
 EU 317 LM3 Drying Oven 1
 EU 318 LM3 Curing Oven 1
 EU 319 LM3 Coating Station 2
 EU 320 LM3 Drying Oven 2
 EU 321 LM3 Curing Oven 2
 EU 322 LM3 Cleaning

What to do	Why to do it
EMISSION AND OPERATION LIMITS	hdr
Volatile Organic Compounds: less than or equal to 195 tons/year using 12-month Rolling Sum (total mass of VOC) to be calculated by the 15th day of each month for the previous 12-month period. This is a limit on emissions, not a usage limit.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
VOC Usage: less than or equal to 2846 lbs/hour of VOC applied at the subject emission unit, as a calendar month average based on records of the amount of VOC applied and actual time in operation.	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
The ovens listed in GP022 shall only burn natural gas as a primary fuel and propane as a backup fuel.	Minn. R. 7007.0800, subp. 2
CONTROL REQUIREMENTS	hdr
Volatile Organic Compounds: greater than or equal to 96 percent control efficiency when running high VOC coatings on the line. Low VOC coatings (as defined herein) may be run without control. See Subject Item CE012 for specific operating requirements.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
For purposes of GP022, coating solutions are considered to be "low VOC" when the VOC content is less than or equal to 0.14 pounds of VOC per pound of solids applied.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
The Permittee shall install, operate, and maintain a total enclosure around the LM3 coating operations. Under normal operation, all VOC emissions generated within the enclosure will be directed to the thermal oxidizer CE012. In the case where a coating station is using "low VOC" solutions or simply not applying material, any emissions may be vented to atmosphere.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
The Permittee shall demonstrate total enclosure meeting the following criteria: a. Any natural draft opening (NDO) shall be at least four equivalent diameters from each VOC emitting point. b. The total area of all NDOs shall not exceed five percent of the surface area of the enclosure's four walls, floor, & ceiling. c. The average face velocity of air through all NDOs shall be at least 200 ft/min. The direction of air through all NDOs shall be into the enclosure. d. All access doors & windows not included as NDOs & not included in the calculation of face velocities shall be closed during normal operation of the process. e. All VOC emissions must be captured & directed to the thermal oxidizer.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
MONITORING AND RECORDKEEPING REQUIREMENTS	hdr
Maximum VOC usage in lb/hr shall be determined in the following manner: The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements). The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined by Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Daily Recordkeeping. The Permittee shall keep complete and detailed daily records of all VOC usage at the equipment included in GP022. These daily records shall include, but are not limited to, the VOC weight fraction of each material used, the total weight of material used, and the time periods during which coatings or solutions that are not "low VOC" coatings or solutions are in use. The VOC content shall be determined as specified under the Material Content condition listed below. Records shall be maintained in written form or as computer files.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000</p>
<p>Monthly Recordkeeping - VOC Emissions: By the 15th of the month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1) The total usage of VOC containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12 month rolling sum VOC emissions for the previous 12 month period by sum 	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000</p>
<p>Monthly Calculation -- VOC Emissions. The Permittee shall calculate VOC emissions using the following equations:</p> <p>VOC (tons/month) = V - W $V = (A1 \times B1 \times [1-EF]) + (A2 \times B2 \times [1-EF]) + (A3 \times B3 \times [1-EF]) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + C3 \times D3) + \dots$</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly VOC Emissions Calculation Continued:</p> <p>where: V = total VOC used in tons/month; A# = amount of each VOC containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; EF = the control efficiency of controls used when using this coating. If no control was used for this coating because it is "low VOC" or "water based", EF = 0 for that coating. W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC content for each credited shipment.</p> <ol style="list-style-type: none"> 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, excluding water. 2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials. 	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Keep records of the periods during which the subject control equipment (CE012) was not operated.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 023 3L Synthetic Minor Conditions

- Associated Items:**
- CE 006 Thermal Oxidizer
 - CE 007 Thermal Oxidizer
 - EU 355 3L Coater Station 1
 - EU 356 3L Dryer 1
 - EU 357 3L Coater Station 2
 - EU 358 3L Dryer 2
 - EU 359 3L Coater Station 3
 - EU 360 3L Dryer 3
 - EU 361 3L Coater Station 4
 - EU 362 3L Dryer 4
 - EU 363 3L Coater Station 5
 - EU 364 3L Dryer 5
 - EU 365 3L Coater Station 6
 - EU 366 3L Dryer 6
 - EU 367 3L Dryer 7
 - EU 368 3L Dryer 8

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 95 tons/year using 12-month Rolling Sum (total mass of VOC) calculated by the 15th of the month for the previous 12 month period. The limit shall apply to the total non-combustion VOC emissions from GP023.</p> <p>This is a limit on emissions, not a usage limit.</p>	<p>Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000</p>
<p>VOC Usage: less than or equal to 5610 lbs/hour of VOC applied at the subject emission unit, as a calendar month average based on records of the amount of VOC applied and actual time in operation.</p>	<p>Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)</p>
CONTROL REQUIREMENTS	hdr
<p>Volatile Organic Compounds: greater than or equal to 95 percent control efficiency when running high VOC coatings on the line. Low VOC coatings (as defined herein) may be run without control. See Subject Items CE006 and CE007 for specific operating requirements.</p>	<p>Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000</p>
<p>For purposes of GP023, coating solutions are considered to be "low VOC" when the VOC content is less than or equal to 5 percent by weight.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Operational flexibility: Two thermal oxidizers (CE006 and CE007) are available for destruction of VOC from the 3L line. The Permittee may operate CE006 and CE007 individually or in combination provided all other conditions of this group and Subject Items CE006 and CE007 are met.</p>	<p>Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5; Minn. R. 7007.0800, subp. 5(c)</p>
RECORDKEEPING REQUIREMENTS	hdr
<p>Maximum VOC usage in lb/hr shall be determined in the following manner:</p> <p>The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements).</p> <p>The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined by Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Daily Recordkeeping. The Permittee shall keep complete and detailed daily records of all VOC usage at the equipment included in GP023. These daily records shall include, but are not limited to, the VOC weight fraction of each material used, the total weight of material used, and the time periods during which coatings or solutions that are not "low VOC" coatings or solutions are in use. The VOC content shall be determined as specified under the Material Content condition listed below. Records shall be maintained in written form or as computer files.</p>	<p>Title I Condition: To avoid classification as major modification under 40 CFR Section 52.21; Minn. R. 7007.3000</p>
<p>Monthly Recordkeeping -- VOC Emissions. By the 15th of the month, the Permittee shall calculate and record the following: 1) The total usage of VOC containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12 month rolling sum VOC emissions for the previous 12 month period by summing the monthly VOC emissions data for the previous 12 months.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly Calculation -- VOC Emissions. The Permittee shall calculate VOC emissions using the following equations: $\text{VOC (tons/month)} = V - W$ $V = (A1 \times B1 \times [1-EF]) + (A2 \times B2 \times [1-EF]) + (A3 \times B3 \times [1-EF]) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + C3 \times D3) + \dots$</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly VOC Emissions Calculation Continued: where: V = total VOC used in tons/month; A# = amount of each VOC containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; EF = the control efficiency of controls used when using this coating. If no control was used for this coating because it is "low VOC" or "water based", EF = 0 for that coating. W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Waste Credit: If the Permittee elects to obtain credit for HAPs, solids, and/or VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment. 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, solids, total HAP, and each individual HAP, excluding water. 2) The Permittee may use supplier data for raw materials to determine the VOC, solids, and total and individual HAP contents of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC, solids, and total and individual HAP content of any of the materials.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Keep records of the periods during which the subject control equipment (CE006 and CE007) was not operated.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 025 Enterprise Coater BACT Conditions

Associated Items: CE 014 Thermal Oxidizer

EU 370 Enterprise Coater Station

EU 371 Enterprise Dryer 1

EU 372 Enterprise Dryer 2

EU 391 Enterprise Curing Chamber

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
Volatile Organic Compounds: less than or equal to 92.6 tons/year using 12-month Rolling Sum	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
Liquid-liquid material balance: Install, calibrate, maintain, and operate according to the manufacturer's specifications or as indicated in the facility's O&M Plan, a device that indicates the cumulative amount of volatile matter reduced by the solvent reduction device on a monthly basis. The device must be certified by the manufacturer to be accurate to within +/- 2.0 percent by mass.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
CONTROL REQUIREMENTS	hdr
Volatile Organic Compounds: greater than or equal to 96 percent control efficiency when running VOC-based (as opposed to water-based) coatings on the line. Water based (low VOC based) coatings (as defined herein) may be run without control.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
See also Subject Item: CE 014	
Coating solutions are considered water based (as opposed to VOC based) when the VOC content is less than 4% by weight.	Minn. R. 7007.0800, subp. 2
RECORDKEEPING REQUIREMENTS	hdr
Daily Recordkeeping. The Permittee shall keep complete and detailed daily records of all VOC usage at the equipment included in GP025. These daily records shall include, but are not limited to, the VOC weight fraction of each material used, the total weight of material used, and the time periods during which the thermal oxidizer (CE014) and coatings or solutions that are not "low VOC" or "water-based" coatings or solutions are in use. The VOC content shall be determined as specified under the Material Content condition listed below. Records shall be maintained in written form or as computer files.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
Monthly Recordkeeping -- VOC Emissions. By the 15th of the month, the Permittee shall calculate and record the following: 1) The total usage of VOC containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12 month rolling sum VOC emissions for the previous 12 month period by summing the monthly VOC emissions data for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
Monthly Calculation -- VOC Emissions. The Permittee shall calculate VOC emissions using the following equations: VOC (tons/month) = V - W V = (A1 x B1 x [1-EF]) + (A2 x B2 x [1-EF]) + (A3 x B3 x [1-EF]) + W = (C1 x D1) + (C2 x D2) + C3 x D3) +	Minn. R. 7007.0800, subp. 4 and 5
Monthly VOC Emissions Calculation Continued: where: V = total VOC used in tons/month; A# = amount of each VOC containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; EF = the control efficiency of controls used when using this coating. If no control was used for this coating because it is "low VOC" or "water based", EF = 0 for that coating. W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-47

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC content for each credited shipment.</p> <ol style="list-style-type: none">1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, excluding water.2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials.	Minn. R. 7007.0800, subp. 4 and 5
<p>Keep records of the periods during which the subject control equipment (CE014) was not operated.</p>	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 026 Voyager Coating Line BACT Conditions

- Associated Items:** CE 018 Thermal Oxidizer
- EU 424 Voyager Coater Station 1
- EU 425 Voyager Dryer 1
- EU 426 Voyager Dryer 2
- EU 427 Voyager Coater Station 2
- EU 428 Voyager Dryer 3
- EU 429 Voyager Dryer 4
- EU 433 Voyager Corona Treater 1
- EU 434 Voyager Corona Treater 2
- EU 435 Voyager Corona Treater 3
- EU 436 Voyager cure chamber 1
- EU 437 Voyager cure chamber 2
- EU 438 Voyager wash tank

What to do	Why to do it
The Permittee is authorized to construct and operate the Voyager Coating Line as described herein.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
EMISSION AND OPERATING LIMITS	hdr
Volatile Organic Compounds: less than or equal to 454.2 tons/year using 12-month Rolling Sum	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
CONTROL REQUIREMENTS	hdr
Volatile Organic Compounds: greater than or equal to 96 percent control efficiency when running VOC-based (as opposed to water-based) coatings on the line. Water based (low VOC based) coatings (as defined herein) may be run without control. See also Subject Item: CE 018	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
Coating solutions are considered water based (as opposed to VOC based) when the VOC content is less than 4% by weight.	Minn. R. 7007.0800, subp. 2
RECORDKEEPING REQUIREMENTS	hdr
Daily Recordkeeping. The Permittee shall keep complete and detailed daily records of all VOC usage at the equipment included in GP026. These daily records shall include, but are not limited to, the VOC weight fraction of each material used, the total weight of material used, and the time periods during which the thermal oxidizer (CE018) and coatings or solutions that are not "low VOC" or "water-based" coatings or solutions are in use. The VOC content shall be determined as specified under the Material Content condition listed below. Records shall be maintained in written form or as computer files.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
Monthly Recordkeeping -- VOC Emissions. By the 15th of the month, the Permittee shall calculate and record the following: 1) The total usage of VOC containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12 month rolling sum VOC emissions for the previous 12 month period by summing the monthly VOC emissions data for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
Monthly Calculation -- VOC Emissions. The Permittee shall calculate VOC emissions using the following equations: VOC (tons/month) = V - W V = (A1 x B1 x [1-EF]) + (A2 x B2 x [1-EF]) + (A3 x B3 x [1-EF]) + W = (C1 x D1) + (C2 x D2) + C3 x D3) +	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Monthly VOC Emissions Calculation Continued:</p> <p>where: V = total VOC used in tons/month; A# = amount of each VOC containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; EF = the control efficiency of controls used when using this coating. If no control was used for this coating because it is "low VOC" or "water based", EF = 0 for that coating. W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Waste Credit: If the Permittee elects to obtain credit for HAPs, solids, and/or VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <p>1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, solids, total HAP, and each individual HAP, excluding water.</p> <p>2) The Permittee may use supplier data for raw materials to determine the VOC, solids, and total and individual HAP contents of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC, solids, and total and individual HAP content of any of the materials.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Keep records of the periods during which the subject control equipment (CE018) was not operated.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 027 ST5 and ST6 BACT Conditions

- Associated Items:**
- EU 325 ST5 Coating Station
 - EU 326 ST5 Curing Oven
 - EU 327 ST6 Compounding Area A
 - EU 328 ST6 Compounding Area B
 - EU 329 ST6 Cleaning
 - EU 330 ST6 Coating Station
 - EU 331 ST6 Curing Oven

What to do	Why to do it
EMISSION AND OPERATING REQUIREMENTS	hdr
<p>Volatile Organic Compounds: less than or equal to 40 tons/year using 12-month Rolling Sum (total mass of VOC emitted) calculated by the 15th day of the month for the previous 12 months.</p> <p>This is a limit on total combined VOC emissions from coating line ST5 (EU325 and EU326), coating line ST6 (EU330 and EU331), and all ancillary equipment (the remainder of what is listed under GP027).</p> <p>VOC usage shall be recorded on a daily basis.</p>	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
RECORDKEEPING REQUIREMENTS	hdr
<p>Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain a record of the total quantity of all coatings and other VOC containing materials used. This shall be based on production records maintained in written form or as computer files. These daily records shall include, but are not limited to the VOC weight of each coating used per batch, the total weight of coating used per batch. VOC emission from the ancillary processes shall be included in the detailed recordkeeping. The VOC content of the coating shall be determined by Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner.</p>	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
<p>Monthly Recordkeeping -- VOC Emissions.</p> <p>By the 15th of the month, the Permittee shall calculate and record the following:</p> <ol style="list-style-type: none"> 1) The total usage of VOC containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12 month rolling sum VOC emissions for the previous 12 month period by summing the monthly VOC emissions data for the previous 12 months. 	Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly Calculation -- VOC Emissions.</p> <p>The Permittee shall calculate VOC emissions using the following equations:</p> $\text{VOC (tons/month)} = V - W$ $V = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + C3 \times D3) + \dots$	Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly VOC Emissions Calculation Continued:</p> <p>where:</p> <p>V = total VOC used in tons/month;</p> <p>A# = amount of each VOC containing material used, in tons/month;</p> <p>B# = weight percent VOC in A#, as a fraction;</p> <p>W = the amount of VOC shipped in waste, in tons/month;</p> <p>C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and</p> <p>D# = weight percent of VOC in C#, as a fraction.</p>	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-51

