AIR EMISSION PERMIT NO. 05300841-001

IS ISSUED TO

illbruck foamtec, inc.
3800 Washington Avenue North
Minneapolis, Hennepin County, MN 55412

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):

Permit Application Type	Application Receipt Date
Total Facility State Operating Permit	June 5, 1995, replaced November 2, 2006
Supplemental Submittal #1	December 15, 2006
Supplemental Submittal #2	January 11, 2007

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

Issue Date: May 30, 2007

Expiration: Permit does not expire
All Title I Conditions do not expire.

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

for Brad Moore
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 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:

Illbruck foamtec, inc. receives various foam products in large sizes and then converts them into a variety of smaller products by cutting and shaping operations as well as coating operations. The primary pollutants from the facility are Particulate Matter (PM), Particulate Matter less than 10 microns (PM_{10}), Volatile Organic Compounds (VOC), and various Hazardous Air Pollutants (HAP). The facility also has several activities that qualify as insignificant under Minn. R. 7007.1300, subp. 3 and Minn. R. 7008.4110. These are listed in Appendix I of this permit.

This permit establishes emission, operational, and control limits on the facility to avoid major source classification under New Source Review (NSR, 40 CFR § 52.21) and the federal Part 70 operating permit program (40 CFR pt. 70). This permit also carries forward limits established in a 2004 construction permit that limited the total facility emissions of HAPs to less than the major source thresholds for the National Emissions Standards for Hazardous Air Pollutant (NESHAP) program.

TABLE A: LIMITS AND OTHER REQUIREMENTS

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

Subject Item: **Total Facility**

What to do	Why to do it
SITE-SPECIFIC REQUIREMENTS	hdr
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. If equipment is added, it shall be given a new unique number; numbers from replaced or removed equipment shall not be reused.	Minn. R. 7007.0800, subp. 2
Equipment Inventory: The Permittee shall maintain a written list of all emissions units and control equipment on site. The Permittee shall update the list to include any replaced, modified, or new equipment prior to making a change. The list shall correlate the units to the numbers used in this permit (EU, GP, CE) and shall include the data on Forms GI-04, GI-05A, and GI-05B. The date of construction shall be the date the change was made for replaced, modified, or new equipment.	Minn. R. 7007.0800, subp. 2
MODELING REQUIREMENTS	hdr
Parameters Used in Modeling: The parameters used in the modeling performed for determining emission and/or operational limits for this facility are listed in Appendix III of this permit. If the Permittee intends to change any of these parameters, the Permittee must submit the revised parameters to the Commissioner before making any changes. The revised parameter information submittal must include, but is not limited to: the locations, heights and diameters of the stacks; locations and dimensions of nearby buildings; velocity and temperatures of the gases emitted; and the emission rates. The plume dispersion characteristics due to the parameter revisions must equal or exceed the dispersion characteristics modeled for this permit, and the Permittee shall demonstrate this in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080
Parameters Used in Modeling, continued: Changes that do not require MPCA approval: For changes that do not require a permit amendment, the proposal must be submitted as soon as practicable, but no less than 30 days before making the change to any parameter. For changes that require a minor permit amendment, the proposal must be submitted prior to or with the permit application. Changes that require MPCA approval: For changes that require either a moderate or major amendment, the proposal must be submitted prior to or with the permit amendment application. The Permittee must wait for permit issuance or construction authorization (as allowed under Minn. R. 7007.1450, subp. 7(B)) before making these types of changes. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080
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)

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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
Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
REPORTING/SUBMITTALS	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3

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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. This report shall be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

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Subject Item: **GP 001 Total Facility Limits**

Associated Items: EU 002 Auto Paint Line 756

EU 003 Drying Oven 756, electric infrared

EU 005 Paint Booth 2 North 751

EU 009 Auto Paint Line 2 755

EU 010 Auto Paint Line 2 Electric Dryer

EU 012 Spray at Die cutting presses

What to do	Why to do it
A. EMISSION AND OPERATIONAL LIMITS	hdr
Volatile Organic Compounds: less than or equal to 90.0 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit. VOC contents for each VOC-containing material shall be determined as described under the Material Content requirement in GP001. The calculation of VOCs used may take into account recovered/recycled VOCs as described under the Waste Credit requirement in GP001. All non-combustion VOC-emitting equipment at the facility, other than activities listed in Appendix I of this permit, are subject to this limit.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
HAPs - Total: less than or equal to 20.0 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period. HAP contents for each HAP-containing material shall be determined as described under the Material Content requirement in GP001. The calculation of HAPs used may take into account recovered/recycled HAPs as described under the Waste Credit requirement in GP001. All non-combustion HAP-emitting equipment at the facility, other than activities listed in Appendix I of this permit, are subject to this limit.	Title I Condition: To avoid major source classification under 40 CFR Section 63.2; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
HAP-Single: less than or equal to 9.0 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period (applies to all HAPs other than Toluene). Individual HAP contents for each HAP-containing material shall be determined as described under the Material Content requirement in GP001. The calculation of HAPs used may take into account recovered/recycled HAPs as described under the Waste Credit requirement in GP001. All non-combustion HAP-emitting equipment at the facility, other than activities listed in Appendix I of this permit, are subject to this limit.	Title I Condition: To avoid major source classification under 40 CFR Section 63.2; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Toluene: less than or equal to 9.50 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period. The Toluene contents for each Toluene-containing material shall be determined as described under the Toluene Content of Materials requirement in GP001. The calculation of Toluene used may take into account recovered/recycled Toluene as described under the Waste Credit requirement in GP001. All non-combustion HAP-emitting equipment at the facility are subject to this limit.	Title I Condition: To avoid major source classification under 40 CFR Section 63.2; To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
VOC and HAP PreCaps: If the Permittee replaces any existing non-combustion VOC and/or HAP-emitting equipment, adds new VOC and/or HAP-emitting equipment, or modifies the existing equipment listed in GP001, such equipment is subject to this permit limit as well as all of the requirements of GP001. 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. 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.	Title I Condition: To avoid classification as major source and modification under 40 CFR 52.21 and Minn. R. 7007.3000; To avoid major source classification under 40 CFR 70.2, Minn. R. 7007.0200, and 40 CFR 63.2

