



AIR EMISSION PERMIT NO. 17100085- 005

Total Facility Operating Permit - Reissuance

IS ISSUED TO

Minnesota Diversified Products Inc
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 reissuance are as described in the Permit Applications Table.

This permit supersedes Air Emission Permit No. 17100085-004 and authorizes the Permittee to operate and construct the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

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

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

Operating Permit Issue Date: November 30, 2010

Expiration Date: November 30, 2015

– All Title I Conditions do not expire.


for Jeff J. Smith
Division Director
Industrial Division

for Paul Eger
Commissioner
Minnesota Pollution Control Agency

Permit Applications Table

Permit Type	Application Receipt Date	Permit Action
Total Facility Operating Permit -Reissuance	January 14, 2010	005
Supplemental Submittal #1	August 9, 2010	005
Supplemental Submittal #2	September 27, 2010	005

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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 the 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, either to hot-wire cutters where they are cut to size or to one of the mold presses that are used to make insulating concrete forms. For some final products, a thin plastic sheet can be laminated onto the foam boards.

The main pollutant of concern is pentane (a Volatile Organic Compound (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.

In previous permit actions, the facility has taken limits on the emissions of VOC 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).

This permit action carries forward an authorization to install a pre-expander (EU 003) as well as two mold presses (EU 008 and 009) under the existing cap on VOC emissions.

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-1 12/02/10

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 005

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

Subject Item: Total Facility

What to do	Why to do it
SOURCE-SPECIFIC REQUIREMENTS	hdr
This permit establishes limits on the facility to keep it a minor source under New Source Review. The Permittee cannot make any change at the source that would make the source a major source under New Source Review until a permit amendment has been issued. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments.	Title I Condition: Limit to avoid classification as major source or modification under 40 CFR Section 52.21
Equipment Inventory: The Permittee shall maintain a written list of all emissions units on site. The Permittee shall update the list to include any replaced or modified equipment prior to making the pre-authorized change. The list shall correlate the units to the numbers used in this permit (EU, GP, CE) and shall include the data on GI-04, GI-05B, and GI-05C. The date of construction shall be the date the change was made for replaced or modified equipment.	Minn. R. 7007.0800, subp. 2
Equipment Labeling: The Permittee shall permanently affix a unique number to each emissions unit for tracking purposes. The numbers shall correlate the unit to the appropriate EU and GP numbers used in this permit. The number can be affixed by placard, stencil, or other means. The number shall be maintained so that it is readable and visible at all times from a safe distance.	Minn. R. 7007.0800, subp. 2
Permit Appendices: This permit contains appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in the appendices.	Minn. R. 7007.0800, subp. 2
OPERATIONAL REQUIREMENTS	hdr
The Permittee shall comply 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. Compliance shall be demonstrated upon written request by the MPCA.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subps. 14 and 16(J)
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-2**

12/02/10

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 005

MONITORING REQUIREMENTS	hdr
Monitoring Equipment Calibration: The Permittee shall calibrate all required monitoring equipment at least once every 12 months (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, 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
Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.	Minn. R. 7007.1200, subp. 4
REPORTING/SUBMITTALS	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1

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

12/02/10

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 005

Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 - 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H). Performance testing deadlines from the General Provisions of 40 CFR pt. 60 and pt. 63 are examples of deadlines for which the MPCA does not have authority to grant extensions and therefore do not meet the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance, to be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 - 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 - 7002.0095

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

12/02/10

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 005

Subject Item: GP 001 Total Facility VOC Limit**Associated Items:** EU 002 Pre-Expander (No. 1)

EU 003 Pre-Expander (No. 2)

EU 004 Molder

EU 006 Laminator

EU 007 Mold Press

EU 008 Mold Press

EU 009 Mold Press

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 noncombustion VOC-emitting equipment at the Facility, other than those listed in Appendix I of this permit, shall be included in this calculation. VOC contents for each VOC-containing material shall be determined as described under the Material Content requirement in GP 001.</p> <p>If the Permittee replaces any existing VOC-emitting equipment, adds new VOC-emitting equipment, or changes the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of GP 001. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. The Permittee is not required to repeat VOC calculations described in Minn. R. 7007.1200, subp. 2.</p>	<p>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 63.2</p>
<p>Volatile Organic Compounds Continued:</p> <p>A permit amendment will still be needed regardless of the emissions increase if the change will be subject to a new applicable requirement or requires revisions to the limits or monitoring and recordkeeping in this permit.</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 63.2</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>

