

AIR EMISSION PERMIT NO. 17100085- 002
(Part 70 Reissuance)

IS ISSUED TO

Minnesota Diversified Products Inc.
for the facility

MINNESOTA DIVERSIFIED PRODUCTS INC. -WEST
6901 West Road
Rockford, Wright County, MN 55373

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

<u>Permit Application Type</u>	<u>Application Date</u>
Total Facility Operating Permit - Reissuance	04/26/2004
Supplemental Submittal	04/11/2005

This permit supersedes Permit No. 17100085-001 and 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 Reissuance/Limits to Avoid NSR

Issue Date: July 18, 2005

Expiration: July 18, 2010
All Title I Conditions do not expire.

Richard J. 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. 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:

Minnesota Diversified Products West is an existing facility that manufactures expanded polystyrene boardstock. The first step in the production process is pre-expansion of the expanded polystyrene beads. In the pre-expander the beads—which look somewhat like white sugar—are mixed with steam allowing the blowing agent (pentane) to vaporize and, thus, expand the bead. After expansion, the beads are pneumatically conveyed to a storage area consisting of several large mesh bags. After stabilization, the beads are pneumatically conveyed to the molding area. In the mold, a block—or billet—is formed which then proceeds, after curing, to hot-wire cutters where they are cut to size. For some final products, a thin plastic sheet can be laminated onto the foam boards. All process air emissions enter the ambient air via building ventilation fans located on the wall of the building near the roofline. The main pollutant of concern is pentane (a volatile organic compound or VOC). Minor amounts of styrene (a hazardous air pollutant) are emitted. Products of combustion are also emitted from the natural gas-fired boiler. The facility also has equipment that is considered insignificant under Minnesota Rules. See Appendix I for a complete list of the current insignificant activities.

The facility has taken limits to avoid major source classification for New Source Review (40 CFR § 52.21). The facility is a major source under the federal operation permits program (40 CFR pt. 70) and is an area source under the National Emissions Standards for Hazardous Air Pollutants (NESHAPs, 40 CFR pt. 63). The permit contains requirements that limit emissions of volatile organic compounds.

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/18/05

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 002

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
OPERATIONAL REQUIREMENTS	hdr
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
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

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/18/05

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 002

<p>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.</p> <p>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.</p>	Minn. R. 7019.1000, subp. 3
<p>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.</p> <p>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.</p>	Minn. R. 7019.1000, subp. 2
<p>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.</p>	Minn. R. 7019.1000, subp. 1
<p>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:</p> <ol style="list-style-type: none"> 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
<p>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.</p>	Minn. R. 7007.1150 through Minn. R. 7007.1500
<p>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).</p>	Minn. R. 7007.1400, subp. 1(H)
<p>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.</p>	Minn. R. 7019.3000 through Minn. R. 7019.3100
<p>Emission Fees: due 60 days after receipt of an MPCA bill.</p>	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/18/05

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 002

Subject Item: GP 001 Main Process Steps (for VOC limit)

Associated Items: EU 002 Pre-Expander (No. 1)

EU 003 Pre-Expander (No. 2)

EU 004 Molder

EU 006 Laminator

SV 002 building ventilation

SV 003 Pre-Expander No. 1

SV 004 Molder

What to do	Why to do it
LIMITS	hdr
<p>Volatile Organic Compounds: less than or equal to 40000 lbs/month using 12-month Rolling Average to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit.</p> <p>All emission units included in GP001 as allowed in this permit shall be included in this calculation. VOC contents for each VOC-containing material shall be determined as described under the Material Content requirement in GP001.</p>	<p>Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200</p>
<p>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 applies separately to each emissions unit. None of these processes are expected to generate any particulate matter.</p>	<p>Minn. R. 7011.0715, subp. 1(A)</p>
<p>Opacity: less than or equal to 20 percent opacity . This applies separately to each emissions unit.</p>	<p>Minn. R. 7011.0715, subp. 1(B)</p>
MONITORING	hdr
<p>Daily Recordkeeping:</p> <p>For VOC used in the EPS bead processes: On each day of operation, the Permittee shall maintain production records showing the amount of each VOC-containing material used. This shall be based on written usage logs and meter readings.</p> <p>For other VOC-containing materials: The Permittee shall calculate, maintain, and record monthly usage showing the quantity of each material used. This shall be based on either written usage logs or purchase/delivery records.</p>	<p>Title I Condition: to avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly Recordkeeping -- VOC Emissions</p> <p>By the 15th day 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 and monthly usage records. This record shall also include the VOC and contents of each material as determined by the Material Content requirement of this permit.</p> <p>2) The VOC emissions, in pounds, for the previous month using the formula specified in this permit.</p> <p>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.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Monthly Calculation -- VOC Emissions. The Permittee shall calculate the Monthly Emissions Rate of VOC (MER) using the following equation:</p> $\text{MER (lbs/month)} = (A1 \times B1) + (A2 \times B2) + (A3 \times B3)...$ <p>where:</p> <p>A# = amount of each VOC-containing material used (e.g., EPS bead, adhesive, etc.), in pounds/month;</p> <p>B# = weight percent VOC in A#, as a fraction.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/18/05