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The Permittee shall vent emissions from all spray booths and paintlines, including existing, modified, or new spray booths or paintlines, to the following control equipment: EU002: to CE001 and CE002, in series EU005: to CE003 and CE004, in series EU009: to CE005 and CE006, in series All units in GP001 that have a total enclosure as of permit issuance must maintain that enclosure, and the control equipment must meet the requirements of GP002. CE003 controls must meet the requirements of CE003 or GP002.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
Opacity: less than or equal to 20 percent opacity . This limit applies separately to each unit in GP001.	Minn. R. 7011.0715, subp. 1(B)
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 separately to each unit in GP001.	Minn. R. 7011.0715, subp. 1(A)
B. MONITORING AND RECORDKEEPING	hdr
Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings and other VOC, solids, and HAP containing materials used at the facility. This shall be based on written usage logs, gauge or flowmeter readings, or delivery records. If the previous month's 12-month rolling sum emissions of Toluene exceeded 9.0 tons, the daily record of usage for the next calendar month shall include the shipment/batch/container information in order to determine the materials contents as specified in the Toluene Content of Materials requirements of this permit.	Title I Condition: To avoid classification as major source and modification under 40 CFR 52.21 and Minn. R. 7007.3000; To avoid major source classification under 40 CFR 70.2, Minn. R. 7007.0200, and 40 CFR 63.2; 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: 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
Monthly Recordkeeping - HAP Emissions. By the 15th of the month, the Permittee shall calculate and record the following using the formulas specified in this permit: 1). The total HAP-containing materials used in the previous calendar month using the daily usage records. This record shall also include the individual and total HAP contents of each HAP-containing material used in the previous month, as determined by the Material Content requirement of this permit. 2). The total and individual HAP emissions for the previous month using the formulas specified in this permit. 3). The 12-month rolling sum total and individual HAP emissions for the previous 12-month period by summing the monthly emissions data for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
Monthly Calculation -- HAP Emissions. The Permittee shall calculate each individual HAP and total HAP emissions using the following equations: HAP Emissions (tons/month) = H - W H = (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

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Monthly HAP Emissions Calculation Continued: Where: H = the amount of each pollutant (either total HAP or each individual HAP), used, in tons/month. A# = Amount of each HAP containing material used in the previous month, in tons/month. B# = weight percent of each individual or total HAP in A#, as a fraction (e.g., 50% is 0.50). W = the amount of each pollutant (either total HAP or each individual HAP) shipped in waste, in tons/month. C# = amount, in tons/month, of each HAP containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero. D# = weight percent of each individual or total HAP in C#, as a fraction.	Minn. R. 7007.0800, subp. 4 and 5
Material Content of Materials: VOC, HAPs (other than toluene), and Solids (PM and PM<10 microns) contents of 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, HAPs, and solids contents. The Commissioner reserves the right to require the Permittee to determine the VOC, HAP, 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
Toluene Content of Materials Scenario A: If the 12-month rolling sum emissions of Toluene remain less than or equal to 9.0 tons, the Toluene content of 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 Toluene contents. The Commissioner reserves the right to require the Permittee to determine the Toluene 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
Toluene Content of Materials continued: Scenario B: If the 12-month rolling sum emissions of Toluene exceeds 9.0 tons, the Permittee shall determine the toluene content of all materials delivered after that date using a Certificate of Analysis (COA) for each shipment/batch/container of material received that is based on EPA's Method 8260B, or other MPCA-approved method, for that shipment/batch/container. The COA shall specify the weight fraction of Toluene and material density of each shipment/batch/container of material received. This content data shall be used in the monthly Toluene calculations for the associated shipment/batch/container. If, once operating under Scenario B, the 12-month rolling sum emissions of Toluene remain less than or equal to 9.0 tons for three consecutive calendar months, then the Permittee may revert back to Scenario A (until such time that the emissions once again trigger Scenario B).	Minn. R. 7007.0800, subp. 4 and 5
Material Content Records: The Permittee shall keep a current copy of information provided by materials suppliers or manufacturers for each VOC-containing material used. This includes MSDSs, COAs, and test data used to determine the solids and VOC content and density for each VOC-containing material. If the Permittee conducted testing to determine the pollutant content or density, the Permittee must keep a copy of the complete test report. If information was used that was provided by the manufacturer or supplier of the material that was based on testing, the Permittee must keep the COA provided by the manufacturer or supplier. The Permittee is not required to obtain the test report or other supporting documentation from the manufacturer or supplier.	Minn. R. 7007.0800, subp. 4 and 5
Waste Content: 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 follow the Waste Sampling requirements specified in this permit to determine the weight content of VOC, solids, total HAP, and/or 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

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Waste Content continued: The content data for each waste stream shall be used in calculations required by this permit for all relevant shipments or all shipments in the calendar quarter, if applicable, following the sample analysis. For example, if quarterly sampling applies, sample results from January shall be used for all waste relevant shipments in January, February, and March, and April results shall be used in April, May, and June, etc.	Minn. R. 7007.0800, subp. 4 and 5
Waste Sampling: The Permittee or the company receiving the waste shall analyze a sample of the relevant stream using an EPA or ASTM reference method, a gas chromatograph, or other method approved by the Commissioner, to determine the weight content of the relevant pollutant for which credit is taken (i.e., VOC, total HAP, or individual HAPs) according to the following schedule: a). a composite sample of each waste shipment of the relevant waste stream, or b). a composite sample from all shipments of the relevant waste stream at least once per calendar quarter, if after twelve consecutive samples have been completed for the given waste stream, the relevant pollutant contents from each consecutive sample varies by less than or equal to 3.0%. If any two consecutive samples of the given waste stream vary by greater than 3.0%, then the sampling frequency for the given waste stream reverts back to every shipment. The Permittee shall keep copies of all test reports.	Minn. R. 7007.0800, subp. 4 and 5
Maximum Contents of Materials: The Permittee assumed certain worst-case contents of materials when determining the annual and 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 content of any of the given pollutants 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.	Minn. R. 7005.0100, subp. 35a