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Waste Credit: If the Permittee elects to obtain credit for HAPs, solids, and/or VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <ol style="list-style-type: none">1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, solids, total HAP, and each individual HAP, excluding water.2) The Permittee may use supplier data for raw materials to determine the VOC, solids, and total and individual HAP contents of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC, solids, and total and individual HAP content of any of the materials.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 029 1L Coater Limits

- Associated Items:** EU 003 1L Precoat 1
 EU 004 1L Precoat 1 Oven
 EU 005 1L Precoat 2
 EU 006 1L Precoat 2 Oven
 EU 007 1L Adhesive Coater
 EU 008 1L Adhesive Oven

What to do	Why to do it
OPERATING LIMIT	hdr
VOC Usage: less than or equal to 4725 lbs/hour applied at the subject emission units, as a calendar month average based on records of the amount of VOC applied and actual time in operation.	Minn. R. 7007.0800, subp. 2; limit to avoid requirement to complete environmental review under Minn. R. 4410.4300, subps. 1 and 15(A) (Voyager line project)
RECORDKEEPING REQUIREMENTS	hdr
<p>Maximum VOC usage in lb/hr shall be determined in the following manner:</p> <p>The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements).</p> <p>The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined by Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner.</p>	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 030 2L Coater Limits

Associated Items: EU 009 2L Coating Station 1

EU 010 2L Coating Station 2

EU 011 2L Adhesive Oven

What to do	Why to do it
OPERATING LIMIT	hdr
VOC Usage: less than or equal to 2564 lbs/hour applied at the subject emission units, as a calendar month average based on records of the amount of VOC applied and actual time in operation.	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
RECORDKEEPING REQUIREMENTS	hdr
<p>Maximum VOC usage in lb/hr shall be determined in the following manner:</p> <p>The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements).</p> <p>The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined by Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner..</p>	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 031 22 Coater Limits

Associated Items: EU 102 22 Coater Oven

EU 103 22 Coater Applicators

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
Volatile Organic Compounds: less than or equal to 300 tons/year using 12-month Rolling Sum calculated on a weighted average basis for a calendar month. This is a limit on emissions, not a usage limit.	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
VOC Usage: less than or equal to 206 lbs/hour applied at the subject emission units, as a calendar month average based on records of the amount of VOC applied and actual time in operation.	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
RECORDKEEPING REQUIREMENTS	hdr
Maximum VOC usage in lb/hr shall be determined in the following manner: The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements). The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined by Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner.	Minn. R. 7007.0800, subp. 4 and 5
Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain a record of the total quantity of all coatings and other VOC containing materials used at the facility. This shall be based on written or electronic usage logs.	Minn. R. 7007.0800, subp. 4 and 5
Monthly Recordkeeping -- VOC Emissions. By the 15th of the month, the Permittee shall calculate and record the following: 1) The total usage of VOC containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC and solids contents of each material as determined by the Material Content requirement of this permit. 2) The VOC emissions for the previous month using the formulas specified in this permit. 3) The 12 month rolling sum VOC emissions for the previous 12 month period by summing the monthly VOC emissions data for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
Monthly Calculation -- VOC Emissions. The Permittee shall calculate VOC emissions using the following equations: $\text{VOC (tons/month)} = V - W$ $V = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + C3 \times D3) + \dots$	Minn. R. 7007.0800, subp. 4 and 5
Monthly VOC Emissions Calculation Continued: where: V = total VOC used in tons/month; A# = amount of each VOC containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.	Minn. R. 7007.0800, subp. 4 and 5
Material Content: VOC content in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Waste Credit: If the Permittee elects to obtain credit for HAPs, solids, and/or VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <p>1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, solids, total HAP, and each individual HAP, excluding water.</p> <p>2) The Permittee may use supplier data for raw materials to determine the VOC, solids, and total and individual HAP contents of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC, solids, and total and individual HAP content of any of the materials.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
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TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 034 25 Coater Limits

Associated Items: EU 108 25 Coater Oven

EU 109 25 Coater Applicators

EU 397 25 Coater Corona Treater

What to do	Why to do it
USAGE LIMITS	hdr
VOC Usage: less than or equal to 1852 lbs/hour applied at the subject emission units, as a calendar month average based on records of the amount of VOC applied and actual time in operation.	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
RECORDKEEPING REQUIREMENTS	hdr
<p>Maximum VOC usage in lb/hr shall be determined in the following manner:</p> <p>The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements).</p> <p>The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined by Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner.</p>	Minn. R. 7007.0800, subp. 4 and 5
PERMIT SHIELD - MAGNETIC TAPE COATING	hdr
<p>The facility no longer manufactures magnetic tape. Therefore, the requirements of 40 CFR Sections 60.710 - 60.718 (Standards of Performance for Magnetic Tape Coating Facilities) and 40 CFR Sections 63.701 - 63.708 (National Emission Standards for Magnetic Tape Manufacturing Operations) do not apply to the units in GP034. The Permittee may in the future operate this coater for applications other than magnetic tape. In that case, these units would likely be subject instead to the requirements of 40 CFR Sections 60.440 - 60.447 (Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations) and 40 CFR Sections 63.3280 - 63.03420 (National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating).</p>	Minn. R. 7007.1800(A)(2); 40 CFR Section 60. 710; 40 CFR Section 63.701; Minn. R. 7011.3450; Minn. R. 7011.7300

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: GP 035 26 Coater Limits

Associated Items: EU 110 26 Coater Oven

EU 111 26 Coater Applicators

EU 398 26 Coater Corona Treater

What to do	Why to do it
USAGE LIMITS	hdr
VOC Usage: less than or equal to 1852 lbs/hour applied at the subject emission units, as a calendar month average based on records of the amount of VOC applied and actual time in operation.	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
RECORDKEEPING REQUIREMENTS	hdr
<p>Maximum VOC usage in lb/hr shall be determined in the following manner:</p> <p>The Permittee shall calculate and record the maximum VOC input rate in lb/hr for existing products run on the subject coating line within 120 days after issuance of this permit. Within 30 days of the start of production of a new saleable product or requalification of an existing product, the Permittee shall calculate and record the maximum VOC input rate. Documentation of maximum VOC input rate is not required for experimental runs (actual VOC as applied and emitted are required in accordance with other requirements).</p> <p>The maximum VOC input shall be calculated by using the maximum range of parameters such as coat weight, line speed, web width, and percent VOC as established in the product standard. Percent VOC shall be determined by Reference Method 24, the coating manufacturer's formulation data, or an alternative method approved by the Commissioner.</p>	Minn. R. 7007.0800, subp. 4 and 5
PERMIT SHIELD - MAGNETIC TAPE COATING	hdr
<p>The facility no longer manufactures magnetic tape. Therefore, the requirements of 40 CFR Sections 60.710 - 60.718 (Standards of Performance for Magnetic Tape Coating Facilities) and 40 CFR Sections 63.701 - 63.708 (National Emission Standards for Magnetic Tape Manufacturing Operations) do not apply to the units in GP035. The Permittee may in the future operate this coater for applications other than magnetic tape. In that case, these units would likely be subject instead to the requirements of 40 CFR Sections 60.440 - 60.447 (Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations) and 40 CFR Sections 63.3280 - 63.03420 (National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating).</p>	Minn. R. 7007.1800(A)(2); 40 CFR Section 60. 710; 40 CFR Section 63.701; Minn. R. 7011.3450; Minn. R. 7011.7300

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-58

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: EU 001 Boiler 3**Associated Items:** GP 003 Fuel Oil Sulfur Content Monitoring

SV 223 SV2269 Boiler 3

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input when firing liquid fuel	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except for one 6-minute period per hour of not more than 60 percent opacity	Minn. R. 7011.0510, subp. 2
Sulfur Content of Fuel: less than or equal to 1.35 percent by weight in the fuel oil in the tank (No. 6 fuel oil blend). (See GP003)	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
When burning different fuels simultaneously, determine applicable emission limits according to Minn. R. 7011.0505.	Minn. R. 7011.0505
RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping: Record and maintain records of the amounts of each fuel combusted on a monthly basis. These records may consist of purchase records or receipts.	Minn. R. 7007.0800, subp. 4 and 5
INDUSTRIAL BOILER NESHAP REQUIREMENTS, 40 CFR pt. 63, subp. DDDDD	hdr
EU001 is subject only to the Initial Notification requirement and is not subject to any other requirement in 40 CFR pt. 63, Subpart DDDDD or Subpart A.	40 CFR Section 63.7506(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-59

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: EU 002 Boiler 4**Associated Items:** GP 003 Fuel Oil Sulfur Content Monitoring

SV 222 SV2256 Boiler 4

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input when firing liquid fuel	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except for one 6-minute period per hour of not more than 60 percent opacity	Minn. R. 7011.0510, subp. 2
Sulfur Content of Fuel: less than or equal to 1.35 percent by weight in the fuel oil in the tank (No. 6 fuel oil blend). (See GP003)	Minn. R. 7007.0800, subp. 2 (basis of calculations used for the ATR)
When burning different fuels simultaneously, determine applicable emission limits according to Minn. R. 7011.0505.	Minn. R. 7011.0505
RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping: Record and maintain records of the amounts of each fuel combusted on a monthly basis. These records may consist of purchase records or receipts.	Minn. R. 7007.0800, subp. 4 and 5
INDUSTRIAL BOILER NESHAP REQUIREMENTS, 40 CFR pt. 63, subp. DDDDD	hdr
EU002 is subject only to the Initial Notification requirement and is not subject to any other requirement in 40 CFR pt. 63, Subpart DDDDD or Subpart A.	40 CFR Section 63.7506(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-60

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: EU 036 10J Extruder**Associated Items:** CE 003 Venturi Scrubber

CE 017 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 007 Units Subject to Post-1969 Industrial Process Equipment Rule

SV 210 SV1497 10J Venturi Scrubber

SV 362 10J fabric filter

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 1.39 lbs/hour	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 1.39 lbs/hour	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 1.39 lbs/hour	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
CONTROL REQUIREMENTS (See also Subject Item CE003)	hdr
Operate control equipment CE003 at all times when EU036 is in operation.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-61

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: EU 037 Boiler 5

Associated Items: GP 003 Fuel Oil Sulfur Content Monitoring

SV 221 SV2239 Boiler 5

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0515, subp. 1
Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input (firing liquid fuels).	Minn. R. 7011.0515, subp. 1
When burning different fuels simultaneously, determine applicable emission limits according to Minn. R. 7011.0505.	Minn. R. 7011.0505
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0515, subp. 2
Sulfur Content of Fuel: less than or equal to 1.35 percent by weight (No. 6 fuel oil blend).	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Fuel Usage: less than or equal to 330000 gallons/year using 12-month Rolling Sum of No. 6 fuel oil blend.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Fuel Usage: less than or equal to 331 million cubic feet/year using 12-month Rolling Sum (Natural Gas)	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Daily Recordkeeping - Fuel Oil: On each day of operation, the Permittee shall calculate, record, and maintain a record of the total quantity of No. 6 fuel oil blend used in EU037. This shall be based on written usage logs or flowmeters.	Title I Condition: To avoid classification as a major modification under 40 CFR 52.21 and Minn. R. 7007.3000
Daily Recordkeeping - Natural Gas: On each day of operation, the Permittee shall calculate, record, and maintain a record of the total quantity of natural gas used in EU037.	Title I Condition: To avoid classification as a major modification under 40 CFR 52.21 and Minn. R. 7007.3000
Monitor the sulfur content of the fuel oil following the procedures in Subject Item GP003.	Title I Condition: To avoid classification as a major modification under 40 CFR 52.21 and Minn. R. 7007.3000
Monthly Recordkeeping -- No. 6 fuel oil blend. By the 15th of the month, the Permittee shall calculate and record the following: 1) The total No. 6 fuel oil blend for the previous calendar month using the daily usage records. 2) The 12 month rolling sum of No. 6 fuel oil blend used for the previous 12 month period by summing the data for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
Monthly Recordkeeping -- Natural Gas By the 15th of the month, the Permittee shall calculate and record the following: 1) The total natural gas used during the previous calendar month using the daily usage records. 2) The 12 month rolling sum of natural gas used during the previous 12 month period by summing the data for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
Recordkeeping: Record and maintain records of the amounts of each fuel combusted on a monthly basis. These records may consist of purchase records or receipts.	Minn. R. 7007.0800, subp. 4 and 5
INDUSTRIAL BOILER NESHAP REQUIREMENTS, 40 CFR pt. 63, subp. DDDDD	hdr
EU037 is subject only to the Initial Notification requirement and is not subject to any other requirement in 40 CFR pt. 63, Subpart DDDDD or Subpart A.	40 CFR Section 63.7506(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: EU 374 19J Extruder

Associated Items: CE 015 Venturi Scrubber

GP 007 Units Subject to Post-1969 Industrial Process Equipment Rule

SV 333 SV5003 19J Extruder Venturi Scrubber

SV 334 SV5004 19J Extruder Fabric Filter

What to do	Why to do it
EMISSION AND OPERATING LIMITS (see also GP 007)	hdr
Total Particulate Matter: less than or equal to 3.31 lbs/hour	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 3.31 lbs/hour	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 3.31 lbs/hour calculated on a weighted average basis for a calendar month. This is a limit on emissions, not a usage limit.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Process Throughput: less than or equal to 3000 lbs/hour (monthly average), when the scrubber efficiency is 90% or greater as measured during the most recent performance test. If the scrubber efficiency (Y) from the performance test is less than 90%, then the maximum operating rate (X) of the extruder is calculated by using the equation below, this rate will be the new limit: $X \text{ lb/hr} = (3.31 \text{ lb/hr}) \times 1 / \{ [1 - (0.8)(Y)] \times 0.00424 \text{ lb/lb}^* \}$ * emission factor = 0.00424 lb/lb, derived from a performance test	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
CONTROL REQUIREMENTS	hdr
Particulate Matter < 10 micron: greater than or equal to 90 percent control efficiency (See Subject Item CE 015 for details)	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Total Particulate Matter: greater than or equal to 90 percent control efficiency (See Subject Item CE 015 for details)	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Daily Recordkeeping: Each operating day, the Permittee shall keep complete and detailed records of all raw material extruded to demonstrate that the maximum operating rate of the extruder does not exceed the applicable limit. Records shall also include the VOC and solids content of raw materials as determined using the Material Content provision below.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Material Content: VOC and Solids (PM and PM<10 microns) contents in materials used shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. When using the MSDS as the basis of calculating particulate emissions, the conservative assumption is made that PM consists entirely of PM less than 10 microns. Other alternative methods approved by the MPCA may be used to determine the VOC and solids contents. The Commissioner reserves the right to require the Permittee to determine the VOC and solids contents of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 001 Venturi Scrubber