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 002

<p>Material Content of EPS Bead: The Permittee shall use the Certificate of Analysis (COA) provided by the supplier to determine the VOC content of each shipment. If a COA is not available, the Permittee shall use 7% for the VOC content. However, if in the preceding 12 months, EPS bead with a content greater than 7% was used, then the Permittee shall assume that the VOC content is equivalent to the highest VOC content used in the preceding 12 months.</p> <p>Other alternative methods approved by the MPCA may be used to determine the VOC contents. The Commissioner reserves the right to require the Permittee to determine the VOC contents of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for the material content determination, the data obtained shall supersede the MSDS.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Material Content of Other Materials: VOC contents in other 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 contents. The Commissioner reserves the right to require the Permittee to determine the VOC contents of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.</p>	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/18/05

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 002

Subject Item: EU 001 Boiler 1**Associated Items:** SV 001 boiler stack

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input . Potential emissions from the boiler based on equipment design and allowable fuels is 0.0072 lb/million Btu.	Minn. R. 7011.0515, subp. 1
Opacity: less than or equal to 20 percent opacity ; except for one six-minute period per hour of not more than 60 percent.	Minn. R. 7011.0515, subp. 2
Combust only Natural Gas or Propane: The Permittee shall maintain fuel purchase records on-site.	Minn. R. 7007.0800, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/18/05

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 002

Subject Item: EU 005 Hot Wire Cutters**Associated Items:** SV 002 building ventilation

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.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity .	Minn. R. 7011.0715, subp. 1(B)

TABLE B: SUBMITTALS

07/18/05

Facility Name: Minnesota Diversified Products Inc -West
Permit Number: 17100085 - 002

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

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

Send any application for a permit or permit amendment to:

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

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

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

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

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

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

07/18/05

Facility Name: Minnesota Diversified Products Inc -West
Permit Number: 17100085 - 002

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility

TABLE B: RECURRENT SUBMITTALS

07/18/05

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 002

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 I
Facility Name: Minnesota Diversified Products Inc -West
Permit Number: 17100085-002

Insignificant Activities and General Applicable Requirements

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

Minn. R.	Rule Description of the Activity	General Applicable Requirement
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.	Minn. R. 7011.0715

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 17100085-002

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 preliminary determination to issue the permit.

1. General Information

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number (list both if different)	Facility Address (SIC Code: 3086)
Minnesota Diversified Products 9091 County Road 50 Rockford, Minnesota 55373 Contact: Steve Slavik, 763-477-5854	Minnesota Diversified Products Inc. – West 6901 West Road Rockford (Wright County), Minnesota 55373

1.2. Description of the Facility

Minnesota Diversified Products, Inc. (MDP) manufactures rigid polystyrene boardstock by the expandable polystyrene (EPS) bead process. The EPS process results in emissions of volatile organic compounds (VOC), mainly pentane, and combustion products from the boilers used to produce steam for the process. The Facility has several smaller sources that qualify as insignificant activities under Minnesota Rules. These are described in Section 3.4 of this TSD.

1.3. Description of the Permit Action

This is a Part 70 Reissuance permit.

1.4. Description of any Changes Allowed with this Permit Issuance

No changes are authorized by this permit action. The only changes to the permit are administrative in nature – removal of completed items, updating template language, and reorganizing the order of permit conditions for clarity.

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

There have been no permit amendments or notifications since the issuance of the total facility permit.

1.6. Facility Emissions

Table 1. Total Facility Potential to Emit Summary

See Attachment 2 of this TSD for more specifics

Pollutant	Process Units (tpy)	Boilers and Hot Wire Cutters (tpy)	IAs (tpy)	Total Facility (tpy)
Particulate Matter (PM)	neg	0.317	4.2	4.52
PM less than 10 microns (PM ₁₀)	neg	0.317	4.2	4.52
Nitrogen Oxides (NO _x)	0	6.27	0	6.27
Sulfur Oxides (SO _x)	0	0.610	0	0.610
Volatile Organic Compounds (VOC)	240	0.216	0	240.2
Carbon Monoxide (CO)	0	3.03	0	3.03
HAP – Styrene	2.76	neg	0	2.76
HAP – Total	2.76	neg	0	2.76

tpy = tons per year

neg. = negligible

Table 2. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD		X	
Part 70 Permit Program	X		
Part 63 NESHAP			X

2. Regulatory and/or Statutory Basis

New Source Review

The Facility has taken limits to avoid major source classification for New Source Review (40 CFR § 52.21). No changes are authorized by this permit.

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

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

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is a non-major source under 40 CFR pt. 63. Thus, no NESHAPs apply.