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Subject Item: **GP 002 Panel Filters (total enclosures)**

Associated Items: CE 001 Mat or Panel Filter

CE 002 Mat or Panel Filter

CE 004 Mat or Panel Filter

CE 005 Mat or Panel Filter

CE 006 Mat or Panel Filter

What to do	Why to do it
The requirements of GP002 apply separately to each control device in GP002. All panel filter controls that have total enclosures are subject to these requirements.	Minn. R. 7007.0800, subp. 2
A. EMISSION AND OPERATIONAL LIMITS	hdr
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for Total Particulate Matter: greater than or equal to 92 percent control efficiency	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; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7009.0010-7009.0080
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for Particulate Matter < 10 micron: greater than or equal to 92 percent control efficiency	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; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7009.0010-7009.0080
If the Permittee replaces any existing filter in GP002, adds new panel filters, or modifies the panel filters listed in GP002, such equipment is subject to all of the requirements of GP002. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable.	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; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7009.0010-7009.0080
The Permittee shall operate and maintain the panel filters any time that any process equipment controlled by the panel filters is(are) in operation. The Permittee shall document periods of non-operation of the control equipment.	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; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7009.0010-7009.0080
Operation and Maintenance of Filters: The Permittee shall operate and maintain each filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
B. MONITORING AND RECORDKEEPING	hdr
Daily Inspections: Once each operating day, the Permittee shall visually inspect the condition of each panel filter with respect to alignment, saturation, tears, holes and any other condition that may affect the filter's performance. The Permittee shall maintain a daily written record of filter inspections.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: If the filters or any of their components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14

Facility Name: illbruck foamtec inc - Minneapolis

Permit Number: 05300841 - 001

Subject Item: **EU 011 Hot wire cutter 522 and skinner 518**

Associated Items: CE 007 High Efficiency Particulate Air Filter (HEPA)

CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 011 522 hot wire cutter and 518 skinner

SV 012 Ceiling Vent (715 and 522)

What to do	Why to do it
The Permittee shall vent emissions from EU011 to two filters in series -- first CE007 and then CE008.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
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)

Facility Name: illbruck foamtec inc - Minneapolis

Permit Number: 05300841 - 001

Subject Item: **CE 003 Mat or Panel Filter**

Associated Items: EU 005 Paint Booth 2 North 751

What to do	Why to do it
A. EMISSION AND OPERATIONAL LIMITS	hdr
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency, for Total Particulate Matter: greater than or equal to 92.0 percent collection efficiency	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency, for Particulate Matter < 10 micron: greater than or equal to 92.0 percent control efficiency	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
If the Permittee replaces CE003, such equipment is subject to all of the requirements of CE003. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
The Permittee shall operate and maintain the panel filters any time that any process equipment controlled by the panel filters is(are) in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
Operation and Maintenance of Filters: The Permittee shall operate and maintain each filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
B. MONITORING AND RECORDKEEPING	hdr
Daily Inspections: Once each operating day, the Permittee shall visually inspect the condition of each panel filter with respect to alignment, saturation, tears, holes and any other condition that may affect the filter's performance. The Permittee shall maintain a daily written record of filter inspections.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: If the filters or any of their components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
Initial Hood Certification and Evaluation: The control device hood must 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. 3. The Permittee shall maintain a copy of the evaluation and certification on site.	Minn. R. 7007.0800, subp. 4, 5 and 14
Annual Hood Evaluation: The Permittee shall measure and record at least once every 12 months the fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method. The Permittee shall maintain a copy of the annual evaluation on site.	Minn. R. 7007.0800, subp. 4, 5 and 14

Facility Name: illbruck foamtec inc - Minneapolis

Permit Number: 05300841 - 001

Subject Item: **CE 007 High Efficiency Particulate Air Filter (HEPA)**

Associated Items: EU 011 Hot wire cutter 522 and skinner 518

What to do	Why to do it
A. EMISSION AND OPERATIONAL LIMITS	hdr
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency, for Total Particulate Matter: greater than or equal to 92.0 percent collection efficiency	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
The Permittee shall operate and maintain the control equipment such that it achieves a collection efficiency, for Particulate Matter < 10 micron: greater than or equal to 92.0 percent control efficiency	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
Pressure Drop: greater than or equal to 0.05 inches of water column and less than or equal to 1.0 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. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change.	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
If the Permittee replaces CE007 or modifies CE007, such equipment is subject to all of the requirements of CE007. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
The Permittee shall operate and maintain the HEPA filter system at all times that any emission unit controlled by the HEPA filter system is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
The Permittee shall operate and maintain the HEPA filter system 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
B. MONITORING AND RECORDKEEPING	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the pressure drop at least once every 24 hour period when in operation. The Permittee shall 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 source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the HEPA filter system or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, 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 HEPA filter system. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
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 HEPA filter system is in operation.	Minn. R. 7007.0800, subp. 4
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14

Facility Name: illbruck foamtec inc - Minneapolis

Permit Number: 05300841 - 001

Initial Hood Certification and Evaluation: The control device hood must 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. 3. The Permittee shall maintain a copy of the evaluation and certification on site.	Minn. R. 7007.0800, subp. 4, 5 and 14
Annual Hood Evaluation: The Permittee shall measure and record at least once every 12 months the fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method. The Permittee shall maintain a copy of the annual evaluation on site.	Minn. R. 7007.0800, subp. 4, 5 and 14