Associated Items: EU 027 8J Extruder

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee shall operate and maintain CE001 at all times that any emission unit controlled by the venturi scrubber is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: to avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7011.0075, subp. 1
The Permittee shall operate and maintain CE001 in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop and water flowrate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when CE001 is in operation.	Minn. R. 7007.0800, subp. 4
Pressure Drop: greater than or equal to 15 inches of water column across the venturi	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2 and 14
Liquid Flow Rate: greater than or equal to 100 gallons/minute	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2 and 14
Operate and maintain control equipment to achieve a control efficiency for Total Particulate Matter: greater than or equal to 90 percent collection efficiency	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Operate and maintain control equipment to achieve a control efficiency for Particulate Matter < 10 micron: greater than or equal to 90 percent collection efficiency	Title I Condition: Limit taken to Avoid Major Modification Classification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 14
RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping of Pressure Drop. Once each operating day, the Permittee shall read and record the pressure drop, and record the time and date and whether or not the recorded pressure drop was within the range specified in this permit.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Recordkeeping of Scrubber Water Flowrate. Once each operating day, the Permittee shall read and record the scrubber water flowrate, and record the time and date and whether or not the recorded flowrate was within the range specified in this permit.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Semiannual Inspections: At least once each calendar halfyear, the Permittee shall inspect the control equipment internal and external system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop or flowrate is outside the required operating range; or - CE001 or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop and/or flowrate to within the permitted range, eliminate visible emissions, 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. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 003 Venturi Scrubber

Associated Items: EU 036 10J Extruder

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee shall operate and maintain CE003 at all times that any emission unit controlled by the venturi scrubber is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: to avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7011.0075, subp. 1
The Permittee shall operate and maintain CE003 in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop and water flowrate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when CE003 is in operation. Permittee shall install, operate, and maintain a differential pressure monitoring device that detects the differential pressure drop across control equipment CE003. Permittee shall install, operate, and maintain a liquid flow rate monitoring device that detects the flow rate of liquid to control equipment CE003.	Minn. R. 7007.0800, subp. 4
Pressure Drop: greater than or equal to 32 inches of water column and less than or equal to 40 inches of water column for CE003	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Liquid Flow Rate: greater than or equal to 80 gallons/minute and less than or equal to 110 gallons/minute for CE003	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Operate and maintain control equipment to achieve a control efficiency for Total Particulate Matter: greater than or equal to 90 percent collection efficiency	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Operate and maintain control equipment to achieve a control efficiency for Particulate Matter < 10 micron: greater than or equal to 90 percent collection efficiency	Title I Condition: Limit taken to Avoid Major Modification Classification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 14
RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the pressure drop across control equipment CE003 once per operating day. Record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Recordkeeping of Water Flow Rate. The Permittee shall record the liquid flow rate to control equipment CE003 once per operating day. Record the time and date of each water flowrate reading and whether or not the recorded flowrate was within the range specified in this permit.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Semiannual Inspections: At least once each calendar halfyear, the Permittee shall inspect the control equipment internal and external system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop or flowrate is outside the required operating range; or - CE003 or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop and/or flowrate to within the permitted range, eliminate visible emissions, 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. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 004 Thermal Oxidizer

Associated Items: EU 003 1L Precoat 1

EU 004 1L Precoat 1 Oven

EU 005 1L Precoat 2

EU 006 1L Precoat 2 Oven

EU 007 1L Adhesive Coater

EU 008 1L Adhesive Oven

What to do	Why to do it
NESHAP REQUIREMENTS	hdr
If the oxidizer is used to comply with 40 CFR Pt. 63, subp. JJJJ, then 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 +/- 1 percent of the temperature being measured or +/- 1 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385
When CE004 is used to comply with 40 CFR Pt. 63, subp. JJJJ, the Permittee shall verify the calibration of the chart recorder, data logger and/or temperature indicator every 3 months, or replace the monitoring equipment. Otherwise, the Permittee shall either calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration, or replace the monitor with one that has been calibrated.	40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4, 5, and 14
STANDARD REQUIREMENTS	hdr
The operation of this piece of control equipment is not necessary in order for the process to meet applicable emissions limits. However, the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory. Therefore, in order for the VOC to be considered controlled for the purposes of emissions inventory, the afterburner (thermal oxidizer) must comply with the requirements of this permit during the time credit for control is taken. The VOC used during that time shall be considered controlled, and the control efficiency used is the limit given in this table.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
Volatile Organic Compounds: greater than or equal to 95 percent control efficiency The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
Temperature: greater than or equal to 1411 degrees F using 3-hour Rolling Average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be 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.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
The Permittee shall document periods of operation and non-operation of the control equipment.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three-hour rolling average temperatures for the combustion chamber.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
Monitoring of Operation of Temperature Recorder: The Permittee shall install, maintain and operate an alarm to indicate when the temperature measurement and recording system is not operating.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
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. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>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.</p>	<p>Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050</p>
<p>Semiannual Inspections: At least once per calendar halfyear, 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.</p>	<p>Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050</p>
<p>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.</p>	<p>Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050</p>
<p>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 calculations as required elsewhere in this permit:</p> <ul style="list-style-type: none"> a. The overall control efficiency limit specified in this permit for this equipment (95%); or b. 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. 	<p>Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050</p>
<p>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.</p>	<p>Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 005 Thermal Oxidizer

Associated Items: EU 009 2L Coating Station 1

EU 010 2L Coating Station 2

EU 011 2L Adhesive Oven

What to do	Why to do it
NESHAP REQUIREMENTS	hdr
If the oxidizer is used to comply with 40 CFR Pt. 63, subp. JJJJ, then 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 +/- 1 percent of the temperature being measured or +/- 1 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385
When CE005 is used to comply with 40 CFR Pt. 63, subp. JJJJ, the Permittee shall verify the calibration of the chart recorder, data logger and/or temperature indicator every 3 months, or replace the monitoring equipment. Otherwise, the Permittee shall either calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration, or replace the monitor with one that has been calibrated.	40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4, 5, and 14
STANDARD REQUIREMENTS	hdr
The operation of this piece of control equipment is not necessary in order for the process to meet applicable emissions limits. However, the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory. Therefore, in order for the VOC to be considered controlled for the purposes of emissions inventory, the afterburner (thermal oxidizer) must comply with the requirements of this permit during the time credit for control is taken. The VOC used during that time shall be considered controlled, and the control efficiency used is the limit given in this table.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
Volatile Organic Compounds: greater than or equal to 95 percent control efficiency The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
Temperature: greater than or equal to 1494 degrees F using 3-hour Rolling Average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be 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.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
The Permittee shall document periods of operation and non-operation of the control equipment.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three-hour rolling average temperatures for the combustion chamber.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
Monitoring of Operation of Temperature Recorder: The Permittee shall install, maintain and operate an alarm to indicate when the temperature measurement and recording system is not operating.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
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. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050
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. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Semiannual Inspections: At least once per calendar halfyear, 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.</p>	<p>Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050</p>
<p>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.</p>	<p>Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050</p>
<p>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 calculations as required elsewhere in this permit:</p> <p>a. The overall control efficiency limit specified in this permit for this equipment (95%); or</p> <p>b. 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.</p>	<p>Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050</p>
<p>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.</p>	<p>Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G) and Minn. R. 7019.3050</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 006 Thermal Oxidizer

- Associated Items:** EU 355 3L Coater Station 1
 EU 356 3L Dryer 1
 EU 357 3L Coater Station 2
 EU 358 3L Dryer 2
 EU 359 3L Coater Station 3
 EU 360 3L Dryer 3
 EU 361 3L Coater Station 4
 EU 362 3L Dryer 4
 EU 363 3L Coater Station 5
 EU 364 3L Dryer 5
 EU 365 3L Coater Station 6
 EU 366 3L Dryer 6
 EU 367 3L Dryer 7
 EU 368 3L Dryer 8
 GP 023 3L Synthetic Minor Conditions

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee is required to operate this control equipment or CE007 when applying VOC (as opposed to "low VOC" as defined at GP023) based solvent coatings at GP023. When required to operate the control equipment must be maintained and operated to achieve >95% control efficiency.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Temperature: greater than or equal to 1422 degrees F using 3-hour Rolling Average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be 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 modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
MONITORING REQUIREMENTS	hdr
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 more restrictive of +/- 0.75 percent of the temperature being measured or +/- 1 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. The Permittee shall separately record all 3-hour periods (during actual coating operations) when the average temperature is more than 50 degrees F below the average temperature of the most recent performance test.	40 CFR Section 60.445(e); 40 CFR Section 60.443(e); 40 CFR Section 63.3350(e)(9); Minn. R. 7011.2560; Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4 and 5
Monitoring of Operation of Temperature Recorder: The Permittee shall install, maintain and operate an alarm to indicate when the temperature measurement and recording system is not operating.	Minn. R. 7007.0800, subp. 4 and 5
The Permittee shall maintain a continuous hard copy readout or electronic file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; 40 CFR Section 60.445(e) Minn. R. 7011.2560; Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

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04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Semiannual Inspections: At least once each calendar halfyear, 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.</p>	Minn. R. 7007.0800, subp. 4, 5, and 14
<p>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.</p>	Minn. R. 7007.0800, subp. 4, 5, and 14
<p>When CE006 is used to comply with 40 CFR Pt. 63, subp. JJJJ, the Permittee shall verify the calibration of the chart recorder, data logger and/or temperature indicator every 3 months, or replace the monitoring equipment. Otherwise, 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, or replace the monitor with one that has been calibrated.</p>	40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 007 Thermal Oxidizer

- Associated Items:** EU 355 3L Coater Station 1
 EU 356 3L Dryer 1
 EU 357 3L Coater Station 2
 EU 358 3L Dryer 2
 EU 359 3L Coater Station 3
 EU 360 3L Dryer 3
 EU 361 3L Coater Station 4
 EU 362 3L Dryer 4
 EU 363 3L Coater Station 5
 EU 364 3L Dryer 5
 EU 365 3L Coater Station 6
 EU 366 3L Dryer 6
 EU 367 3L Dryer 7
 EU 368 3L Dryer 8
 GP 023 3L Synthetic Minor Conditions

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
The Permittee is required to operate this control equipment or CE006 when applying VOC (as opposed to "low VOC" as defined at GP023) based solvent coatings at GP023. When required to operate the control equipment must be maintained and operated to achieve >95% control efficiency.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
Temperature: greater than or equal to 1422 degrees F using 3-hour Rolling Average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be 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 modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
MONITORING REQUIREMENTS	hdr
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 more restrictive of +/- 0.75 percent of the temperature being measured or +/- 1 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. The Permittee shall separately record all 3-hour periods (during actual coating operations) when the average temperature is more than 50 degrees F below the average temperature of the most recent performance test.	40 CFR Section 60.445(e); 40 CFR Section 60.443(e); 40 CFR Section 63.3350(e)(9); Minn. R. 7011.2560; Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4 and 5
The Permittee shall maintain a continuous hard copy readout or electronic file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; 40 CFR Section 60.445(e) Minn. R. 7011.2560; Minn. R. 7007.0800, subp. 4 and 5
Monitoring of Operation of Temperature Recorder: The Permittee shall install, maintain and operate an alarm to indicate when the temperature measurement and recording system is not operating.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-72

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Semiannual Inspections: At least once each calendar halfyear, 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.</p>	Minn. R. 7007.0800, subp. 4, 5, and 14
<p>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.</p>	Minn. R. 7007.0800, subp. 4, 5, and 14
<p>When CE007 is used to comply with 40 CFR Pt. 63, subp. JJJJ, the Permittee shall verify the calibration of the chart recorder, data logger and/or temperature indicator every 3 months, or replace the monitoring equipment. Otherwise, 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, or replace the monitor with one that has been calibrated.</p>	40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-73

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 008 Activated Carbon Adsorption

Associated Items: EU 033 5L Adhesive Station

EU 034 5L Adhesive Oven

GP 014 5L PSD Synthetic Minor Limits, 5L SRU Requirements

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee shall operate and maintain CE008 in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
The Permittee is required to operate this control equipment when applying VOC (as opposed to "low VOC" as defined at GP014) based solvent coatings at GP014. When required to operate the control equipment must be maintained and operated to achieve >80% control efficiency.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING REQUIREMENTS	hdr
Daily Monitoring: The Permittee shall physically verify the operation of CE008 each operating day to verify that it is working and recording properly. The Permittee shall maintain a written record of the daily verifications.	Minn. R. 7007.0800, subp. 4 and 5
Semiannual Inspections: At least once each calendar halfyear, the Permittee shall inspect the control equipment internal and external system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: If CE008 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 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. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 009 Thermal Oxidizer

Associated Items: EU 038 6L Precoat 1

EU 039 6L Precoat 1 Oven

EU 040 6L Precoat 2

EU 041 6L Precoat 2 Oven

GP 015 6L BACT Conditions

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee is required to operate this control equipment when applying VOC (as opposed to "low VOC" as defined at GP015) based solvent coatings at GP015. When required to operate the control equipment must be maintained and operated to achieve >96% control efficiency.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Temperature: greater than or equal to 1325 degrees F using 3-hour Rolling Average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be 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: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
MONITORING REQUIREMENTS	hdr
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 more restrictive of +/- 0.75 percent of the temperature being measured or +/- 1 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	40 CFR Section 60.445(e); 40 CFR Section 60.443(e); 40 CFR Section 63.3350(e)(9); Minn. R. 7011.2560; Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4 and 5
The Permittee shall separately record all 3-hour periods (during actual coating operations) when the average temperature is more than 50 degrees F below the average temperature of the most recent performance test.	
Monitoring of Operation of Temperature Recorder: The Permittee shall install, maintain and operate an alarm to indicate when the temperature measurement and recording system is not operating.	Minn. R. 7007.0800, subp. 4 and 5
The Permittee shall maintain a continuous hard copy readout or electronic file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000; 40 CFR Section 60.445(e); Minn. R. 7011.2560; Minn. R. 7007.0800, subp. 4 and 5
Semiannual Inspections: At least once each calendar halfyear, 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, subp. 4, 5, and 14
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, subp. 4, 5, and 14
Calibration: For thermal oxidizers used to comply with 40 CFR Pt. 63, subp. JJJJ, the Permittee shall verify the calibration of the chart recorder, data logger and/or temperature indicator every 3 months, or replace the monitoring equipment. Otherwise, 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, or replace the monitor with one that has been calibrated.	40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 011 Thermal Oxidizer