Minnesota State Rules

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

- Minn. R. 7011.0515 Standards of Performance for New Indirect Heating Equipment

- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment

Table 3. Regulatory Overview of Facility

EU, GP, or SV	Applicable Regulations	Comments:
GP 001	Title I Condition, 40 CFR § 52.21 Minn. R. 7011.0715	Prevention of Significant Deterioration (PSD). Limits taken to avoid major source and modification classification under PSD for all noncombustion emissions of VOC. It is a rolling limit due to substantial and unpredictable variations in operation. This limit is carried forward from the previous permit Standards of Performance for Post 1969 Industrial Process Equipment. This applies to all units in GP 001, individually.
EU 001	Minn. R. 7011.0515, subps. 1 and 2	State indirect heating standard with fuel type restricted to natural gas or propane.
EU 005	Minn. R. 7011.0715	Standards of Performance for Post 1969 Industrial Process Equipment.

3. Technical Information

3.1. Calculations of Potential to Emit

Attachment 2 of this TSD contains detailed spreadsheets and supporting information prepared by both the Permittee and the MPCA.

EPS Bead Processes

These operations consist of the pre-expanders, molders, and storage. The majority of VOC is lost during pre-expansion (43%) and molding (42%) per EPA 450/3-90-020. The remaining 15% is lost during final product storage and after the product leaves the facility. Since it is unknown how long it takes for the remaining 15% to evaporate, it is assumed that it all is emitted at the Facility.

Laminator

The PTE calculations are based a mass balance assuming 100% of the VOC/HAP is emitted.

Boiler

The PTE calculations are based on EPA approved emissions factors from AP-42, the fuels burned, and the boiler capacity.

Hot Wire Cutters

The PTE calculations were prepared by the Permittee and are based on combustion emissions factors.

3.2. Permit Calculations

Section 3.4 of this TSD explains the various monitoring required by the permit. For the VOC limit, this includes calculating actual emissions on a monthly basis.

Calculation of VOC emissions

Total VOC emissions must each be calculated monthly using the following equation:

$$\text{MER} = (\text{A1} \times \text{B1}) + (\text{A2} \times \text{B2}) + (\text{A3} \times \text{B3}) + \dots$$

Where:

MER = the monthly VOC emissions, in pounds/month

A# = the amount of each VOC-containing material used in the previous month (e.g., EPS bead, adhesive, etc.), in pounds.

B# = the weight percent of VOC in A#, as a fraction. For example, if a material were 50% by weight VOC, this would be 0.50.

3.3. Periodic Monitoring

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

In evaluating the monitoring included in the permit, the MPCA 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

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
VOC Limit: GP 001	VOC \leq 40,000 pounds per month, using a 12-month rolling average (limit to avoid NSR) PM: variable, depending on airflow Opacity: \leq 20 % (Minn. R. 7011.0715)	Recordkeeping: Daily records of EPS; On-going MSDS records of coating content; Monthly calculations of emissions. None	Records can be generated on a daily basis for the EPS Bead processes, based on meter readings and written production logs. The remaining materials (e.g., adhesives) are very low volume and will be based on monthly usage records. These units are not reasonably expected to generate particulate matter; therefore, it is highly unlikely that they could violate the applicable requirement.
Boiler EU 001	PM: \leq 0.4 lb/MMBtu Opacity: \leq 20 % with exceptions (Minn. R. 7011.0515)	Recordkeeping: Monthly Fuel records	The boiler burns only natural gas or propane; therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limits by only burning natural gas or propane. Design based PTE for each unit, using AP-42, is 0.0072 compared to the rule limit of 0.4 lb/MMBtu.
EU 005, Hot Wire Cutters	PM: variable, depending on airflow Opacity: \leq 20 % (Minn. R. 7011.0715)	None	It is unlikely that these units could violate the applicable requirement. In addition, this operation is vented into the general building area so testing is not feasible. See Attachment 2 for more discussion of PTE versus allowable emissions.

3.4. Insignificant Activities

MDP West has several operations which are classified as insignificant activities. These are listed in Appendix I to the permit.

The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities. See Attachment 2 of this TSD for PTE information for the insignificant activities.

Table 5. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Processing operations that are controlled and vented inside 100% of the time	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0715)	For these units, based on control equipment performance, it is highly unlikely that they could violate the applicable requirement. In addition, these units are operated and vented inside a building, so testing for PM or opacity is not feasible.

3.5 Comments Received

Public Notice Period: May 31, 2005 – June 29, 2005

EPA 45-day Review Period: May 31, 2005 – July 14, 2005

No comments were received from the public during the public notice period or from EPA during their 45 day review period.

4. Conclusion

Based on the information provided by Minnesota Diversified Products, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 17100085-002 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: Peggy Bartz (permit engineer)
 Bob Berg (enforcement)
 Amrill Okonkwo (peer reviewer)

Attachments: 1. PTE Summary
 2. Calculation Spreadsheets
 2. Facility Description and CD-01 Forms

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

ATTACHMENT 2
EMISSIONS CALCULATIONS

ATTACHMENT 3
FACILITY DESCRIPTION AND COMPLIANCE PLAN
(CD-01 and Delta printouts, paper copy only)