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

12/02/10

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 005

<p>Monthly Calculation -- VOC Emissions. The Permittee shall calculate the Monthly Emissions Rate of VOC (MER) using the following equation:</p> $\text{MER (lbs/month)} = (\text{A1} \times \text{B1}) + (\text{A2} \times \text{B2}) + (\text{A3} \times \text{B3})...$ <p>where: A# = amount of each VOC-containing material used (e.g., EPS bead, adhesive, etc.), in pounds/month; B# = weight percent VOC in A#, as a fraction.</p>	Minn. R. 7007.0800, subp. 4 and 5
<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 a Material Safety Data Sheet (MSDS) provided by the supplier. If a range of VOC is given on the MSDS the Permittee shall use the highest number in the range.</p> <p>If neither a COA nor an MSDS is available or does not include the total VOC content, the Permittee shall assume that the pentane content of that shipment is 7% by weight and the styrene monomer content is 0.1% by weight.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Material Content Continued:</p> <p>However, if in the preceding 12 months, EPS bead with a VOC content greater than 7.1% was used, then the Permittee shall assume that the VOC content of that shipment 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 COA or 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) or similar document 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
<p>Maximum Capacity and Contents of Materials: Certain worst-case contents of materials and equipment capacities when determining the short term potential to emit of units in GP001. These assumptions are listed in Appendix II of this permit. Changing to a material that has a higher VOC content is considered a change in method of operation that must be evaluated under Minn. R. 7007.1200, subp. 3 to determine if a permit amendment or notification is required under Minn. R. 7007.1150.</p>	Minn. R. 7005.0100, subp. 35a

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Diversified Products Inc -West
Permit Number: 17100085 - 005

Subject Item: GP 002 New Equipment
Associated Items: EU 003 Pre-Expander (No. 2)
EU 008 Mold Press
EU 009 Mold Press

What to do	Why to do it
The Permittee is authorized to install three new emissions units -- EU 003, 008, and 009 -- at any time during the life of this permit, permit #17100085-005. All units shall meet the requirements of this permit (e.g., listed at GP 001, etc.) and shall be limited in size to those specified in Appendix II of this permit.	Title I Condition: To avoid classification of changes as major modifications under 40 CFR Section 52.21 & Minn. R. 7007.3000

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

12/02/10

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 005

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
Fuel Type: natural gas or propane only, by design.	Minn. R. 7005.0100, subp. 35a
The Permittee shall keep records of fuel type and usage on a monthly basis.	Minn. R. 7007.0800, subp. 5

TABLE B: SUBMITTALS

B-1 12/02/10

Facility Name: Minnesota Diversified Products Inc -West
Permit Number: 17100085 - 005

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

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

Send 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

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

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

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

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS**B-2** 12/02/10

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 005

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup. The Permittee shall submit a written notification to the MPCA for each unit listed in GP 002. The notice shall include the EU number, the manufacturer and model number of the unit, the date that construction was begun, and the date of initial startup for the given unit.	GP002

TABLE B: RECURRENT SUBMITTALS**B-3** 12/02/10

Facility Name: Minnesota Diversified Products Inc -West

Permit Number: 17100085 - 005

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Annual Report	due 30 days after end of each year following Permit Issuance. The Permittee shall submit an annual report by January 31st that describes the changes made at the facility during the previous calendar year using the latest MPCA application forms. The report shall document the VOC 12-month rolling average calculations for the previous calendar year. The report shall be submitted with the annual Compliance Certification listed in Table B. As part of the Annual Report, the Permittee shall verify and certify that the facility has maintained minor source status for New Source Review.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). The Permittee shall submit this 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
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
7007.1300, subp. 3(I)	<p>Individual emissions units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than:</p> <ol style="list-style-type: none">1. 4,000 lbs/year of carbon monoxide; and2. 2,000 lbs/year each of nitrogen oxide, sulfur dioxide, particulate matter, particulate matter less than ten microns, volatile organic compounds (including HAP-containing VOC), and ozone. <p><i>MDP has hot wire cutting operations as well as EPS milling, planing, and cutting operations that qualify under this subpart.</i></p>	Minn. R. 7011.0715

Appendix II
EQUIPMENT CAPACITY AND MAXIMUM CONTENTS OF MATERIALS

The maximum capacity of each process unit is given in the table below as well as the maximum VOC content of the raw material.