Associated Items: EU 112 27 Coater Oven

EU 113 27 Coater Applicators

EU 114 28 Coater Oven

EU 115 28 Coater Applicator/Enclosure

GP 018 27 Coater Synthetic Minor

GP 019 28 Coater Synthetic Minor

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee is required to operate this control equipment when applying VOC (as opposed to "low VOC" as defined at GP018) based solvent coatings at GP018. When required to operate the control equipment must be maintained and operated to achieve >96% control efficiency.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
The Permittee shall maintain a total enclosure capture system meeting the following criteria: 1. Any natural draft opening (NDO) shall be at least four equivalent diameters from each VOC emitting point. 2. The total area of all NDOs shall not exceed five percent of the surface area of the enclosure's four walls, floor, & ceiling. 3. The average face velocity of air through all NDOs shall be at least 200 ft/min. The direction of air through all NDOs shall be into the enclosure. 4. All access doors & windows not included as NDOs & not included in the calculation of face velocities shall be closed during normal operation of the process. 5. All VOC emissions must be captured & directed to the thermal oxidizer.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Temperature: greater than or equal to 1490 degrees F using 3-hour Rolling Average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be 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 modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
MONITORING REQUIREMENTS	hdr
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 more restrictive of +/- 0.75 percent of the temperature being measured or +/- 1 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. The Permittee shall separately record all 3-hour periods (during actual coating operations) when the average temperature is more than 50 degrees F below the average temperature of the most recent performance test.	40 CFR Section 60.445(e); 40 CFR Section 60.443(e); 40 CFR Section 63.3350(e)(9) Minn. R. 7011.2560 Minn. R. 7007.0800, subp. 4 and 5
Monitoring of Operation of Temperature Recorder: The Permittee shall install, maintain and operate an alarm to indicate when the temperature measurement and recording system is not operating.	Minn. R. 7007.0800, subp. 4 and 5
The Permittee shall maintain a continuous hard copy readout or electronic file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber.	40 CFR Section 60.445(e); Minn. R. 7011.2560; Minn. R. 7007.0800, subp. 4 and 5
The Permittee shall record all time periods of coating operations when the thermal oxidizer is not in use or when the thermal oxidizer temperature (on a three-hour rolling average basis) is less than the greater of 1400 degrees "F" or in excess of 50 degrees "F" below the average temperature of the device necessary to achieve 96.0% overall VOC control efficiency during the most recent performance test. At these times the coater is considered uncontrolled.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-76

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>The Permittee shall record all three-hour averages where the oxidizer temperature is lower than that recorded in the most recent performance test demonstrating 96.0% overall VOC control efficiency. When the three-hour average temperature is less than 50 degrees "F" below the required operating temperature the emissions are considered controlled. The three-hour average temperature shall be calculated at least once per hour & shall be based on all temperature readings, one reading taken at least every 15 minutes.</p>	<p>Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000</p>
<p>The Permittee shall record all three-hour periods (during actual coating operations) during which the average total enclosure monitoring device readings vary by five percent or more from the average value measured during the most recent performance test that demonstrated compliance.</p>	<p>Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000</p>
<p>Semiannual Inspections: At least once each calendar halfyear, 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.</p>	<p>Minn. R. 7007.0800, subp. 4, 5, and 14</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 4, 5, and 14</p>
<p>Calibration: For thermal oxidizers used to comply with 40 CFR Pt. 63, subp. JJJJ, the Permittee shall verify the calibration of the chart recorder, data logger and/or temperature indicator every 3 months, or replace the monitoring equipment. Otherwise, the Permittee shall either calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration, or replace the monitor with one that has been calibrated.</p>	<p>40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4, 5, and 14</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 012 Thermal Oxidizer

- Associated Items:**
- EU 316 LM3 Coating Station 1
 - EU 317 LM3 Drying Oven 1
 - EU 318 LM3 Curing Oven 1
 - EU 319 LM3 Coating Station 2
 - EU 320 LM3 Drying Oven 2
 - EU 321 LM3 Curing Oven 2
 - EU 322 LM3 Cleaning
 - GP 022 LM3 BACT Conditions

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee is required to operate this control equipment when applying VOC (as opposed to "low VOC" as defined at GP022) based solvent coatings at GP022. When required to operate the control equipment must be maintained and operated to achieve >96% control efficiency.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Temperature: greater than or equal to 1400 degrees F using 3-hour Rolling Average in the combustion chamber, until a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent performance test where compliance for VOC emissions was demonstrated. demonstrated. The Permittee shall comply with a reasonable alternate temperature imposed pursuant to Minn. R. 7017.2025, subp. 3 or as determined by the Division Manager.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
<p>Purge Bypass dampers on SV4015, SV4016, SV4018, and SV4019 shall be electrically interlocked with coating line LM3 such that the dampers will not open to the atmosphere when web is being coated with VOC based coatings, or VOC based coatings are being dried.</p> <p>A manual override of this interlock may be used to "exercise" the dampers for safety purposes. The dampers shall not be open to atmosphere (for exercising purposes) for more than three minutes in any one day.</p> <p>During emergency situations, the Permittee may use the existing automatic electronic override to open the dampers. Emergency situations are described in Appendix I.</p> <p>Records shall be kept on site of the date, time, and duration (in seconds) of all times that uncontrolled emissions are directed to atmosphere due to damper exercising activities.</p> <p>These activities are included as part of the process in the BACT determination and do not violate BACT control.</p>	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
<p>Purge Bypass dampers continued</p> <p>Uncontrolled emissions from damper exercising activities or emergency use shall be accounted for when determining compliance with applicable emission limits under NSPS and NESHAP regulations.</p>	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
MONITORING REQUIREMENTS	hdr
<p>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 more restrictive of +/- 0.75 percent of the temperature being measured or +/- 1 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.</p> <p>The Permittee shall separately record all 3-hour periods (during actual coating operations) when the average temperature is more than 50 degrees F below the average temperature of the most recent performance test.</p>	40 CFR Section 60.445(e); 40 CFR Section 60.443(e); 40 CFR Section 63.3350(e)(9) Minn. R. 7011.2560 Minn. R. 7007.0800, subp. 4 and 5
Monitoring of Operation of Temperature Recorder: The Permittee shall install, maintain and operate an alarm to indicate when the temperature measurement and recording system is not operating.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-78

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>The Permittee shall maintain a continuous hard copy readout or electronic file of the temperature readings and calculated three hour rolling average temperature for the combustion chamber.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT limit; R. 7007.3000; 40 CFR Section 60.445(e); Minn. R. 7011.2560; Minn. R. 7007.0800, subp. 4</p>
<p>Semiannual Inspections: At least once each calendar halfyear, 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.</p>	<p>Minn. R. 7007.0800, subp. 4, 5, and 14</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 4, 5, and 14</p>
<p>When CE012 is used to comply with 40 CFR Pt. 63, subp. JJJJ, the Permittee shall verify the calibration of the chart recorder, data logger and/or temperature indicator every 3 months, or replace the monitoring equipment. Otherwise, the Permittee shall either calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration, or replace the monitor with one that has been calibrated.</p>	<p>40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4, 5, and 14</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 014 Thermal Oxidizer

Associated Items: EU 370 Enterprise Coater Station

EU 371 Enterprise Dryer 1

EU 372 Enterprise Dryer 2

EU 373 Enterprise Thermal Oxidizer

EU 391 Enterprise Curing Chamber

GP 025 Enterprise Coater BACT Conditions

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee is required to operate this control equipment when applying VOC (as opposed to "low VOC" as defined at GP025) based solvent coatings at GP025. When required to operate, the control equipment must be maintained and operated to achieve a control efficiency for Volatile Organic Compounds: greater than or equal to 96.0 percent control efficiency	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Temperature: greater than or equal to 1400 degrees F using 3-hour Rolling Average in the combustion chamber, until a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent performance test where compliance for VOC emissions was demonstrated. demonstrated. The Permittee shall comply with a reasonable alternate temperature imposed pursuant to Minn. R. 7017.2025, subp. 3 or as determined by the Division Manager.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
<p>Purge bypass dampers shall be electrically interlocked with the coating line such that dampers will not open to the atmosphere when web is being coated or dried during solvent-base coating operations. A manual override of this interlock may be used to "exercise" dampers during solvent-base coating operations for safety purposes when a continuous coating run exceeds 8 hours. The dampers shall not be open to atmosphere (for excising purposes) during solvent-base coating operations for more than three minutes per set of sources and stack dampers in any one calendar day. During damper exercising periods, emissions are considered to be uncontrolled for the purposes of demonstrating compliance with permit limitations and calculating emissions.</p> <p>During emergency situations, the Permittee may use the existing automatic electronic override to open the dampers.</p> <p>Emergency situations are described in Appendix B.</p>	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
<p>continued from above...</p> <p>Records shall be kept on site of the date, time, and duration of all times that uncontrolled emissions are directed to atmosphere due to damper exercising activities. These activities are included as part of the process in the BACT determination and do not violate the proposed BACT control standards.</p>	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
MONITORING REQUIREMENTS	hdr
<p>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 more restrictive of +/- 0.75 percent of the temperature being measured or +/- 1 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.</p> <p>The Permittee shall separately record all 3-hour periods (during actual coating operations) when the average temperature is more than 50 degrees F below the average temperature of the most recent performance test.</p>	40 CFR Section 60.445(e); 40 CFR Section 60.443(e); 40 CFR Section 63.3350(e)(9); Minn. R. 7011.2560; Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4 and 5
Monitoring of Operation of Temperature Recorder: The Permittee shall install, maintain and operate an alarm to indicate when the temperature measurement and recording system is not operating.	Minn. R. 7007.0800, subp. 4 and 5
The Permittee shall maintain a continuous hard copy readout or electronic file of the temperature readings and calculated three hour rolling average temperature for the combustion chamber.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000; 40 CFR Section 60.445(e); Minn. R. 7011.2560; Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-80

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>Semiannual Inspections: At least once each calendar halfyear, 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.</p>	Minn. R. 7007.0800, subp. 4, 5, and 14
<p>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.</p>	Minn. R. 7007.0800, subp. 4, 5, and 14
<p>Calibration: For thermal oxidizers used to comply with 40 CFR Pt. 63, subp. JJJJ, the Permittee shall verify the calibration of the chart recorder, data logger and/or temperature indicator every 3 months, or replace the monitoring equipment. Otherwise, the Permittee shall either calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration, or replace the monitor with one that has been calibrated.</p>	40 CFR Section 63.3350(e)(9) Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 015 Venturi Scrubber

Associated Items: EU 374 19J Extruder

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee shall operate and maintain the Venturi Scrubber at all times the extruder controlled by the scrubber is operating. The Permittee shall document periods of non-operation of the control device.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Operation and Maintenance: The Permittee shall maintain each piece of control equipment according to the manufacturer's specification, shall conduct inspections, and maintain documentation of those actions as required by Minn. R. 7011.0075, subp. 2(A) to 2(I).	Minn. R. 7011.0075, subp. 2
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop, liquid flow rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation.	Minn. R. 7011.0075, subp. 3
Pressure Drop: greater than or equal to 32 inches of water column and less than or equal to 40 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Scrubber Liquid Flow Rate: greater than or equal to 80 gallons/minute and less than or equal to 110 gallons/minute	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Operate and maintain control equipment to achieve a control efficiency for Total Particulate Matter: greater than or equal to 90 percent collection efficiency	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Operate and maintain control equipment to achieve a control efficiency for Particulate Matter < 10 micron: greater than or equal to 90 percent collection efficiency	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 14
Hood Certification and Evaluation: The control device hood shall conform to the requirements listed in Minn. R. 7011.0070, subp. 1 and the Permittee shall certify this as specified in Minn. R. 7011.0070, subp. 1 and 3. The Permittee shall keep a copy of the certification on site, as well as an annual record of fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method as required by Minn. R. 7011.0080.	Minn. R. 7011.0070, subp. 3; Minn. R. 7011.0080
RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping of Pressure Drop and Liquid Flow Rate: The Permittee shall record the pressure drop and liquid flow rate once every 24 hours when in operation. The Permittee shall record the time and date of each pressure drop reading, and liquid flow rate reading, whether or not the observed pressure drop, and liquid flow rate were within the range specified in this permit.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5
Semiannual Inspections: At least once each calendar halfyear, the Permittee shall inspect the control equipment internal and external system components. The Permittee shall maintain a written record of the inspection and any corrective actions taken as a result of the inspection.	Minn. R. 7007.0800, subp. 4, 5 and 14
<p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> - the recorded pressure drop is out the required operating range; - the recorded liquid flow rate is out the required operating range; - the scrubber or any of its components are found during the inspections to need repair. <p>Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspections, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for the scrubber.</p>	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 016 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

Associated Items: EU 431 19J Extruder Material Handling

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
Operation of Control Equipment: The Permittee shall operate and maintain the Fabric Filter at all times the units controlled by the Fabric Filter are operating.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Operate and maintain control equipment to achieve a control efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 14
Operate and maintain control equipment to achieve a control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 14
<p>Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 6 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated.</p> <p>Pressure drop less than the minimum above, when due to replacement of filter bags, is not a deviation and should not be reported on the semiannual deviation reports. After bag replacement, the pressure drop must return to at least the minimum within 14 working days, or corrective actions must be taken.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
MONITORING AND RECORDKEEPING REQUIREMENTS	hdr
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7011.0075, subp. 3
Visible Emissions (VE): The Permittee shall check the fabric filter stack (SV334) for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4
Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission observation and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5
Periodic Inspections: At least once per calendar halfyear, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
<p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> - visible emissions are observed; - the recorded pressure drop is outside the required operating range; - the fabric filter or any of its components are found during the inspections to need repair. <p>Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspections, 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 the fabric filter.</p>	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 017 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

Associated Items: EU 036 10J Extruder

EU 432 10J Extruder Material Handling

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
Operation of Control Equipment: The Permittee shall operate and maintain the Fabric Filter at all times the units controlled by the Fabric Filter are operating.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Operate and maintain control equipment to achieve a control efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 14
Operate and maintain control equipment to achieve a control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent collection efficiency	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 14
<p>Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 6 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated.</p> <p>Pressure drop less than the minimum above, when due to replacement of filter bags, is not a deviation and should not be reported on the semiannual deviation reports. After bag replacement, the pressure drop must return to at least the minimum within 14 working days, or corrective actions must be taken.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
MONITORING AND RECORDKEEPING REQUIREMENTS	hdr
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7011.0075, subp. 3
Visible Emissions (VE): The Permittee shall check the fabric filter stack (SV210) for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4
Recordkeeping of Visible Emissions and Pressure Drop: The Permittee shall record the time and date of each visible emission observation and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5
Periodic Inspections: At least once per calendar halfyear, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
<p>Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> - visible emissions are observed; - the recorded pressure drop is outside the required operating range; - the fabric filter or any of its components are found during the inspections to need repair. <p>Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspections, 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 the fabric filter.</p>	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

Subject Item: CE 018 Thermal Oxidizer

- Associated Items:** EU 424 Voyager Coater Station 1
 EU 425 Voyager Dryer 1
 EU 426 Voyager Dryer 2
 EU 427 Voyager Coater Station 2
 EU 428 Voyager Dryer 3
 EU 429 Voyager Dryer 4
 GP 026 Voyager Coating Line BACT Conditions

What to do	Why to do it
OPERATING REQUIREMENTS	hdr
The Permittee is required to operate this control equipment when applying VOC (as opposed to "low VOC" as defined at GP026) based solvent coatings at GP026. When required to operate the control equipment must be maintained and operated to achieve >96% control efficiency.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Temperature: greater than or equal to 1400 degrees F using 3-hour Rolling Average in the combustion chamber, until a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent performance test where compliance for VOC emissions was demonstrated. demonstrated. The Permittee shall comply with a reasonable alternate temperature imposed pursuant to Minn. R. 7017.2025, subp. 3 or as determined by the Division Manager.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
MONITORING REQUIREMENTS	hdr
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 more restrictive of +/- 0.75 percent of the temperature being measured or +/- 1 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature. The Permittee shall separately record all 3-hour periods (during actual coating operations) when the average temperature is more than 50 degrees F below the average temperature of the most recent performance test.	40 CFR Section 60.445(e); 40 CFR Section 60.443(e); 40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385; Minn. R. 7011.2560; Minn. R. 7007.0800, subp. 4
Daily Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating day to verify that it is working and recording properly. The Permittee shall maintain written or electronic records of the daily verifications.	Minn. R. 7007.0800, subp. 4 and 5
The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber.	Title I Condition: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000; 40 CFR Section 60.445(e); Minn. R. 7011.2560; Minn. R. 7007.0800, subp. 4 and 5
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 calculations as required elsewhere in this permit: a. The overall control efficiency limit specified in this permit for this equipment (x%); or b. 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: 40 CFR Section 52.21(j) BACT limit; Minn. R. 7007.3000
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
Semiannual Inspections: At least once per calendar half year, 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 or electronic record of the inspection and any corrective actions taken resulting from the inspection.	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-85