Facility Name: illbruck foamtec inc - Minneapolis

Permit Number: 05300841 - 001

Subject Item: **CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**

Associated Items: EU 011 Hot wire cutter 522 and skinner 518

What to do	Why to do it
A. EMISSION AND OPERATIONAL LIMITS	hdr
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
Pressure Drop: greater than or equal to 1.0 inches of water column and less than or equal to 2.0 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. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as major source under 40 CFR Section 70.2 and Minn. R. 7007.0200
If the Permittee replaces CE008 or modifies CE008, such equipment is subject to all of the requirements of CE008. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; To avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200; 40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
B. MONITORING AND RECORDKEEPING	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the pressure drop at least once every 24 hour period when in operation. The Permittee shall 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 source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 4 and 5
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
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. 7007.0800, subp. 4
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14

TABLE B: SUBMITTALS

Facility Name: illbruck foamtec inc - Minneapolis

Permit Number: 05300841 - 001

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:
- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Send any application for a permit or permit amendment to:

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

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

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

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

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

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

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

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

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

TABLE B: RECURRENT SUBMITTALS

Facility Name: illbruck foamtec inc - Minneapolis

Permit Number: 05300841 - 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
Annual Report	due 31 days after end of each calendar 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 include the emission unit, stack/vent, group, and control equipment data for any new or replaced units or control devices. The report shall be submitted with the annual Compliance Certification listed in Table B.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). This report shall be submitted to the Commissioner on a form approved by the Commissioner. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX I — Insignificant Activities Required to be Listed

Facility Name: Illbruck Foamtec Inc - Minneapolis
Permit Number: 05300841-001

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

Minn. R.	Rule Description of the Activity	Applicable Requirement
7007.1300, subp. 3(A)	Fuel use: space heaters fueled by, kerosene, natural gas, or propane.	Minn. R. 7011.0515
7007.1300, subp. 3(B)(1)	infrared electric ovens	Minn. R. 7011.0110
7007.1300, subp. 3(G)	Emissions from a laboratory, as defined in the subpart.	Minn. R. 7011.0515 + Minn. R. 7011.0610 + Minn. R. 7011.0715
7007.1300, subp. 3(H)(3)	brazing, soldering or welding equipment;	Minn. R. 7011.0515 + Minn. R. 7011.0610 + Minn. R. 7011.0715
7007.1300, subp. 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.	Minn. R. 7011.0515 + Minn. R. 7011.0610 + Minn. R. 7011.0715
7007.1300, subp. 3(K)	Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source, such as spray painting of buildings, machinery, vehicles, and other supporting equipment.	Minn. R. 7011.0715
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

APPENDIX II — Maximum Contents of Materials
Facility Name: Illbruck Foamtec Inc - Minneapolis
Permit Number: 05300841-001

All contents are “as applied”.

Emissions Unit	VOC Content (lb/gal)	Solids Content (lb/gal)
002	4.35	8.68
005	4.35	8.68
009	4.35	8.68

APPENDIX III — PM_{10} Modeled Parameters
Facility Name: Illbruck Foamtec Inc - Minneapolis
Permit Number: 05300841-001

Point Sources

Unit	Description	UTM Coordinate (m)		Emission Rate		Stack Height		Stack Temperature		Flow Rate		Stack Diameter	
		X	Y	g/s	lb/hr	m	ft	K	F	m/s	acfm	m	ft
SV002	Line 756	477811.1	4985717.6	0.058	0.46	8.38	27.5	297.04	75	11.51	4000	0.457	1.5
SV008	Line 755	477801.9	4985718.4	0.058	0.46	8.54	28.0	297.04	75	11.51	4000	0.457	1.5

Volume Sources

Unit	Description	UTM Coordinate (m)		Emission Rate		Release Height		Sigma Y		Sigma Z	
		X	Y	g/s	lb/hr	m	ft	m	ft	m	ft
SV012	Vent 108	477798.6	4985705.2	0.073	0.58	6.52	21.4	0.251	0.8	0.503	1.7
SV013	Vent 110	477783.7	4985724.2	0.074	0.59	6.52	21.4	0.251	0.8	0.503	1.7
SV014	Vent 124	477805.0	4985737.0	0.021	0.17	4.57	15.0	0.094	0.3	0.188	0.6

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 05300841-001

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 preliminary determination to issue the permit.

1 General Information

1.1 Applicant and Stationary Source Location

Applicant/Stationary Source Address (SIC Code: 3086)
illbruck foamtec, inc. 3800 Washington Ave N Minneapolis, MN 55412 Hennepin County
Contact: C. Douglas Youel Phone: 612-520-3614

1.2 Description of the Permit Action

This permit is a State Operation Permit for an existing facility. Illbruck foamtec, inc. (Illbruck) receives various foam products in large sizes and then converts them into a variety of smaller products by cutting and shaping operations as well as coating operations. The primary pollutants from the facility are particulate matter (PM), particulate matter less than 10 microns (PM_{10}), volatile organic compounds (VOC), and various hazardous air pollutants (HAP). The facility also has several activities that qualify as insignificant under Minn. R. 7007.1300, subp. 3 and Minn. R. 7008.4110 that are listed in Appendix I of the permit. The painting operations as well as the hot wire cutting operations are controlled with a series of particulate filters.

1.3 Description of any Changes Allowed with this Permit Issuance

No changes are authorized by this permit action.

1.4 Permit History

Table 1. Permit and Application Summary

Permit Number and Issuance Date	Action Authorized
3002-04-I/O-001 December 7, 2004	An installation and operation permit (I/O, Major Amendment) to modify an existing spray line (EU 009). Established limits on the total facility for HAPs.
NA	Administrative amendment application for a name change for the facility.