Emission Unit (EU)	Maximum Capacity	Maximum VOC Content*
002	5500 lb bead/hour	7.10 wt %
003	5500 lb bead/hour	7.10 wt%
004	5500 lb bead/hour	7.10 wt%
006	10.0 gallons/hour	0.18 lb VOC/gallon
007	252 lb bead/hour	7.10 wt%
008	350 lb bead/hour	7.10 wt%
009	350 lb bead/hour	7.10 wt%

*includes all VOC (e.g., pentane, styrene, etc.)

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 17100085-005

This technical support document (TSD) is intended for all parties interested in the permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the determination to issue the permit.

1. General Information

1.1 Applicant and Stationary Source Location

Table 1. Applicant and Source Address

Owner and Operator Address and Phone Number (list both if different)	Stationary Source/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 Facility Description

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. This is a Part 70 Reissuance permit.

1.3 Description of any Changes Allowed with this Permit Issuance

This permit action carries forward the authorization to construct three new units that were authorized in prior permit actions where the units have not yet been installed. All emissions were previously accounted for.

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

Permit Number and Issuance Date	Action Authorized
17100085-003, September 29, 2005	Minor amendment to install EU 007, a mold press
1710008-004, February 21, 2006	Major amendment to install EUs 008 and 009 (mold presses) and to roll all units under the VOC cap (to keep the facility minor for PSD). Made the VOC emissions limit a PreCap.

1.5 Facility Emissions

Table 2. Total Facility Potential to Emit Summary

	PM tpy	PM ₁₀ tpy	PM _{2.5} tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Permitted Emissions	0.288	0.288	0.288	0.823	5.35	3.09	240	3.38	3.45
Total Facility Actual Emissions (2008)	0.06	0.06	0.06	0.00	0.76	0.64	88.4	HAPs not reported in emission inventory	

Table 3. Facility Classification

Classification	Major/Affected Source	Limits to be Minor	Minor/Area
PSD		X	
Part 70 Permit Program	X		
Part 63 NESHAP		X	

1.6 Changes to Permit

The following types of changes have been made in the reissued permit (in addition to the construction authorization):

- updated to reflect current MPCA templates and standard citation formatting;
- emission unit capacities have been updated by the company to reflect their maximum design capacities;
- PTE calculations have been updated to reflect equipment maximum capacities and new EPA emissions factors (for propane);
- one unit was removed from the permit because it was determined that it qualified as an insignificant activity;
- data has been updated for new units installed or removed since the last total facility permit was issued;
- recordkeeping for GP 001 was updated; and
- authorization for new units added at GP 002.

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).

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

The Permittee has stated that no New Source Performance Standards applicable to the operations at this facility.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

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

Compliance Assurance Monitoring (CAM)

No emissions units at the facility have pollution control equipment that is used to comply with a limit; therefore, no units are subject to CAM.

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 4. Regulatory Overview of Facility

EU, GP, or SV	Applicable Regulations	Comments
GP 001	Title I Condition, 40 CFR § 52.21; 40 CFR § 63.2 Minn. R. 7011.0715	Prevention of Significant Deterioration (PSD) and NESHAPs. Limits taken to avoid major source and modification classification under PSD for all noncombustion emissions of VOC. This VOC limit also results in the facility remaining an area source of HAPs. 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.
GP 002	Title I Condition, 40 CFR § 52.21	PSD. Prior construction authorization for three new units where the VOC cap covers these units such that they are not subject to PSD.
EU 001	Minn. R. 7011.0515, subps. 1 and 2	Standards of Performance for New Indirect Heating Equipment. Fuel limited to natural gas and propane only. State indirect heating standard with fuel type restricted to natural gas or propane. Additional information: <ul style="list-style-type: none">• all units constructed (or modified) after 1977 (per latest application);• the facility is located in the Minneapolis-St Paul Air Quality Control Region;• each unit capacity is less than 250 MMBtu/hr; and• the facility has less than 250 MMBtu/hr of indirect heating equipment.

3. Technical Information

3.1. Calculations of Potential to Emit

Attachments 1 and 3 of this TSD contain 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 and molding per EPA 450/3-90-020, with roughly 15% 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. Styrene monomer is present in the bead and is therefore also emitted in small amounts.

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 (previously EU 005)

The PTE calculations were prepared by the Permittee and are based on combustion emissions factors. Based on these calculations, these operations qualify as insignificant activities (IAs), so they have been removed from the body of the permit and are now listed in the appendix to the permit with the other listed IAs.