04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

<p>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.</p>	<p>Minn. R. 7007.0800, subp. 4, 5, and 14</p>
<p>When CE018 is used to comply with 40 CFR Pt. 63, subp. JJJJ, the Permittee shall verify the calibration of the chart recorder, data logger and/or temperature indicator every 3 months, or replace the monitoring equipment. Otherwise, the Permittee shall either calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration, or replace the monitor with one that has been calibrated.</p>	<p>40 CFR Section 63.3350(e)(9); Minn. R. 7011.7385; Minn. R. 7007.0800, subp. 4, 5, and 14</p>
<p>TESTING REQUIREMENTS</p>	<p>hdr</p>
<p>Initial Performance Test: due 180 days after Initial Startup, to measure control efficiency for VOC.</p>	<p>Title I Condition: 40 CFR Section 52.21(j) BACT; Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1</p>
<p>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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.</p>	<p>Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2</p>

TABLE B: SUBMITTALS

B-1 04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant
Permit Number: 08500049 - 001

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

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

Send any application for a permit or permit amendment to:

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: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Notification of compliance status	<p>due 180 days after 12/05/2005 for coating lines in existence as of the date of permit issuance. For coating lines installed after issuance of this permit, notification is due 180 days after startup. Include:</p> <ul style="list-style-type: none"> - compliance certification - results of any performance tests (includes operating limits established) and monitoring - description of demonstrating continuing compliance. <p>Specifically identifies whether low-HAP materials, emission capture and control systems, or a combination of low-HAP materials and capture and control systems were used to comply.</p> <p>Reporting:</p> <ul style="list-style-type: none"> - 2 semiannual reporting periods - report deviations from the oxidizer operating parameters - report any changes that occur at the facility or within the process that may affect its compliance status - report any change at the facility or within the process from what was reported in the initial notice - if no deviations occur during a reporting period, the semiannual compliance report will state the source is in compliance. 	GP002
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	CE018
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	GP026
Notification of the Date Construction Began	due 30 days after Start Of Construction. Submit the name and number of each unit and the date construction of each unit began.	GP026
Testing Frequency Plan	due 60 days after Initial Performance Test for VOC destruction efficiency. 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.	CE018

TABLE B: RECURRENT SUBMITTALS

B-3 04/19/06

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX B

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049-001

Definition/example of emergency conditions for which the bypass to atmosphere may be used for GP024, CE012 and CE014.

1. High %LFL detected in any of the oven zones (requires an immediate bypass to atmosphere, simultaneous shutdown of applying solvent, and maximum dilution into the oven zone);
2. Loss of damper proximity switches showing that the coater is properly routed to the oxidizer and not to atmosphere;
3. Loss of PLC communication which ensures safety checks between coater and oxidizer are satisfied;
4. Static pressure transmitters within the oven and/or at the exhaust of the oven may direct exhaust to atmosphere;
5. High temperature alarm within the ductwork;
6. Loss of proof of dilution. For some coaters this may just disable group drive; for others it may take the coater off-line;
7. Miscellaneous interlocks. Logic also exists to drop coaters on a fire alarm, or CO2 discharge in the area where the coater is located; and
8. Faults generated by the oxidizer which direct the coater to go to atmosphere. Examples include oxidizer fan failure, combustion blower failure, oxidizer combustion chamber over temperature, gas train interlock trip, oxidizer valve out of position alarm, oxidizer high cold face temperature, oxidizer high stack temperature, excessive negative inlet pressure, high inlet pressure, high flow across the oxidizer.

APPENDIX C

Facility Name: 3M - Hutchinson Tape Manufacturing Plant

Permit Number: 08500049-001

A copy of the list submitted by the Permittee is attached to the file copy of the Technical Support Document. Following is a list of all equipment identified as Insignificant Activities.

Insignificant Activities and Applicable Requirements

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Likely Applicable Requirement
3(G)	Emissions from a laboratory, as defined in the subpart. ⇒ Quality Control Laboratories ⇒ 27 Coater Quality Control & Testing Equipment ⇒ ST7 Quality Control & Testing Equipment ⇒ Enterprise Quality Control & Testing Equipment ⇒ SMS QC Fume Hoods (3) ⇒ SMS QC Room –Black ⇒ SMS QC Room – Clear ⇒ SCC QC Laboratories ⇒ Compounding QC Laboratories ⇒ Extrusion QC Laboratories ⇒ SOSD QC Laboratories	Minn. R. 7011.0510/0515, and/or Minn. R. 7011.0610, and/or Minn. R. 7011.0710/0715
3(H)	Miscellaneous:	
	3. brazing, soldering or welding equipment; ⇒ SMS Welding Shop ⇒ Shop Welders	Minn. R. 7011.0510/0515, and/or Minn. R. 7011.0610, and/or Minn. R. 7011.0710/0715
3(I)	Individual emissions units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than: 1. 4,000 lbs/year of carbon monoxide; and 2. 2,000 lbs/year each of nitrogen oxide, sulfur dioxide, particulate matter, particulate matter less than ten microns, volatile organic compounds (including hazardous air pollutant-containing VOC), and ozone. ⇒ Area Q Drum Storage ⇒ Sulfuric Acid Storage Tank	Minn. R. 7011.0510/0515, and/or Minn. R. 7011.0610, and/or Minn. R. 7011.0710/0715

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Likely Applicable Requirement
	⇒ Diesel Storage Tank ⇒ Lubricant Storage	

Insignificant Activities Required to Be Listed for Part 70 sources

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Likely Applicable Requirement
4	<p>Individual emissions units at a stationary source, each of which has:</p> <p>A. Potential emissions of 5.7 pounds per hour or actual emissions of two tons per year of carbon monoxide;</p> <p>B. Potential emissions of 2.28 pounds per hour or actual emissions of one ton per year for particulate matter, particulate matter less than ten microns, nitrogen oxide, sulfur dioxide, and VOCs; and</p> <p>C. For hazardous air pollutants, emissions units with:</p> <p>(1) potential emissions of 25 percent or less of the hazardous air pollutant thresholds listed in subp. 5; or</p> <p>(2) combined HAP actual emissions of one ton per year unless the emissions unit emits one or more of the HAPs listed in this subpart.</p> <ul style="list-style-type: none"> ⇒ Focus Drum Handling & Material Transfer ⇒ H1 Coater Material Handling ⇒ H1 Corona Treater ⇒ ST7 Compounding & Storage Tanks (8) ⇒ ST7 Hot Oil Heating Equipment ⇒ ST7 Solids Hopper ⇒ ST7 Wipe Cleaning ⇒ Enterprise Solution Handling & Drum Storage ⇒ 27 Coater Solution Handling ⇒ 27 Coater Hot Oil Heating Equipment ⇒ 27 Coater Waste Transfer & Drum Storage ⇒ 28 Coater Red Label Room ⇒ 28 Coater Cleaning Station ⇒ 28 Coater Pumping Station ⇒ Diesel Generator 2 	<p>Minn. R. 7011.0510/0515, and/or Minn. R. 7011.0610, and/or Minn. R. 7011.0710/0715</p>

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Likely Applicable Requirement
	<ul style="list-style-type: none"> ⇒ Handcleaner Hopper and Dust Control ⇒ North Cooling Towers 1-8 ⇒ Pharmaceutical Wash Tank ⇒ Pigment Transfer Hopper ⇒ QC Tanks 1-4 ⇒ SMS Black Resin Handling ⇒ SMS Black Trim Regrind ⇒ SMS Black Trim/Slug Transfer ⇒ SMS Clear Resin Handling ⇒ SMS Clear Trim Regrind ⇒ SMS Clear Trim/Slug Transfer ⇒ SMS Experimental Resin Handling ⇒ SMS Extrusion Lines 50-55, 74 ⇒ SMS Tooling Shop Equipment ⇒ Solventless Parts Washers ⇒ Tank Farm Truck Unloading ⇒ South Label Printer ⇒ Shop Label Printer ⇒ Shop Paint Booth ⇒ 1500 Diesel Fire Protection Pump ⇒ 2500 Diesel Fire Protection Pump ⇒ Core Printer ⇒ Natural Gas Generators 1-4 ⇒ Molding Resin Storage and Transfer ⇒ South Cooling Towers 1-8 ⇒ 8J Resin Handling System ⇒ 9J Resin Handling System ⇒ Adhesive QC Holding Tanks ⇒ Adhesive Tanks 1-8 ⇒ Compounding Central Vacuum ⇒ Hydrotec Solvent Reclaim ⇒ Solvent Reclaim Tank 	

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Likely Applicable Requirement
	<ul style="list-style-type: none"> ⇒ Vinyl Banbury Mixer ⇒ Vinyl Roll Mill ⇒ Vinyl Rubber Cutter ⇒ Diesel Generator 1 ⇒ Transfer pumps (11) ⇒ Transfer Station ⇒ 10 J Weed Grinder ⇒ 4Y Additive Weigh ⇒ 4Y Berenger Jet Cleaner ⇒ 4Y Central Vacuum ⇒ 4Y Dust Collectors 1 & 2 ⇒ 4Y Plasticizer Storage Tanks ⇒ 4Y PMH Grinder ⇒ 4Y Resin Storage ⇒ 4Y Weed Grinder ⇒ Acetate Flake Separator ⇒ Extrusion Berenger Jet Cleaner ⇒ FCM Compounding ⇒ Pelletized and Powdered Material Handling Equipment ⇒ 9J Polypropylene Extruder ⇒ Resin Bins and Hoppers ⇒ Resin Handling System ⇒ SOSD Central Vacuum System ⇒ 16J Central Vacuum ⇒ 16J Extruder Exhaust Hood ⇒ 16J Jet Cleaner Oxidation Exhaust ⇒ 16J Jet Cleaner Parts Hood ⇒ 16J Weed Grinders 1 & 2 ⇒ Plasticizer Storage Tanks ⇒ Plasticizer Transfer Pumps ⇒ Resin Storage Tanks ⇒ Recovery Tank 13 	

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Likely Applicable Requirement
	⇒ Solvent Recovery/Reclaim/Storage Tanks 1-6 ⇒ Wetting Agent Tanks 1-3 (EU147, 148, 149) ⇒ Tanks 1-55 (EU200 – 244) ⇒ Coating Storage Drums (EU245) ⇒ Kettles 25A – 68 (EU251 – 300) ⇒ Kettles MP1 –MP4 (EU305 – 308)	

Conditionally Insignificant Activities

	Rule Description of the Activity	Likely Applicable Requirement
Minn. R. 7008.4110	Emissions from equipment venting particulate matter (PM) or particulate matter less than 10 microns (PM-10) inside a building, provided that emissions from the equipment are: a). filtered through an air cleaning system; and b). vented inside of the building 100% of the time. ⇒ Shop Belt Sanders (10) ⇒ Shop Cut-off Saws (2) ⇒ Shop Drill Presses (8) ⇒ Shop EDM Machines (3) ⇒ Shop Grinders (12) ⇒ Shop Lathes (13) ⇒ Shop Milling Machines (17) ⇒ Shop Sandblaster Cabinet	Minn. R. 7011.0710/0715

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 08500049-001

This technical support document 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:

Applicant/Address	Stationary Source/Address (SIC Code: 2672)
3M P.O. Box 33331 St. Paul, MN 55133-3331	915 Adams Street SE Hutchinson McLeod County
Contact: Mark Manninen Phone: (651) 778-6130	

1.2. Description of the Permit Action

This facility manufactures pressure sensitive tape and other products. Common operations include manufacture of adhesives and webs, coating the webs, drying the coated webs, molding product dispensers, and converting the coated webs into products.

The emission units (not classified as insignificant activities) at the facility consist of numerous coating stations, as well as ovens associated with these processes. Additionally, mixing equipment exists at the facility, as well as various drying and curing ovens.

Particulate matter and PM₁₀ at the facility are controlled on some equipment by fabric filters or venturi scrubbers. Other control equipment that controls VOCs, as well as HAPs, includes thermal oxidizers and a solvent recovery unit.

This permit action incorporates all past modifications and emission unit limitations into one comprehensive air emissions operating permit under Minn. R. 7007. This includes all past modifications and emission unit limitations which occurred under permit number 08500008 and 08500049. Previously, these unique permit numbers applied to distinct buildings at the facility, rather than being grouped under the same permit number for the entire facility.

1.3 Description of any Changes Allowed with this Permit Issuance

The following changes are authorized through this permit action:

- Installation of a new coating line, the Voyager line (GP026 and CE018). This installation is major under New Source Review, and the associated BACT analysis is included in Attachment 2 to this technical support document.
- Modification of past PSD limits for the LM3 line (GP022 and CE012). The limit is being changed such that the Permittee will no longer be required to operate the thermal oxidizer at all times, only when VOC-based coatings (as opposed to low-VOC-based coatings) are being applied. The permitted quantity of VOC emissions is unchanged. This is consistent with the requirements for

oxidizer operation for other coating lines at the facility. The BACT analysis for this change is included in Attachment 1 to this technical support document.

- Modification of past BACT limits for the ST5 and ST6 lines (GP027). The limits were all set at the same time as part of the same modification, at this time the Permittee proposes to combine the limits into a single BACT limit.
- Other miscellaneous, “gap-filling” types of changes required to provide for adequate periodic monitoring and to bring past requirements up to date with current practices.