1.5 Facility Emissions

Table 2. 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
Total Facility Permitted Potential Emissions	10.6	10.6	0.00	0.00	0.00	90.9	9.0	20.0
Total Facility Actual Emissions (2004)	6.30	6.30	0.00	0.17**	0.15**	15.2	HAPs not reported in emission inventory	

*Other than toluene.
**Previously had a boiler that was removed in late 2006.

2 Regulatory and/or Statutory Basis

New Source Review
Based on potential to emit, the facility is an existing major source under New Source Review regulations (40 CFR § 52.21). The permit contains requirements that limit emissions of VOC and PM/PM_{10} to avoid major source classification for New Source Review.

Part 70 Permit Program
Based on potential to emit, the facility is an existing major source under the Part 70 operating permitting program (40 CFR pt. 70). The permit contains requirements that limit emissions of VOC, HAP, and PM/PM_{10} to avoid major source classification for the federal operating permits program.

New Source Performance Standards (NSPS)
The Permittee has stated that there are no New Source Performance Standards applicable to the operations at this facility.

National Emission Standards for Hazardous Air Pollutants (NESHAP)
The facility has accepted limits on HAPs such that it is an area source under 40 CFR pt. 63. Thus, no major source NESHAPs apply. In addition, the Permittee has stated that no area source NESHAPs apply to the facility.

Minnesota State Rules
The only state performance standard that applies to the permitted emissions units is Minn. R. 7011.0715, Standards of Performance for Post-1969 Industrial Process Equipment.

Table 3. Regulatory Overview of Facility

Level*	Applicable Regulations	Comments
TF	40 CFR pt. 50; Minn. Stat. § 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080	Modeling for Title V (NAAQS). The permit contains the standard requirements for facilities that have modeled for compliance with the NAAQS/MAAQS (PM_{10}). The modeled parameters are included as an appendix to the permit and the Permittee must submit revisions and receive written approval prior to making changes to these parameters if the change would require certain types of amendments. This is state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act**.

Level*	Applicable Regulations	Comments
GP 001	40 CFR § 52.21; 40 CFR § 70.2	Prevention of Significant Deterioration (PSD) and Part 70. Limits taken to avoid major source status under PSD and Part 70 for all non-combustion emissions of VOC other than those units listed in Appendix I of the permit. It is a rolling limit due to substantial and unpredictable variations in operation. The VOC limit is written as a PreCap. It limits all significant non-combustion emissions at the Facility regardless of whether they are existing, modified, or new. If the Permittee wishes to make changes to these units in the future, the changed equipment would continue to be subject to these requirements.
	40 CFR §§ 70.2 and 63.2	Part 70 and NESHAP. Limits take to avoid major source classification for all non-combustion emissions of total and individual HAP other than those units listed in Appendix I of the permit. It is a rolling limit due to substantial and unpredictable variations in operation. The HAP limits are also written as PreCaps.
	40 CFR §§ 70.2 and 63.2	Part 70 and NESHAP. Limit take to avoid major source classification for all emissions of Toluene. It is a rolling limit due to substantial and unpredictable variations in operation. The Permittee uses one primary product that contains toluene and historical emissions have approached the current 9.0 tpy limit; therefore, the Permittee requested a limit on toluene of 9.50 tpy.
	40 CFR § 52.21; 40 CFR § 70.2; 40 CFR pt. 50; Minn. Stat. § 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080	PSD and Part 70 and Modeling for Title V (NAAQS). The permit specifies that the spray booths and paintlines must be controlled for particulate emissions using GP 002 or CE 003 (controls used in the NAAQS modeling).
	Minn. R. 7011.0715	Standards of Performance for Post 1969 Industrial Process Equipment. All units began operation after July 9, 1969.
GP 002	40 CFR § 52.21; 40 CFR § 70.2; 40 CFR pt. 50; Minn. Stat. § 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080	PSD and Part 70. Control efficiency and other operating parameter requirements to limit PM/PM_{10} PTE to avoid major source classification under PSD and Part 70 and to meet NAAQS. All filters in this group have a total enclosure. See Section 3.2 of this TSD for more information on the enclosure issue for these controls. Control requirements are written so that they apply to all panel filters with total enclosures (new, modified, replaced, etc.).
EU 011	40 CFR § 52.21; 40 CFR § 70.2; 40 CFR pt. 50; Minn. Stat. § 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080	PSD and Part 70 and Modeling for Title V (NAAQS). The permit specifies that the unit must be controlled for particulate emissions using CE 007 and CE 008 (controls used in the NAAQS modeling).
	Minn. R. 7011.0715	Standards of Performance for Post 1969 Industrial Process Equipment. All units began operation after July 9, 1969.

Level*	Applicable Regulations	Comments
CE 003	40 CFR § 52.21; 40 CFR § 70.2; 40 CFR pt. 50; Minn. Stat. § 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080	PSD and Part 70. Control efficiency and other operating parameter requirements to limit PM/PM_{10} PTE to avoid major source classification under PSD and Part 70 and to meet NAAQS. This filter has a hood capture. Control requirements are written so that they apply to the filter, even if replaced or modified.
CE 007	40 CFR § 52.21; 40 CFR § 70.2; 40 CFR pt. 50; Minn. Stat. § 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080	PSD and Part 70. Control efficiency and other operating parameter requirements to limit PM/PM_{10} PTE to avoid major source classification under PSD and Part 70 and to meet NAAQS. The operation controlled by the HEPA filter is considered to have a hood (not totally enclosed). Control requirements are written so that they apply to the HEPA filter, even if replaced or modified.
CE 008	40 CFR § 52.21; 40 CFR § 70.2; 40 CFR pt. 50; Minn. Stat. § 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7009.0010-7009.0080	PSD and Part 70. Control efficiency and other operating parameter requirements to limit PM/PM_{10} PTE to avoid major source classification under PSD and Part 70 and to meet NAAQS. This control device is considered to have a total enclosure. Control requirements are written so that they apply to the fabric filter, even if replaced or modified.