3.2. Permit Calculations

Section 3.3 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 5. 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 major source under 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 the unit will continue to operate such that emissions are well below the emission limits by only burning natural gas or propane. Design based PTE using AP-42, is 0.0072 compared to the rule limit of 0.4 lb/MMBtu.

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 Attachments 1 and 3 of this TSD for PTE information for the insignificant activities.

Table 6. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Individual emissions units which have a potential to emit less than 2,000 lbs/year each of volatile organic compounds	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0715)	For these units, based on potential emissions estimates, 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 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. The only item that deviates from guidance is the listing of certain applicable requirements at the group level even though they apply at the individual unit. Specifically: the Industrial Process Equipment Rule (IPER) is listed at GP 001. In general, limits that apply to individual pieces of equipment should be tracked at the unit level and should not be listed as a GP. The main reason is if there is noncompliance with a limit by one unit within the group, the computer system would say the whole group was out of compliance. This is a computer tracking issue.

The EPS foam processes (GP 001) are not reasonably expected to ever generate particulate matter, much less violate the limits. Therefore, it is highly unlikely that the MPCA would need to track noncompliance with this limit at the individual unit level.

3.6 Comments Received

No comments were received during either of the referenced review periods; no changes were made to the draft/proposed permit.

Public Notice Period: October 16, 2010 – November 15, 2010

EPA 45-day Review Period: October 16, 2010 – November 29, 2010

4. Permit Application Fee Assessment

This permit action is the reissuance of an individual Part 70; therefore, no application fees apply under Minn. R. 7002.0016, subp. 1. No other amendments were rolled into this permit action.

5. Conclusion

Based on the information provided by Minnesota Diversified Products Inc, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 17100085-005 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Peggy Bartz (permit engineer)
Dave Crowell (enforcement)
Bruce Braaten (peer reviewer)

AQ File No. 2273B; DQ 2969

- Attachments:
1. PTE Summary and Calculation Spreadsheets
 2. Facility Description and CD-01 Forms
 3. Permittee's Calculations

ATTACHMENT 1
EMISSIONS CALCULATIONS

MDP, Inc. - West
PTE Summary

Totals include permit limits.

Unit	Description	VOC		PM/PM ₁₀ /PM _{2.5}		Styrene		Total HAP	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
001	Boiler	0.075	0.329	0.066	0.288	0.000	0.000	0.015	0.067
002	Pre-expander	195.3	855	0.00	0.00	2.75	12.05	2.75	12.05
003	Pre-expander	195.3	855	0.00	0.00	2.75	12.05	2.75	12.05
004	Mold	195.3	855	0.00	0.00	2.75	12.05	2.75	12.05
006	Laminator	1.80	7.88	0.00	0.00	0.00	0.00	0.00	0.00
007	Mold Press	8.95	39.2	0.00	0.00	0.126	0.552	0.126	0.552
008	Mold Press	12.43	54.4	0.00	0.00	0.175	0.767	0.175	0.767
009	Mold Press	12.43	54.4	0.00	0.00	0.175	0.767	0.175	0.767
	total	621	240	0.066	0.288	8.73	3.38	8.74	3.45
IAs	various	0.000	0.010	0.210	0.926	0.00	0.00	0.00	0.00
	total w/IAs	621	240	0.276	1.21	8.73	3.38	8.74	3.45

Unit	Description	CO		SO ₂		NO _x	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
001	Boiler	0.704	3.09	0.188	0.823	1.22	5.35
	total	0.704	3.09	0.188	0.823	1.22	5.35
IAs	hot wire cutting	0.010	0.050	0.00	0.00	0.130	0.570
	total w/IAs	0.714	3.14	0.188	0.823	1.35	5.92

See combustion sheets for more individual HAP information from combustion (very small amounts).

MDP West Process PTEs

GP 001 - EPS Bead Operations

The EPS processes emit VOC and a small amount of HAP. VOC emissions are limited by the total VOC usage limit, but the Permittee submitted unlimited PTE calculations as required by the MPCA.

However, the permittee apportioned emissions between units that are not yet installed and that may never be installed, thereby underestimating the PTE of the individual units.

MPCA staff have prepared these calculations to show the worst-case unit-by-unit PTEs (lb/hr and tpy) based on the capacity information.

Keep in mind that the facility has had a total VOC limit since it was constructed, so these "unlimited" calculations are used to basically determine if the facility would otherwise be major for PSD - they are not used for any other purpose, so it is not critical that the numbers be precise. This level of estimation is adequate for our purposes.