1.4 Description of All Amendments Issued Since the Issuance of the Last Total Facility Permit

Permit Number	Issuance Date	Action Authorized
File 23BC permits		
23BC-87-OT-1	3/25/1987	Total facility operating permit
Amend. 1 to 23BC-87-OT-1	8/4/1989	PS tape line (16J), corona treater, 6L coating line
Amend. 2 to 23BC-87-OT-1	9/27/1989	Install boiler, natural gas or no. 6 fuel oil
Amend. 3 to 23BC-87-OT-1	10/10/1989	Install 3 thermal oxidizers for 1L and 2L coating lines
Amend. 4 to 23BC-87-OT-1	8/10/1990	Install 2 thermal oxidizers for 3L coating line
Amend. 5 to 23BC-87-OT-1	1/17/1991, revised 1/27/1992	Carbon adsorption system for 5L coating line, liner release coating emissions to thermal oxidizer, 7A (3L) emissions to either of 2 TOs
23BC-92-I/O-1	8/28/1992	central vacuum
23BC-92-P-1	10/15/1992	Pronto permit to replacement material handling units
23BC-93-P-2	5/27/1993	Pronto permit to replace cyclones
23BC-93-P-3	7/15/1993	Pronto permit to replace natural gas burners in 1L coating line
23BC-93-P-4	8/20/1993	Pronto permit, for 2 tanks for closed loop solvent distillation system
23BC-94-IO-2	2/22/1994	replace solvent cleaning tanks
08500008-014 (23BC-95-IO-3)	2/13/1995	new boiler 5 limits
08500008-017 (Admin. Amend. to 23BC-87-O/T-01)	2/7/1996	add monitoring/recordkeeping
08500008-018 (Major Amend. to 23BC-87-O/T-01)	3/22/1996	remove nat. gas use limit from amendment 3
08500008-019 (Amend. 6 to 23BC O/T-01)	4/19/1996	venturi scrubber for 10J extruder and baghouse for an unidentified debottlenecked unit
08500008-020 (Amend. 7 to 23BC-87-O/T-01)	6/4/1998	7L Coater VOC limits
08500008-021 (Amend. 8 to 23BC-87-O/T-01)	6/24/1998	27 Coater Oven VOC limits, NSPS, TO for 28, LM3 and 27 coaters, CE010
08500008-022 (Amend. 9 to 23BC-87-O/T-01)	7/13/1998	2K Maker VOC limits
08500008-023 (Amend. 10 to 23BC-87-O/T-01)	12/30/1999	3L Coating Line (Subp. RR)

Permit Number	Issuance Date	Action Authorized
File 23BM permits		
23BM-87-OT	7/13/1987	Total facility operating permit
Amend. 1 to 23BM-87-OT-1	5/31/1989	Air pollution control equipment

Permit Number	Issuance Date	Action Authorized
File 23BM permits		
Amend. 2 to 23BM-87-OT-1	9/4/1991	increase speed on units 5 – 10
Amend. 3 to 23BM-87-OT-1	3/5/1992	increase speed on coaters 27, 28, add wash tank
23BM-92-I/O-1	8/17/1992	modify coater 22
23BM-93-P-1	2/25/1993	Pronto permit
23BM-93-P-1	4/29/1993	Pronto permit
23BM-93-P-3	9/20/1993	Pronto permit for wash tank
08500003-016 (23BM-96-I/O-1)	7/1/1996	Replaced by 08500049-005
08500003-020 (23BM-96-I/O-1)	10/14/1997	replaces –016, 3 production lines
08500049-005 (Amend. 2 to 23BM-96-IO-1)	8/26/1998	replace 08500003-016
08500003-017 (Amend. 4 to 23BM-87-OT-1)	12/2/1996	total permit update, modify magnetic tape production
08500003-019 (Amend. 5 to 23BM-87-OT-1)	3/7/1997	modify 12 SMS lines

Permit Number	Issuance Date	Action Authorized
combined permits		
08500049-004 (23BCM-98-I/O-1)	5/5/1998	ST7
08500049-008 (23BCM-01-I/O-1)	9/27/2001	new coater and thermal oxidizer
08500049-009 (23BCM-01-I/O-2)	12/10/2001	new extruder and scrubber
08500049-010 (Amendment 11 to permit 23BC-87-OT-1)	2/4/2004	PSD permit for the 7L coating line
08500049-011 (Amendment 12 to permit 23BC-87-OT-1)	4/21/2004	PSD permit for installation of 8L and LT3 coating lines

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Single HAP * tpy	All HAPs tpy
Increase due to Voyager Line	1	1	0.09	15	13	454	438 (toluene)	438
Net Increase **	1	1	0.09	15	13	96	NA	NA
Total Facility Limited Potential Emissions (includes Voyager line)	409	253	1406	429	176	7491	6761 (toluene)	7323
Total Facility Actual Emissions***	43	38	262	102	23	434	HAPs not reported in emission inventory	

* For complete list of HAPs emitted, see Attachment 3

** Net increase includes emission decreases that occurred elsewhere to partially offset the increase

*** Obtained from MPCA website database of the Minnesota Criteria Pollutant Emissions Inventory, 2004 data.

Table 2. Total Facility Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD	PM, SO ₂ , NO _x , VOC		PM ₁₀ , CO
Part 70 Permit Program	PM ₁₀ , SO ₂ , NO _x , VOC, CO, HAP		
NESHAP	HAPs (total and single)		

* Refers to potential emissions that are less than those specified as major by 40 CFR 52.21, 40 CFR pt. 51 Appendix S, and 40 CFR pt. 70.

2. Regulatory and/or Statutory Basis

New Source Review

The facility is an existing major source under New Source Review regulations. This permit authorizes a change to an existing PSD limit, and installation of new equipment subject to PSD.

Part 70 Permit Program

The facility is an existing major source under the Part 70 permit program.

Compliance Assurance Monitoring (CAM)

Because this is the initial issuance of the Title V operating permit, CAM does not apply at this time.

New Source Performance Standards (NSPS)

Portions of the facility are subject to the following NSPS:

- 40 CFR 60, subp. Kb Standards of Performance for Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.
- 40 CFR 60, subp. RR Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations. The standard applies to each individual coating line (as defined in the rule).

The facility has protection under the permit shield from 40 CFR 60, subp. SSS Standards of Performance for Magnetic Tape Coating Facilities. Although some of the equipment still exists, it is not operational and the facility no longer produces magnetic tape. It is possible that in the future this equipment will be modified and used for other purposes, but that is not authorized through this permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

Portions of the facility are subject to the following NESHAP:

- 40 CFR 63, subp. JJJJ National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating; existing facility compliance date December 5, 2005. The facility is an “existing” affected source. The standard applies to the collection of all web coating lines (as defined in the rule) at the facility.
- 40 CFR 63, subp. DDDDD National Emission Standards for Hazardous Air Pollutants: Industrial Boilers; existing facility compliance date September 13, 2007.

The facility has protection under the permit shield from 40 CFR 63, subp. EE National Emission Standards for Magnetic Tape Manufacturing Operations. Although some of the equipment still exists, it is not operational and the facility no longer produces magnetic tape. It is possible that in the future this equipment will be modified and used for other purposes, but that is not authorized through this permit.

Minnesota State Rules

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

- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.0515 Standards of Performance for New Indirect Heating Equipment
- Minn. R. 7011.0610 Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
- Minn. R. 7011.0710 Standards of Performance for Pre-1969 Industrial Process Equipment

Table 3. Regulatory Overview of Facility

EU, GP, or SV	Applicable Regulations	Comments:
GP 001 (coaters and dryers/ovens)	40 CFR pt. 60, subp. RR	Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations
GP002 (coaters and dryers/ovens)	40 CFR pt. 63, subp. JJJJ	National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating – facility is an existing source as defined in the rule
GP004 (EU238, EU322)	40 CFR pt. 60. subp. Kb	Standards of Performance for Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.
GP 005 (various EUs)	Minn. R. 7011.0710	Standards of performance for pre-1969 industrial process equipment
GP 006 (various EUs)	Minn. R. 7011.0610	Standards of performance for fossil-fuel-burning direct heating equipment
GP 007 (various EUs)	Minn. R. 7011.0715	Standards of performance for post-1969 industrial process equipment
GP008 (7L line, EU351 – EU354, EU389)	Title I (BACT) limit on VOC emissions	BACT limit set in Air Emission Permit No. 08500049-010 (2/25/04).
GP009 (8L line, EU414 – EU419)	Title I (BACT) limit on VOC emissions	BACT limit set in Air Emission Permit No. 08500049-011 (4/21/04).
GP010 (LT3 line, EU420 – EU423)	Title I (BACT) limit on VOC emissions	BACT limit set in Air Emission Permit No. 08500049-011 (4/21/04).

EU, GP, or SV	Applicable Regulations	Comments:
(GP011 = all units in GP008 – GP010)	Title I (BACT) limit on VOC emissions	BACT limit set in Air Emission Permit No. 08500049-011 (4/21/04).
GP012		Group not used in this permit
GP013		Group not used in this permit
GP014 (5L line, EU032 – EU034)	Title I limit on VOC emissions	Synthetic minor limit to avoid PSD for modification done in 1991. Original permit condition/citation is “40 CFR 52.21.” Original limit set in Amendment 5 to Air Emission Permit No. 23BC-87-OT-1 (1/17/91, revised 1/27/92)
GP015 (6L line, EU038 – EU041, EU381)	Title I (BACT) limit on VOC emissions	BACT limit set in Air Emission Permit No. 23BC-87-OT-1, Amendment 1 (8/4/89)
GP016 (LM3 ancillary equipment, EU332 – EU339)	Title I (BACT) limit on VOC emissions	BACT limit set in Air Emission Permit No. 08500049-005 (8/26/98). This is not a “coating line” as defined at 40 CFR § 60.441 or a “web coating line” as defined at 40 CFR § 63.3310.
GP017 (solvent cleaning, EU050 – EU052)	Title I limit on hours of operation	Synthetic Minor limits to avoid the federal PSD regulation. Limit originally set in Air Emission Permit No. 23BC-94-I/O-2 (2/22/94).
GP018 (27 coater line, EU112 & EU113)	Title limit on VOC emissions	Synthetic minor limit to avoid PSD for modification permitted in 1998. Original limit set in Amendment 8 to Air Emission Permit No. 23BC-87-OT-1 (08500008-021, 6/24/98)
GP019 (28 coater line, EU114 & EU115)	Title limit on VOC emissions	Synthetic minor limit to avoid PSD for modification permitted in 1998. Original limit set in Amendment 8 to Air Emission Permit No. 23BC-87-OT-1 (08500008-021, 6/24/98)
GP020		Group not used in this permit
GP021 (SMS lines, EU120 – EU123, EU382 – EU388, EU411)	Title limit on VOC emissions	Synthetic minor limit to avoid PSD for modification permitted in 1997. Original limit set in Amendment 5 to Air Emission Permit No. 23BM-87-OT-1 (08500003-019, 3/7/97)
GP022 (LM3 line, EU316 – EU322)	Title I (BACT) limit on VOC emissions	Original BACT limit set in Air Emission Permit No. 08500049-005 (8/26/05), modified through this permit
GP023 (3L line,	Title limit on VOC emissions	Synthetic minor limit to avoid PSD for modification permitted in 1990. Original limit set in Amendment 4 to Air Emission

EU, GP, or SV	Applicable Regulations	Comments:
EU355 – EU368)		Permit No. 23BC-87-OT-1 (8/10/90)
GP024		Group not used in this permit
GP025 (Enterprise line, EU370 – EU372, EU391)	Title I (BACT) limits on VOC emissions	BACT limit set in Air Emission Permit No. 08500049-008 (9/27/01)
GP026 (Voyager line, EU424 – EU429)	Title I (BACT) limits on VOC emissions	BACT limit set in this permit for new coating line
GP027 (ST5/ST6 lines, EU325 – EU331)	Title I (BACT) limits on VOC emissions	BACT limit originally set in Amendment 2 to Air Emission Permit No. 23BM-96-IO-1 (08500049-005, 8/26/98). Three separate limits permitted simultaneously for the single project are being combined through this permit.
GP028		Group not used in this permit
GP029 (1L coater, EU003 – EU008)	VOC limit quantifying assumption made in ATR	
GP030 (2L line, EU009 – EU011)	VOC limits quantifying assumption made in ATR	
GP031 (22 coater line, EU102, EU103)	VOC limit quantifying assumption made in ATR	
GP032		Group not used in this permit
GP033		Group not used in this permit
GP034 (25 coater line, EU108, EU109, EU397)	VOC limit quantifying assumption made in ATR	This line was previously used for magnetic coating. Magnetic tape manufacturing is no longer done, so a permit shield is provided for the Magnetic Tape NSPS and NESHAP. It is likely that modifications will have to take place before the equipment can be used for other coating applications.
GP035 (26 coater line, EU110, EU111, EU398)	VOC limit quantifying assumption made in ATR	This line was previously used for magnetic coating. Magnetic tape manufacturing is no longer done, so a permit shield is provided for the Magnetic Tape NSPS and NESHAP. It is likely that modifications will have to take place before the equipment can be used for other coating applications.
EU001	Minn. R. 7011.0510	Standards of Performance for Existing Indirect Heating Equipment
	Sulfur content limit quantifying assumption	

EU, GP, or SV	Applicable Regulations	Comments:
	made in ATR	
EU002	Minn. R. 7011.0510	Standards of Performance for Existing Indirect Heating Equipment
	Sulfur content limit quantifying assumption made in ATR	
EU036	Title I limits on PM/PM ₁₀ and VOC	Synthetic Minor limits to avoid the federal PSD regulation. Limits originally set in Air Emission Permit No. 08500008-019, aka Amendment 6 to 23BC-87-OT-1 (4/19/96)
EU 037	Title I limits on fuel usage and sulfur content	Synthetic Minor limits to avoid the federal PSD regulation. Limit originally set in Air Emission Permit No. 08500008-014, aka 23BC-95-I/O-3 (2/13/95).
	Minn. R. 7011.0515 (unit predates NSPS Subpart Dc, and is below the size requirements for NSPS Subpart Db)	Standards of performance for new indirect heating equipment
EU374	Title I limits on PM/PM ₁₀ and VOC	Synthetic Minor limits to avoid the federal PSD regulation. Limits originally set in Air Emission Permit No. 08500008-019, aka 23BCM-01-IO-002 (12/10/01))

The language 'This is a state-only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act' refers to permit requirements that are mandated by state law rather than by the federal Clean Air Act. The language is to clarify the distinction between permit conditions that are required by federal law and those that are required by state law. State law requirements are not enforceable by U.S. EPA or by citizens under the federal Clean Air Act, but are fully enforceable by the MPCA and citizens under provisions of state law.

3. Technical Information

3.1 Calculations of Potential to Emit

Attachment 4 to this technical support document contains a public copy of the potential emission calculations provided with the permit applications. Note that some of the totals shown in Section 1.5 of this document are less than the totals on the spreadsheet in Attachment 4; this is because some of the units included in Attachment 4 have been removed from the facility.

3.2 LM3 BACT Analysis

A BACT limit was applied to the LM3 coating line in a permit issue August 26, 1998 (Air Emissions Permit No. 08500049-005). BACT included running the thermal oxidizer to achieve 96% control of VOC at all times that the coating line was in operation. Since 2004, 3M has been able to run coatings on this line that have very low or even no VOC content. The BACT limit as it was originally issued requires 3M to run the oxidizer even when using low VOC coatings, resulting in negligible VOC abatement and unnecessary combustion emissions from operation of the oxidizer. 3M proposes a revision of the BACT limit such that the thermal oxidizer is not required to be operated when the line is running low VOC coatings. The original VOC emission limit (195 tons per year) remains in place. The revised BACT analysis is included in Attachment 1 to this technical support document.

3.3 Voyager BACT Analysis

The Permittee proposes to install a new coating line, known as the Voyager Line. The VOC emissions from the coating line are to be controlled through thermal oxidation. The emission increase is such that the modification is major under New Source Review and is therefore subject to BACT. Thermal oxidation was identified as the top control technology using the top-down methodology. Thermal oxidation is required on the VOC emissions from the coating operation, when coatings that are greater than 4% VOC by weight are used. Thermal oxidation of the VOCs from combustion is not required. The BACT analysis is included in Attachment 2 to this technical support document.