*Level = EU, CE, GP, etc. where the requirements appear in the permit.

**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

Attachments 1 and 2 to this TSD contain the emissions detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

Coating
The coating calculations (EU 002, 005, and 009) are a mass balance based on the maximum VOC, HAP, and PM (if applicable) content of the material being applied, the transfer efficiency (PM from spraying only), and the control efficiency (PM from spraying only). No credit is given for recovered materials in the PTE calculations.

Miscellaneous VOC
At EU 012, VOC is applied to the foam to relieve it from pinching. The PTE is calculated using a mass balance based on the maximum that could be applied in an hour and the content of the material being applied.

Ovens
The ovens (EU 003 and 010) are infrared electric ovens, so the only emissions are from the evaporation of the coating materials applied at EUs 002 and 009. All emissions are listed at the coating operation.

Hot Wire Cutter/Skinner
The Permittee conducted an engineering study where material was weighed before and after these operations to determine a particulate matter emissions factor. This factor is then applied based on the maximum throughput of the unit.

3.2 Paint Line Enclosures

The Permittee has certified that the controls on EUs 002 and EU 009 (paint lines) have total enclosures, rather than hoods. The main basis for this certification was an evaluation completed by a consultant using EPA's Method 204. However, this test method is only applicable to VOC emissions, not particulate matter, and it cannot be used to exclusively determine if the capture system can be deemed a total enclosure. In the memo prepared by the consultant, only two of the five criteria evaluated are directly relevant for VOC emissions (all doors and windows are kept closed during operation and all emissions within the enclosure are vented to a control device).

MPCA staff viewed the process equipment and ventilation systems during a site visit on November 30, 2006. The data provided in the certification (average face velocity and surface area of natural openings), as well as the site inspection, showed that the units are operated under sufficient negative pressure for particulate matter with very little opportunity for emissions to escape the enclosure. Based on this information, it is MPCA staff's opinion that the equipment is considered to have an effective total enclosure.

In addition to these two units, the secondary filters on EUs 005 and 011 (CEs 004 and 008) are also considered to have total enclosures – they occur in series after the primary filter, so the ductwork serves as a direct enclosure for venting the emissions from the primary filter. The initial filter and capture system for each of these units is considered a hood (CE 003 and 007).

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

Level*	Requirement (basis)	Additional Monitoring	Discussion
Total Facility Limits: GP 001	VOC $\leq$ 90.0 tpy, on a 12-month rolling basis (to avoid NSR and Part 70)	Recordkeeping: Daily records of coating usage; On-going content records; Monthly calculations of emissions.	Records can be generated on a daily basis for all material used using a combination of daily manual logs and purchase records (for smaller quantity items). Credit can be taken for waste materials collected and shipped off-site. Since this is done at most monthly, calculating emissions more frequently than monthly would result in large spikes (while waste is accumulating) and dips (when waste is shipped) – resulting in possible paperwork violations and days with negative emissions. For these reasons, 12-month rolling limits are reasonable for this facility. The permit includes language that allows the waste content sampling to switch to quarterly sampling if the sampling results vary by less than 3%. At the time of permit issuance, the Permittee has not taken credit for waste shipments, but anticipates that they may wish to do so for toluene at some point in the future. The Permittee believes that the waste stream is fairly consistent, but has no real data at this time to support this claim (estimate that the toluene content is likely 15-20%). They currently ship roughly 1 drum/month, so they will initially be required to sample each drum for a year before they are potentially eligible to switch to a quarterly composite sample. The total lbs of toluene in waste not likely to significantly affect compliance with the limits (total pounds shipped in one year was estimated as 400 lbs).
	Total HAP $\leq$ 20.0 tpy and Individual HAP $\leq$ 9.0 tpy, on a 12 month rolling basis (to avoid NESHAP and Part 70)	Recordkeeping: Daily records of material usage; On-going content records; Monthly calculations of emissions.	Using the same recordkeeping as the VOC limit.
	Toluene $\leq$ 9.50 tpy, on a 12 month rolling basis (to avoid NESHAP and Part 70)	Tiered requirements for determining toluene contents; Recordkeeping: Daily records of usage, monthly calculation of emissions.	Because this limit is closer to the regulatory threshold, it is reasonable to require more frequent and site-specific monitoring. If the toluene emissions exceed 9.0 tpy, the permit requires that the toluene content must be determined using actual analysis data instead of an MSDS. In addition, all non-combustion toluene at the facility must be included – there are no exemptions for leaving insignificant activity emissions out of the calculations unless it is from combustion (combustion PTE is < 0.0002 tpy).
	PM/PM_{10}: All paintlines and	see GP 002 and CE 003 for monitoring	