EPA Document No. 450/3-90-020 lists 7% pentane as the maximum pentane content of the bead. This EPA document states that an average of 85% of the available pentane is lost during the first 48 hours. EPA Doc. No 450/3-90-020 apportions 43% loss up through expansion and 42% loss from molding up to 48-hrs after molding (total of 85%).

The EPA document is silent on what happens after the first 48 hours, but one can assume that the pentane continues to be emitted until gone. Since nothing prohibits the facility from keeping the final product on site longer than 48 hours, the worst case assumption is that up to 100% of the pentane may be emitted while on the premises.

Assume a maximum pentane content of	7.00%
Maximum VOC content is	7.10% (pentane + styrene, listed below)
VOC limit =	240 tons/year

The VOC unit-by-unit emissions are apportioned based on the process flow diagrams and discussions with the Permittee. The calculations do not take into account any process bottlenecks (even though they exist).

All expanded bead goes to either the block mold (EU 004) or one of the shape molds.

Product cannot go to multiple molding steps.

So, product follows one of these paths:

1) expander (2 permitted units) - block molding (1 unit) (to cutting, possibly laminating, and then to storage)

Some follows this process:

2) expander (2 permitted units) - shape mold press (3 permitted units) (and to either storage or to cutting, laminating, and then storage)

Under both options, 50% of the emissions are assumed to occur at each step, giving us the worst-case unit-by-unit PTE for each allowed expander (50%) and each allowed molder (50%). (conservative compared to EPA 450/3-90-020) Keep in mind that the sum of the unit-by-unit PTEs is not really the facility PTE - this assumes EACH bead is expanded twice and molded four times, which is not physically possible, but is a rough conservative estimate.

Styrene

The EPS bead has a small amount of free styrene monomer content. The permittee's supplier data shows the maximum content is 900 ppm. Use 1000 ppm here to be conservative.

Assume a maximum styrene content of 0.10%

The unit by unit unlimited styrene PTEs are shown below.

The limited PTE is based on the amount of bead that could be processed under the total facility VOC emissions limit. In addition, the Permittee has test data that shows only 31% of the styrene monomer is emitted. The PTE numbers were not adjusted further to account for this since it does not affect the applicability of any requirements.

Limited PTE	3.38 tpy
	3,380 tons/year bead throughput

MDP West Process PTEs

Unit-by-unit unlimited VOC and Styrene PTEs

EU	Description	emissions factor (%)	Capacity (lb/hr)	VOC lb/hr	VOC tpy	Styrene lb/hr	Styrene tpy
002	pre-expander	50.00%	5500	195.3	855	2.75	12.05
003	pre-expander	50.00%	5500	195.3	855	2.75	12.05
004	block mold	50.00%	5500	195.3	855	2.75	12.05
007	mold press	50.00%	252	8.95	39.2	0.126	0.552
008	mold press	50.00%	350	12.43	54.4	0.175	0.767
009	mold press	50.00%	350	12.43	54.4	0.175	0.767
total				620	2714	8.73	38.2

EU 006, Laminator

For some final product, adhesive is used to laminate thin plastic to the foam boards. The adhesive is a hot melt that contains a small amount of VOC, but no HAP. The VOC in the adhesive is limited as part of the total VOC limit, but the hourly and unlimited annual PTE are shown here.

Maximum VOC content	0.18 lb/gallon
Maximum throughput	10 gallons/hour
Hourly VOC PTE	1.80 lb/hr
Unlimited Annual PTE	7.88 tpy

MDP West Allowable Emissions (PM)

Equipment subject to the Industrial Process Equipment (IPE) Rule

Minn. R. 7011.0730 (Table 1) and 7011.0735 (Table 2)

Under the rule, the allowable is the higher of Table 1 or Table 2. For these activities there is no "process weight" that can be associated with generating particulate matter; therefore, Table 2 only is used for these sources.

Two units are not directly vented out a single stack. They are vented into the building. The emissions then leave through one building vent with a maximum airflow of 7000 acfm.

Using Table 2

EU	SV	Airflow (acfm)	gas temp	DSCFM	Table 2 (gr/dscf)	Table 2 (lb/hr)
002	003	500	160	426	0.1000	0.36
003	002	7000	78	6870	0.1000	5.89
004	004	500	160	426	0.1000	0.36
006	see EU 003					
007	005	500	160	426	0.1000	0.36
008	006	500	160	426	0.1000	0.36
009	007	500	160	426	0.1000	0.36

None of the above units are reasonably expected to generate particulate matter.