3.4 Consolidation of ST5 and ST6 BACT Limits

The VOC BACT limits were originally set in Air Emission Permit No. 08500049-005 (8/26/98). ST5 was limited to “less than or equal to 6 tons per year,” ST6 was limited to “less than or equal to 11 tons per year,” and ancillary equipment associated with ST5 and ST6 was limited to “less than or equal to 23 tons per year.” No further control was designated as BACT, because the process was limited to 40 tons per year or less of VOC emissions, and the cost per ton of add on controls was determined to be cost prohibitive. At this time, the Permittee proposes to combine the limits to a total of 40 tons per year from ST5 and ST6 combined, including all ancillary equipment.

3.5 Continuous and Periodic Monitors – missing data and acceptable monitor downtime

Minn. R. 7017.1090, subp. 2, “Acceptable Monitor Downtime,” lists and describes circumstances under which an emission unit may be operating and data normally recorded by a continuous or periodic monitor is not recorded. This Minnesota Rule is written primarily for continuous emission monitors (CEMS) and continuous opacity monitors (COMS) which directly measure emissions or opacity.

Minn. R. 7017.1090, subp. 2 is paraphrased and adapted below to address parameter monitoring specified in this TSD and associated permit. Examples of parameter monitoring include combustion chamber temperature in a thermal oxidizer, baghouse pressure drop or scrubber water flow rate and pressure drop:

Acceptable Monitor Downtime. Monitor downtime is a violation [of the requirement to monitor during all times that the emission unit operates], **except for reasonable periods of monitor downtime due to the following causes:**

- A. damage to the monitoring system due to acts of God such as lightning strikes, tornadoes, or floods which render the monitor inoperative;
- B. sudden and not reasonably preventable monitor breakdowns;
- C. scheduled monitor maintenance based on equipment manufacturer’s recommended maintenance schedule or schedule specified in the O&M plan which cannot reasonably be conducted when the emission unit is not operating; or
- D. unavoidable monitor downtime in order to conduct [required calibrations, audits and accuracy checks] which are required by a compliance document, applicable requirement, or by request of the commissioner.

“Compliance document” includes the permit. “Acceptable Monitor Downtime” is reported as “Monitor Downtime” on the semiannual deviations report. Monitor downtime due to other circumstances such as failure to complete described maintenance or failure to operate the monitor as described in the Operation and Maintenance Plan (for the air pollution control equipment) is reported as a deviation on the semiannual deviations report.

3.6 Water-Based Coatings (low-VOC coatings) - Definition

In several previous permits, it had been designated that control (i.e. thermal oxidization) is required only when using “high VOC coatings” or “VOC based coatings”, or not required when using “low VOC coatings” or “water based coatings.” In many cases these terms went undefined. For consistency, the

terms “low VOC” and “water based” are interchangeable and are being defined for this permit as those coatings containing VOC as a weight percentage less than or equal to the difference between 100% and the required control efficiency. For example, if NSPS Subpart RR requires 96% control, a coating will be considered “low VOC” or “water based” if the VOC content is 4% or less (100% - 96% = 4%) – this is equivalent to 96% control of something that is 100% VOC. To compare, the background document to the NSPS (EPA-450/3-80-003a, Pressure Sensitive Tape and Label Surface Coating Operations – Background Information For Proposed Standards, August 1980), on page 3-27, indicates that a “water based coating” is “typically limited to less than 10 percent organic solvent” So, using the convention of 100% minus the required control efficiency results in a more conservative definition than what was assumed for NSPS development. The Permittee has requested that they be allowed to not operate controls when the coatings used are “low VOC” or “water based” because such operation results in negligible VOC abatement and/or unnecessary combustion emissions from operation of an oxidizer.

3.7 NESHAP Subpart JJJJ Case-by-Case Determinations

In some previous permits, a case-by-case or presumptive MACT standard was applied to new coating lines constructed after the proposal date of Subpart JJJJ. Since Subpart JJJJ defines the affected facility as the collection of all coating lines at the stationary source (as opposed to individual coating lines, as the NSPS Subpart RR applies), case-by-case MACT should not have been applied. Case-by-case MACT is to be applied to construction of a new major affected facility; that has not been done. The affected facility (the collection of all coating lines at Hutchinson) is an existing major source (in existence prior to the proposal date of Subpart JJJJ). It was not reconstructed with the installation of any new coating lines, and it was not modified (NESHAP contains no provision for modified major sources). Therefore, it was not necessary to implement case-by-case MACT for those coating lines, and those provisions are not carried forth in the Title V permit. Subpart JJJJ as promulgated is applied to all coating lines, which are all part of the existing source.

3.8 Periodic Monitoring

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

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

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

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

Table 4. Periodic Monitoring

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
GP001	NSPS Subpart RR requirements	Recordkeeping	Standard specifies adequate periodic monitoring. See also CE006, CE007, CE009,

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
			CE011, CE012, CE014, and CE018 for monitoring specific to use of control devices.
GP002	NESHAP Subpart JJJ requirements	Recordkeeping	Standard specifies adequate periodic monitoring. See also CE004, CE005, CE006, CE007, CE009, CE011, CE012, CE014, and CE018 for monitoring specific to use of control devices.
GP003	Monitoring of Sulfur content of fuel oil	Obtain certification or sample for each shipment, calculate S content of tank after each shipment	Two options are provided. Method 1 is to simply obtain certification showing that the sulfur content is $\leq 1.35\%$ by weight. Method 2 provides a means to know the sulfur content when certification of a sulfur content of $\leq 1.35\%$ by weight is not available. The only way to determine the actual sulfur content of a fuel delivery is to have it analyzed. Since there may be four or more deliveries in any given day, and the samples have to be sent away for analysis, it is not feasible to immediately determine the overall fuel oil sulfur content after each delivery. Therefore, the monitoring method is to obtain a sample of each delivery, have each sample analyzed individually (not a composite sample), and by the 15 th day of each month, go back and determine what was the sulfur content of the fuel in the tank following each delivery.
GP004 (Tanks subject to Kb, EU238, EU322)	NSPS Subpart Kb requirements	None	
GP005 (all units subject to Pre-1969 IPER)	PM: Variable, not to exceed 0.3 gr/dscf Opacity: less than 20%, with allowed excursions (Minn. R. 7011.0710)	None	Units are not expected to generate particulate matter

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
GP006 (all units subject to direct heating equipment rule)	PM: Variable, not to exceed 0.3 gr/dscf Opacity: less than 20%, with allowed excursions (Minn. R. 7011.0610)	None	Units are all natural gas fired, potential particulate matter emissions are well below allowed limit.
GP007 (all units subject to Post-1969 IPER)	PM: Variable, not to exceed 0.3 gr/dscf Opacity: less than 20% (Minn. R. 7011.0715)	None	Units are not expected to generate particulate matter
GP008 (7L line - EU351 – EU354, EU389)	VOC: ≤ 0.14 kg/kg applied solids VOC: ≤ 85 tons/year (Title I, BACT)	Daily and Monthly Recordkeeping	Limits originate in Air Emission Permit No. 08500049-010, 2/25/04. Also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
GP009 (8L line, EU414 – EU419)	VOC: ≤ 0.14 kg/kg applied solids (Title I, BACT)	Recordkeeping per NSPS Subpart RR	Limits originate in Air Emission Permit No. 08500049-011, 4/21/04. Also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
GP010 (LT3 line, EU420 – EU423)	VOC: ≤ 0.14 kg/kg applied solids (Title I, BACT)	Recordkeeping per NSPS Subpart RR	Limits originate in Air Emission Permit No. 08500049-011, 4/21/04. Also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
GP011 7L, 8L, and LT3 lines combined limits)	VOC: ≤ 136.5 tons/year (Title I, BACT, also to avoid EAW requirement)	Daily and Monthly Recordkeeping	Limit originates in Air Emission Permit No. 08500049-011, 4/21/04
GP012			Group not used in this permit
GP013			Group not used in this permit

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
GP014 (5L line, EU032, EU033, EU034)	VOC: ≤ 113 tons per month VOC: 80% control when operating high VOC coatings (See CE008) (Title I Condition, to avoid BACT)	Daily and Monthly Recordkeeping Recordkeeping of coating usage and times when CE008 is not operating	Limit originates in Air Emission Permit No. 23BC-87-OT-1, Amendment 5, 1/17/91 (revised 1/27/92). The original limit was 313 lb/hr, equivalent to 116 tons per month in a 31-day month, or 105 tons in a 28 day month. The permittee requested the change because periodic monitoring for the hourly limit was not possible without a CEMS, and the hourly limit was not based on modeling, but on estimated capacity. The hourly limit over an entire year allowed 1371 tpy VOC; the monthly limit over a year allows 1356 tpy VOC. Also subject to NESHAP Subpart JJJJ – see GP002
	VOC usage: ≤ 3018 lb/hr (basis of ATR calculations)	Recordkeeping as described in permit	
GP015 (6L line, EU038 – EU041, EU381)	VOC: ≤ 0.037 kg/kg applied coating VOC: 96% control when operating high VOC coatings (See CE009) (Title I, BACT)	Daily and Monthly Recordkeeping Recordkeeping of coating usage and times when CE009 is not operating	Limits originate in Air Emission Permit No. 23BC-87-OT-1, Amendment 1, 8/4/89. Also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
	VOC usage: ≤ 3825 lb/hr (basis of ATR calculations)	Recordkeeping as described in permit	
GP016 (LM3 ancillary equipment, EU322 – EU339)	VOC: ≤ 6 tons per year (Title I, BACT)	Daily and Monthly Recordkeeping	Limit originates in Air Emission Permit No. 08500049-005, 8/26/98.

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
GP017 (Solvent cleaning tanks, EU050 – EU052)	Hours of operation: ≤ 346 hr/mo (Title I Condition to avoid BACT)	Daily and monthly recordkeeping	Hours of operation are defined as hours that at least one cleaning tank lid is open. Limit originates in Air Emission Permit No. 23BC-94-I/O-2, 2/22/94.
GP018 (27 coater line, EU112, EU113)	VOC: ≤ 62 tons per year VOC control: optional except as counted for emission inventory (See CE011) (Title I Condition, to avoid BACT)	Daily and Monthly Recordkeeping Recordkeeping of coating usage and times when CE008 is not operating	Limit originates in Air Emission Permit No. 08500008-021, 6/24/98. Also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
	VOC usage: ≤ 2810 lb/hr (basis of ATR calculations)	Recordkeeping as described in permit	
GP019 (28 coater line, EU114, EU115)	VOC: ≤ 57.5 tons per year VOC control: optional except as counted for emission inventory (See CE011) (Title I Condition, to avoid BACT)	Daily and Monthly Recordkeeping Recordkeeping of coating usage and times when CE008 is not operating	Limit originates in Air Emission Permit No. 08500003-019 (Amendment 5 to 23BM-87-OT-1), 3/1/97. Also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
	VOC usage: ≤ 2810 lb/hr (basis of ATR calculations)	Recordkeeping as described in permit	
GP020			Group not used in this permit

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
GP021 (SMS coating lines, EU120 – EU124, EU382 – EU388, EU411))	VOC: ≤ 35 tons per year (Title I Condition, to avoid BACT)	Daily and Monthly Recordkeeping	Limit originates in Air Emission Permit No. 08500003-019 (Amendment 5 to 23BM-87-OT-1), 3/1/97. Those units converted to coating lines (EU123 as of permit issuance) are also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
GP022 (LM3 coating line, EU316 – EU322)	VOC: ≤ 195 tons per year VOC: 96% control when operating high VOC coatings (See CE012) (Title I, BACT)	Daily and Monthly Recordkeeping Recordkeeping of coating usage and times when CE012 is not operating	Original limit set in Air Emission Permit No. 08500049-005, 8/26/98. BACT readdressed through this permit, see Attachment 1 to this technical support document. Also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
	VOC usage: ≤ 2846 lb/hr (basis of ATR calculations)	Recordkeeping as described in permit	
GP023 (3L line, EU355 – EU368)	VOC: ≤ 95 tons per year VOC: 95% control when operating high VOC coatings (See CE006 and CE007) (Title I condition to avoid BACT)	Daily and Monthly Recordkeeping Recordkeeping of coating usage and times when CE006 and/or CE007 is not operating	Limit originates in Air Emission Permit No. 08500008-023 (Amendment 10 to 23BC-87-OT-1), 12/30/99. Also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
	VOC usage: ≤ 5610 lb/hr (basis of ATR calculations)	Recordkeeping as described in permit	
GP024			Group not used in this permit

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
GP025 (Enterprise coating line, EU370 – EU372, EU391)	VOC: ≤ 92.6 tpy VOC: 96% control when operating high VOC coatings (See CE014) (Title I Condition BACT limit)	Daily and Monthly Recordkeeping Recordkeeping of coating usage and times when CE014 is not operating	BACT limit was originally set in Air Emission Permit No. 08500049-008, 9/27/01. Also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
GP 026 (Voyager Line, EU424 – EU429)	VOC: ≤ 454.2 tpy VOC: 96% control when operating high VOC coatings (See CE018) (Title I Condition BACT limit)	Daily and Monthly Recordkeeping Recordkeeping of coating usage and times when CE018 is not operating	New BACT limit, see Attachment 2 to this Technical Support Document. Also subject to NSPS Subpart RR, and NESHAP Subpart JJJJ – see GP001 and GP002
GP027 (ST5/ST6 lines, EU325 - EU331)	VOC: ≤ 454.2 tpy (Title I Condition BACT limit)	Daily and Monthly Recordkeeping	Limits originate in Air Emission Permit No. 08500049-005 (Amendment 2 to 23BM-96-IO-1), 8/26/98. The BACT limit is amended through this permit action. See Section 3.4 and Attachment 1 of this document for details.
GP028			Group not used in this permit
GP029 (1L line, EU003 – EU008)	VOC usage: ≤ 6437 lb/hr (basis of ATR calculations)	Recordkeeping as described in permit	Also subject to NESHAP Subpart JJJJ – see GP002
GP030 (2L line, EU009 – EU011)	VOC usage: ≤ 2564 lb/hr (basis of ATR calculations)	Recordkeeping as described in permit	Also subject to NESHAP Subpart JJJJ – see GP002
GP031 (22 coater line, EU102 & EU103)	VOC: ≤ 300 tpy VOC usage: ≤ 206 lb/hr (basis of ATR calculations)	Daily and Monthly Recordkeeping as described in permit	Also subject to NESHAP Subpart JJJJ – see GP002
GP032			Group not used in this permit
GP033			Group not used in this permit
GP034	VOC usage: ≤ 1852 lb/hr	Recordkeeping as described in	Also subject to NESHAP Subpart JJJJ – see GP002

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
(25 coater line, EU108, EU109, EU397)	(basis of ATR calculations)	permit	
GP035 (26 coater line, EU110, EU111, EU398)	VOC usage: ≤ 1852 lb/hr (basis of ATR calculations)	Recordkeeping as described in permit	Also subject to NESHAP Subpart JJJJ – see GP002
EU001 (Boiler 3)	PM: ≤ 0.6 lb/MMBtu SO ₂ : ≤ 2.0 lb/MMBtu Opacity: $\leq 20\%$, with excursions (Minn. R. 7011.0510)	Recordkeeping of sulfur content – See GP003	
	Sulfur content of fuel: $< 1.35\%$ by weight (basis of ATR calculations)	Recordkeeping – See GP003	
EU002 (Boiler 4)	PM: ≤ 0.6 lb/MMBtu SO ₂ : ≤ 2.0 lb/MMBtu Opacity: $\leq 20\%$, with excursions (Minn. R. 7011.0510)	Recordkeeping of sulfur content – See GP003	
	Sulfur content of fuel: $< 1.35\%$ by weight (basis of ATR calculations)	Recordkeeping – See GP003	
EU036 (10J Extruder)	PM: ≤ 1.39 lb/hr PM ₁₀ : ≤ 1.39 lb/hr VOC: ≤ 1.39 lb/hr (Title I, to avoid BACT)	O&M of control equipment (see CE003)	Limits originate in Air Emission Permit No. 08500008-019, 4/19/96
EU037	PM: ≤ 0.4 lb/MMBtu	Recordkeeping of sulfur	