Level*	Requirement (basis)	Additional Monitoring	Discussion
	booths required to be controlled by filters in GP 002 or CE 003 (avoid NSR/Pt70 & for NAAQS) PM ≤ grain loading limit, varies by unit Opacity ≤ 20% (Minn. R. 7011.0715)	None	Other PM limits at GP 002 and CE 003 and associated monitoring ensure that this applicable requirement is being met. Hourly PM emissions are below the allowable limits for all units, so no additional testing is required.
Panel Filters with total enclosures: GP 002	$PM/PM_{10} \geq$ 92.0% overall control (avoid NSR/Pt 70 & for NAAQS)	Recordkeeping, O&M, inspections	Monitoring based on the Minnesota Performance Standard for Control Equipment is adequate to have a reasonable assurance of compliance (daily and periodic inspections, corrective actions, and O&M).
Hot Wire Cutter: EU 011	PM/PM_{10}: controlled by CE 007 and CE 008 (avoid NSR/Pt70 & for NAAQS) PM ≤ 0.1492 gr/dscf (max) Opacity ≤ 20% (Minn. R. 7011.0715)	see CE 007 and 008 for monitoring None	Other PM limits at CE 007 and CE 008 and associated monitoring ensure that this applicable requirement is being met. Hourly PM emissions are below the allowable limit (allowable is 2.6 lb/hr vs. PTE of 0.164 lb/hr), so no additional testing is required.
Panel Filter with hood: CE 003	$PM/PM_{10} \geq$ 92.0% collection efficiency (avoid NSR/Pt 70 & for NAAQS)	Recordkeeping, O&M, inspections	Monitoring based on the Minnesota Performance Standard for Control Equipment is adequate to have a reasonable assurance of compliance (daily and periodic inspections, corrective actions, initial and annual hood evaluations, and O&M).
HEPA Filter: CE 007	$PM/PM_{10} \geq$ 92.0% collection efficiency (avoid NSR/Pt 70 & for NAAQS)	Recordkeeping, O&M, inspections	Monitoring based on the Minnesota Performance Standard for Control Equipment is adequate to have a reasonable assurance of compliance (daily and periodic inspections, corrective actions, initial and annual hood evaluations, and O&M).
Fabric Filter: CE 008	$PM/PM_{10} \geq$ 99% overall control (avoid NSR/Pt70 & for NAAQS)	Recordkeeping, O&M, inspections	Monitoring based on the Minnesota Performance Standard for Control Equipment is adequate to have a reasonable assurance of compliance (daily and periodic inspections, corrective actions, and O&M).

*Level = TF, EU, CE, GP, etc. where the requirements appear in the permit.

3.4 Air Dispersion Modeling

In June of 2005, the Permittee was notified that the facility was identified through preliminary screening as potentially exceeding the National Ambient Air Quality Standards (NAAQS) for 24 hour PM_{10} emissions. The letter stated various options for the facility pursue to resolve the issue. As part of the January 11, 2007 submittal, the Permittee included site-specific air dispersion modeling that was completed for the facility. The modeling was later updated (dated March 22, 2007, see Attachment 4 to this TSD). Several operating restrictions were assumed and physical changes were made to the facility that were reflected in the modeling. These have been incorporated as permit requirements (controls in series, hood and total enclosure requirements, etc.). In addition, per MPCA practice, a table of the modeling parameters has been added to the permit as an appendix. Memos summarizing the modeling results can be found in Attachment 4 to this TSD.

3.5 Insignificant Activities

Illbruck 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 why no monitoring is necessary. See Attachments 1 and 2 of this TSD for PTE information for the insignificant activities.

Table 5. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Fuel use: space heaters fueled by, kerosene, natural gas, or propane	PM $\leq$ 0.4 lb/MMBtu, Opacity $\leq$ 20% with exceptions (Minn. R. 7011.0515)	For these units, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these types of units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Infrared electric ovens	Opacity $\leq$ 20% (Minn. R. 7011.0105 or 7011.0110)	These units are not likely to have any emissions of particulate matter at this site (used to dry off VOCs). It is highly unlikely that they could violate the applicable requirement.
Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(G)	PM, variable depending on airflow Opacity $\leq$ 20% (Minn. R. 7011.0715)	These are very small, intermittent, bench-top operations that typically do not even have any emissions. It is highly unlikely that they could violate the applicable requirement.
Brazing, soldering or welding equipment	PM, variable depending on airflow Opacity $\leq$ 20% (Minn. R. 7011.0715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.

Insignificant Activity	General Applicable Emission limit	Discussion
Individual units with actual emissions less than 2000 lb/year of certain pollutants	PM, variable depending on airflow Opacity $\leq$ 20% (with exceptions) (Minn. R. 7011.0715 and Minn. R. 7011.610)	These are several natural gas combustion units as well as an assortment of process equipment. For the natural gas units, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, all of these units are operated and vented inside a building, so testing for PM or opacity is not feasible. The remaining units are not expected to generate particulate matter (see Permittee's calculations in the TSD Attachment 2).
Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source	PM, variable depending on airflow or process weight rate Opacity $\leq$ 20% (Minn. R. 7011.0715)	While spray equipment will have the potential to emit particulate matter, these particular activities are those not associated with production, so they would be infrequent and usually occur outdoors. Testing or monitoring is not feasible.
Equipment venting PM/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	PM, variable depending on airflow Opacity $\leq$ 20% (Minn. R. 7011.0715) OR PM $\leq$ 0.4 lb/MMBtu, Opacity $\leq$ 20% with exceptions (Minn. R. 7011.0515)	There are various grinding and cutting machines as well as a clothes dryer that is ducted back into the building. For these units, it is highly unlikely that they could violate the applicable requirement. In addition, these units are vented inside a building, so testing for PM or opacity is not feasible.

3.6 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. One area where this permit deviates slightly from Delta guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be tracked (e.g., limits, submittals, etc.), should be in Table A or B. The main reason is that the appendices are word processing sections and are not part of the tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must generate these. The permit includes three fairly standard appendices – one lists the insignificant activities, one lists the maximum coating contents, and one lists the stack parameters that were used in the PM_{10} dispersion modeling.

The permit also uses groups for requirements that apply individually to members of the group. However, the requirements are fairly general (e.g., Minn. performance standard, control equipment monitoring), so it is reasonable to list them this way in the permit.

3.7 Comments Received

No comments were received from either EPA or the public during the public notice/EPA review period.