MDP West Boiler PTE

EU 001, Boiler

The boiler can burn either natural gas or propane. The PTE is calculated using AP-42 factors and choosing the worst case fuel for each pollutant.
Shaded cells reflect worst-case PTE.

gas heat value 1020 Btu/scf Capacity 8.5 MMBtu/hr
propane 90500 Btu/gal

	Propane (< 10 MMBtu/hr)			Natural Gas (<100 MMBtu/hr)		
	EF (lb/1000 gal)	lb/hr	tpy	EF (lb/MMSCF)	lb/hr	tpy
PM	0.7	0.066	0.288	7.6	0.063	0.277
PM ₁₀ /PM _{2.5}	0.7	0.066	0.288	7.6	0.063	0.277
NO ₂	13	1.221	5.348	100	0.833	3.650
SO ₂	2.0	0.188	0.823	0.6	0.005	0.022
CO	7.5	0.704	3.085	84	0.700	3.066
VOC	0.8	0.075	0.329	5.5	0.046	0.201
Lead	0	0.000	0.000	5.00E-04	4.17E-06	1.83E-05

Compare the PTE with the allowable emissions by rule:

EU	PM (rule)	PM (PTE)
001	0.4	0.0077

The PTE is significantly under the allowable by rule.

HAP PTEs (no HAP factors for propane, so only natural gas is shown)

Fuel Consumption Rate: 8095 cf/hr

HAP Name	CAS	Emission Factor lbs/MMscf	Emission Rate (lb/hr)	PTE (tpy)
POM*	NA	8.63E-05	6.99E-07	3.06E-06
Benzene	71-43-2	2.10E-03	1.70E-05	7.45E-05
Formaldehyde	50-00-0	7.50E-02	6.07E-04	2.66E-03
Hexane	110-54-3	1.80E+00	1.46E-02	6.38E-02
Naphthalene	91-20-3	6.10E-04	4.94E-06	2.16E-05
Toluene	108-88-3	3.40E-03	2.75E-05	1.21E-04
Arsenic	7440-38-2	2.00E-04	1.62E-06	7.09E-06
Beryllium	7440-41-7	1.20E-05	9.71E-08	4.25E-07
Cadmium	7440-43-9	1.10E-03	8.90E-06	3.90E-05
Chromium	7440-47-3	1.40E-03	1.13E-05	4.96E-05
Cobalt	7440-48-4	8.40E-05	6.80E-07	2.98E-06
Manganese	7439-96-5	3.80E-04	3.08E-06	1.35E-05
Mercury	7439-97-6	2.60E-04	2.10E-06	9.22E-06
Nickel	7440-02-0	2.10E-03	1.70E-05	7.45E-05
Selenium	7782-49-2	2.40E-05	1.94E-07	8.51E-07

Total HAP 1.89E+00 0.0153 0.0669
max ind. HAP 0.0638

Source of Data - AP-42, table 1.4-3 dated 7/98

MDP West Boiler PTE

*POM = Sum of pollutants identified as POM in AP-42 Table 1.4-3, dated 3/98:

Acenaphthene	1.80E-06	Fluoranthene	3.00E-06
Acenaphthylene	1.80E-06	Fluorene	2.80E-06
Anthracene	2.40E-06	Indo(1,2,3-ed)pyrene	1.70E-06
Benz(a)anthracene	1.80E-06	2-Methylnaphthalene	2.40E-05
Benzo(a)pyrene	1.20E-06	3-Methylchloranthrene	1.80E-06
Benzo(b,k)fluoranthene	1.80E-06	Phenanthrene	1.70E-05
Benzo(g,h,i)perylene	1.20E-06	Pyrene	5.00E-06
Chrysene	1.80E-06	total	8.63E-05
Dibenzo(a,h)anthracene	1.20E-06		
7,12-Dimethylbenz(a)anthracene	1.60E-05		

POM does not include naphthalene

Greenhouse Gas Estimate

Factors are all from AP-42

Natural Gas CO _{2e} factor	CO ₂	Methane	N ₂ O	Total Factor
	120,000	2.3	2.2	
GWP	1	25	298	
Weighted factors	120,000	57.5	655.6	120,713 lb/10E6 scf 119 lb/MMBtu
LPG CO _{2e} factor	12500	0.2	0.9	
GWP	1	25	298	
Weighted factors	12,500	5	268	12,773 lb/1000gal 125 lb/MMBtu

CO_{2e} PTE 4,662 tpy

This is significantly under the new major PSD source threshold for GHGs (100,000 tpy).