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
(Boiler 5)	SO ₂ : ≤ 2.0 lb/MMBtu Opacity: ≤ 20%, with excursions (Minn. R. 7011.0515)	content – See GP003	
	Sulfur content of fuel: < 1.35% by weight (Title I, to avoid BACT)	Recordkeeping – See GP003	
	Fuel Oil Usage: ≤ 330000 gallons/year Natural Gas Usage: ≤ 331 million cubic feet per year (Title I, to avoid BACT)	Daily and Monthly Recordkeeping	
EU 374 (19J Extruder)	PM: ≤ 3.31 lbs/hr PM ₁₀ : ≤ 3.31 lbs/hr VOC: ≤ 3.31 lbs/hr Throughput: ≤ 3000 lb/hr PM control: ≥ 90% PM ₁₀ control: ≥ 90% (Title I Condition, to avoid BACT)	Recordkeeping O & M of control (See CE015)	Limits originate in Air Emission Permit No. 23BCM-01-I/O-002 (08500049-009), 12/10/01. Permit did not provide periodic monitoring for the limits. That is added through this permit.
CE001 (venturi scrubber for 8J extruder)	Pressure Drop ≥ 15 inches Liquid Flow Rate ≥ 100 gallons/minute (Title I conditions to avoid BACT)	Daily reading and recordkeeping Standard O&M	
CE003 (venturi scrubber for 10J extruder)	Pressure Drop ≥ 32 inches and ≤ 40 inches Liquid Flow Rate ≥ 80 gallons/minute and ≤ 110 gallons/minute	Daily reading and recordkeeping Standard O&M	

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
	(Title I conditions to avoid BACT)		
CE004 (thermal oxidizer for 1L coating line)	Temperature ≥ 1411 °F	Continuous temperature monitor Daily verification of operation Standard O & M	Control device is not required, but must be operated if the Permittee wishes to take credit for control on emission inventory.
CE005 (thermal oxidizer for 2L coating line)	Temperature ≥ 1494 °F	Continuous temperature monitor Daily verification of operation Standard O & M	Control device is not required, but must be operated if the Permittee wishes to take credit for control on emission inventory.
CE006 (thermal oxidizer for 3L coating line)	Temperature ≥ 1422 °F (Title I conditions to avoid BACT)	Continuous temperature monitor Daily verification of operation Standard O & M	Margin of error on thermocouple monitoring device – NSPS requirement is $\pm 0.75\%$ or $\pm 2.5^{\circ}\text{C}$; NESHAP requirement is $\pm 1\%$ or $\pm 1^{\circ}\text{C}$. Both apply, but $\pm 0.75\%$ is more restrictive than $\pm 1\%$ and $\pm 2.5^{\circ}\text{C}$ is less restrictive than $\pm 1^{\circ}\text{C}$. Limits are combined to read “ $\pm 0.75\%$ or $\pm 1^{\circ}\text{C}$.”
CE007 (thermal oxidizer for 3L coating line)	Temperature ≥ 1422 °F (Title I conditions to avoid BACT)	Continuous temperature monitor Daily verification of operation Standard O & M	Margin of error on thermocouple monitoring device – NSPS requirement is $\pm 0.75\%$ or $\pm 2.5^{\circ}\text{C}$; NESHAP requirement is $\pm 1\%$ or $\pm 1^{\circ}\text{C}$. Both apply, but $\pm 0.75\%$ is more restrictive than $\pm 1\%$ and $\pm 2.5^{\circ}\text{C}$ is less restrictive than $\pm 1^{\circ}\text{C}$. Limits are combined to read “ $\pm 0.75\%$ or $\pm 1^{\circ}\text{C}$.”
CE008 (carbon adsorber for 5L adhesive coater)		Daily physical observation of operation	
CE009 (thermal	Temperature ≥ 1325 °F	Continuous temperature monitor	Margin of error on thermocouple monitoring device – NSPS requirement is $\pm 0.75\%$ or $\pm 2.5^{\circ}\text{C}$; NESHAP requirement is $\pm 1\%$ or $\pm 1^{\circ}\text{C}$.

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
oxidizer for 6L coating line)	(Title I BACT condition)	Daily verification of operation Standard O & M	Both apply, but $\pm 0.75\%$ is more restrictive than $\pm 1\%$ and $\pm 2.5^{\circ}\text{C}$ is less restrictive than $\pm 1^{\circ}\text{C}$. Limits are combined to read " $\pm 0.75\%$ or $\pm 1^{\circ}\text{C}$."
CE011 (thermal oxidizer for 27 coating line)	Temperature $\geq 1505^{\circ}\text{F}$ (Title I conditions to avoid BACT)	Continuous temperature monitor Daily verification of operation Standard O & M	Margin of error on thermocouple monitoring device – NSPS requirement is $\pm 0.75\%$ or $\pm 2.5^{\circ}\text{C}$; NESHAP requirement is $\pm 1\%$ or $\pm 1^{\circ}\text{C}$. Both apply, but $\pm 0.75\%$ is more restrictive than $\pm 1\%$ and $\pm 2.5^{\circ}\text{C}$ is less restrictive than $\pm 1^{\circ}\text{C}$. Limits are combined to read " $\pm 0.75\%$ or $\pm 1^{\circ}\text{C}$."
CE012 (thermal oxidizer for LM3 coating line)	Temperature $\geq 1400^{\circ}\text{F}$ (Title I BACT condition)	Continuous temperature monitor Daily verification of operation Standard O & M	Margin of error on thermocouple monitoring device – NSPS requirement is $\pm 0.75\%$ or $\pm 2.5^{\circ}\text{C}$; NESHAP requirement is $\pm 1\%$ or $\pm 1^{\circ}\text{C}$. Both apply, but $\pm 0.75\%$ is more restrictive than $\pm 1\%$ and $\pm 2.5^{\circ}\text{C}$ is less restrictive than $\pm 1^{\circ}\text{C}$. Limits are combined to read " $\pm 0.75\%$ or $\pm 1^{\circ}\text{C}$."
CE014 (thermal oxidizer for Enterprise coating line)	Temperature $\geq 1400^{\circ}\text{F}$ (Title I BACT condition)	Continuous temperature monitor Daily verification of operation Standard O & M	Margin of error on thermocouple monitoring device – NSPS requirement is $\pm 0.75\%$ or $\pm 2.5^{\circ}\text{C}$; NESHAP requirement is $\pm 1\%$ or $\pm 1^{\circ}\text{C}$. Both apply, but $\pm 0.75\%$ is more restrictive than $\pm 1\%$ and $\pm 2.5^{\circ}\text{C}$ is less restrictive than $\pm 1^{\circ}\text{C}$. Limits are combined to read " $\pm 0.75\%$ or $\pm 1^{\circ}\text{C}$."
CE015 (venturi scrubber for 19J extruder)	Pressure Drop ≥ 32 inches and ≤ 40 inches Liquid Flow Rate ≥ 80 gallons/minute and ≤ 110 gallons/minute (Title I conditions to avoid BACT)	Daily reading and recordkeeping Standard O&M	
CE016 (fabric filter for 19J extruder)	Pressure drop ≥ 1 inch and ≤ 6 inches	Daily reading and recordkeeping Standard O&M	

EU, CE, or GP	Requirement (basis)	Additional Monitoring	Discussion
material handling)			
CE017 (fabric filter for 10J extruder material handling)	Pressure drop ≥ 1 inch and ≤ 6 inches	Daily reading and recordkeeping Standard O&M	
CE018 (thermal oxidizer for Voyager coating line)	Temperature ≥ 1400 °F (Title I BACT condition)	Continuous temperature monitor Daily verification of operation Standard O & M	Margin of error on thermocouple monitoring device – NSPS requirement is $\pm 0.75\%$ or $\pm 2.5^\circ\text{C}$; NESHAP requirement is $\pm 1\%$ or $\pm 1^\circ\text{C}$. Both apply, but $\pm 0.75\%$ is more restrictive than $\pm 1\%$ and $\pm 2.5^\circ\text{C}$ is less restrictive than $\pm 1^\circ\text{C}$. Limits are combined to read “ $\pm 0.75\%$ or $\pm 1^\circ\text{C}$.”

3.9 Insignificant Activities

The permit application lists several units or operations which are classified as insignificant activities. Insignificant Activities are not described as Emission Units in the permit, since periodic monitoring is not usually necessary to be assured of compliance. However, Insignificant Activities must still comply with any Minnesota Rules that apply. The units identified as insignificant activities are listed with their applicable regulations in the Permit under Appendix C. All of the items are inconsequential to the classification of the facility as a major source for Part 70 or New Source Review; the facility is major regardless of the classification of these activities as insignificant. Following is a table of periodic monitoring required for the insignificant activities.

Table 5 Insignificant Activities

Insignificant Activity	Periodic Monitoring	Comments
Laboratories	None	Operations emitting regulated pollutants are intermittent in nature, and hourly rates are unlikely to approach rates allowed by Minnesota Rules
Welding operations	None	Hourly emissions are not expected to approach rates allowed by Minnesota Rules.
Area Q Drum Storage	None	Potential emissions less than 1 tpy, so PM unlikely to approach rates allowed by Minnesota Rules
Sulfuric Acid Storage Tank	None	Potential emissions less than 1 tpy, so PM unlikely to approach rates allowed by Minnesota Rules
Diesel and Lubricant Storage Tanks	None	Emissions of regulated pollutant (PM) not expected to occur.
ST7 Compounding and Storage Tanks, hot oil	None	Emissions of regulated pollutant (PM) would be intermittent and unlikely to approach rates

Insignificant Activity	Periodic Monitoring	Comments
heating equipment, solids hopper, wipe cleaning		allowed by Minnesota Rules
Enterprise Solution Handling and Drum Storage	None	PM emissions not expected to occur
27 Coater solution handling, hot oil heating, waste transfer, and drum storage	None	PM emissions not expected to occur
28 Coater label room, cleaning station, and pumping station	None	PM emissions not expected to occur
Diesel Generators 1 & 2, 1500 & 2500 Diesel fire pumps, natural gas generators 1-4	None	Potential emissions less than what is allowed by Minnesota Rules
Handcleaner Hopper and dust control	None	Potential emissions less than what is allowed by Minnesota Rules
North Cooling Towers 1-8, South Cooling Towers 1-8	None	Potential PM emissions less than what is allowed by Minnesota Rules, and cooling tower emissions are fugitive in nature
Pharmaceutical wash tank	None	PM emissions not expected
Pigment Transfer hopper	None	PM emissions intermittent (when transferring pigment), testing is infeasible, and emissions approaching those allowed by Minnesota Rules are unlikely
QC Tanks 1-4	None	PM emissions not expected
SMS Black resin handling, black trim regrind, back trim/slug transfer, clear resin handling, clear trim regrind, clear trim/slug regrind, experimental resin handling, extrusion, tooling shop	None	Significant PM emissions not expected with the SMS equipment
Tank farm truck unloading	None	PM emissions not expected
Solventless parts washers	None	PM emissions not expected
South Label Printer, Shop Label Printer, Core Printer	None	PM emissions not expected
Molding resin storage and transfer	None	PM emissions not expected
8J and 9J Resin Handling	None	PM emissions less than what is allowed by Minnesota Rules
Adhesive QC holding tanks, tanks 1-8	None	PM emissions not expected
Compounding central vacuum	None	Potential PM emissions less than what is allowed by Minnesota Rules
Solvent reclaim tank, Hydrotec solvent reclaim	None	PM emissions not expected
Vinyl Banbury Mixer,	None	Potential PM emissions less than what is allowed

Insignificant Activity	Periodic Monitoring	Comments
Vinyl roll mill, Vinyl rubber cutter		by Minnesota Rules
Transfer pumps (11) and transfer station	None	Potential PM emissions less than what is allowed by Minnesota Rules
10J weed grinder	None	Potential PM emissions less than what is allowed by Minnesota Rules
4Y Additive weigh, Berenger Jet Cleaner, central vacuum, dust collectors, plasticizer storage tanks, PMH grinder, resins storage, weed grinder	None	PM emissions are either not expected or potential is less than what is allowed by Minnesota Rules
Acetate flake generator	None	Potential PM emissions less than what is allowed by Minnesota Rules
Extrusion Berenger Jet Cleaner	None	Potential PM emissions less than what is allowed by Minnesota Rules
FCM Compounding	None	Potential PM emissions less than what is allowed by Minnesota Rules
Pelletized and powdered material handling equipment	None	Potential PM emissions less than what is allowed by Minnesota Rules
9J Polypropylene extruder	None	Potential PM emissions less than what is allowed by Minnesota Rules
Resin bins, hoppers, storage tanks, and handling system	None	PM emissions not expected
SOSD Central vacuum system	None	Potential PM emissions less than what is allowed by Minnesota Rules
16J central vacuum, extruder exhaust hood, jet cleaner oxidation exhaust, jet cleaner parts hood, weed grinders 1 & 2	None	Potential PM emissions less than what is allowed by Minnesota Rules
Plasticizer storage tanks, transfer pumps	None	PM emissions not expected
Recover tank 13, solvent recovery/reclaim/storage tanks 1-6, wetting agent tanks 1-3, tanks 1-55, Coating storage drums, Kettles 25-68, Kettles MP1 – MP4	None	PM emissions not expected
Shop belt sanders, cut-off saws, drill presses, EDM machines, grinders, lathes, milling machines, and sandblaster cabinet	None	Emissions are exhausted inside 100% of the time, testing is not feasible.

3.10 Permit Organization

Due to the large number of emission units, this permit deviates from standard practice in grouping of emission units subject to a single standard. By listing these requirements at the individual unit or even individual coating line level would greatly increase the number of pages of the permit, and many of those pages would contain only one or two lines.

3.11 Confidentiality

3M requested that certain portions of the information submitted in the application be held confidential. Confidentiality was granted in a letter dated March 14, 2006. A copy of that letter is included as Attachment 5 to this technical support document.

3.12 Comments Received

Public Notice Period: 3/3/06 - 4/3/06

EPA 45-day Review Period: 3/3/06 – 4/18/06

Comments were not received from the public during the public notice period. No comments were received from EPA during their review period. No changes were made to the permit.

4. Conclusion

Based on the information provided by 3M, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 08500049-001 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: Toni Volkmeier (permit writer/engineer)
 David L. Beil, P.E. (permit writer/engineer/peer reviewer)
 Robert C. Berg (enforcement)

Attachments

1. LM3 BACT Analysis
2. Voyager BACT Analysis
3. Potential Emissions (from public version of application)
4. Facility Description and CD-01 forms
5. Confidentiality Letter