Public Notice/EPA Review Period: April 28, 2007 – May 29, 2007

4 Conclusion

Based on the information provided by illbruck foamtec inc., the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 05300841-001 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:

Peggy Bartz (permit engineer)
Suzanne Venem (enforcement)
John Chikkala (peer reviewer)

AQ File No. 3002; DQ 25

Attachments:
1. PTE Summary and MPCA Calculation Spreadsheets
2. Permittee's Calculations for Insignificant Activities
3. Facility Description and CD-01 Forms
4. Dispersion Modeling Summary

ATTACHMENT 1
PTE SUMMARY AND CALCULATION SPREADSHEETS
(paper copy only)

ATTACHMENT 2
PERMITTEE'S CALCULATIONS FOR INSIGNIFICANT ACTIVITIES
(paper copy only)

ATTACHMENT 3
FACILITY DESCRIPTION AND CD-01 FORMS
(paper copy only)

ATTACHMENT 4
DISPERSION MODELING SUMMARY

DEPARTMENT : POLLUTION CONTROL AGENCY

STATE OF MINNESOTA

Office Memorandum

DATE : April 19, 2007

TO : Technical Support Document for Permit 05300841-001
AQ File No. 3002

FROM : Peggy L. Bartz
Air Permit Engineer

PHONE : 651/297-8113

SUBJECT : illbruck foamtec inc, PM_{10} Dispersion Modeling

This memorandum summarizes the various decisions that were made for the illbruck foamtec inc (Illbruck) state operating permit in terms of their PM_{10} dispersion modeling submittal.

Background

In 2004, as part of the development of a new air quality permitting rule, MPCA identified 249 facilities whose ambient air quality impacts potentially exceeded the National Ambient Air Quality Standards (NAAQS). These facilities were notified of their potential exceedences in June 2005 via a letter from Carolina Schutt, MPCA Air Quality Permitting Supervisor. Many of these facilities held registration or general permits or were waiting for issuance of their first state operating permits.

The original 2004 screening modeling did not include site-specific data for most of the stack and hours of operation assumptions. Specifically, stack heights were estimated as the average stack height values for facilities with the same SIC code in the national emissions inventory, the modeled emissions were the actual emissions as reported in the 2001 emissions inventory, for short-term standards, the hourly rate was calculated by assuming 2000 annual operating hours, and the modeling assumed a distance to the property line of 50 meters and used conservative dispersion factors from the MPCA's Risk Assessment Spreadsheet (RASS) to estimate 1-hour and annual average concentrations for all pollutants from each facility. For Illbruck, only the 24-hour PM_{10} standard showed a concern that needs to be resolved.

Illbruck hired a consultant to conduct 24-hour PM_{10} modeling and submitted the results in a November 2006 update to their pending air permit application. The full modeling results (CD-ROM) were submitted in January 2007 and updated in March 2007.

Submittal Review

The modeling analyses utilized AERMOD (version 04300) with appropriate meteorological data. Building downwash parameters were determined using BPIP-PRIME. Model options were consistent with MPCA air dispersion modeling guidance. Illbruck developed PM_{10} background concentrations from up-to-date monitoring data in Minneapolis.

All rates and stack parameters were consistent with those used for drafting the operating permit. The facility modeled rates equal to their proposed permitted PTE under the new permit. Prior to submitting the modeling, the facility made several improvements to their stacks, capture systems, and particulate controls that will all be reflected in the operating permit. These changes resulted in the overall controls for the three coating lines changing from 74% to 99.36% for two of the units and to 79.49% for the remaining booth. The new site-specific control requirements will not apply until the permit is issued.

If these new requirements are taken into account, the adjusted actual emissions are less than 5% of the 2007 modeled emissions on an annual basis[1]. In addition, many of the units at the facility are operated intermittently, not even for an entire shift. For example, even with the previous controls, two of the coating operations (EU005 and EU009) emitted less than 0.01 tons of PM_{10}/year for the last five years. Only one unit, EU002, operates on a regular basis. For that paint line, the expected short-term emissions are less than 15%[2] of the modeled rates. Illbruck accounted for the intermittent operation of these units using the time-of-day scalar option in the AERMOD dispersion model. The modeling analysis assumed 24 hours per day of operation for EU002 and 18 hours per day of operation for EU005 and EU009. These assumptions are conservative given the actual operating schedule of the units.

MPCA staff believes that with the proposed permit conditions and modeling demonstration, there is reasonable assurance that operation of the facility under the permit will not cause or contribute to a violation of the NAAQS.

The time-of-day scalars used in the modeling analysis were not included as limits in Illbruck's permit. This departure from typical MPCA modeling guidance was approved by MPCA Risk Managers on April 16, 2007. The conservative emission rates and other assumptions included in the modeling demonstrate that the NAAQS will not be exceeded by Illbruck's operations. The Risk Managers' decision does not guarantee that hourly operating or other permit limits will not be required should the facility modify their permit as part of an expansion or other change in operation.

Permit Language

The MPCA has standard language that is included is most permits where modeling has been used to determine emissions and/or operational limits. This language generally states that proposals to change what was modeled must be submitted and approval received from the MPCA prior to making such a change. Where modeling has been conducted and NO limits are set as a result, the MPCA decides on a case-by-case basis what level (if any) of changes at the facility should trigger an evaluation or re-modeling.

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[1] This is based on actual emissions from 2004 inventory, back-calculating the uncontrolled emissions, and applying new controls. In addition, EU011 was not previously listed in the inventory, so this is included in this comparison assuming its scheduled operation of 8 hr/day, 5 days/week, and 52 weeks/year. This gives total expected actual emissions of 0.40 tpy vs. a modeled PTE of 10.2 tpy.

[2] This is based on throughput data provided in 2004 emissions inventory as well as other data provided in inventory – operation scheduled at 18 hrs/day, 5 days/week, 52 weeks per year, or 4680 hr/yr. Actual emissions were 6.27 tpy or 2.68 lb/hr. Adjusted for new controls, this is 0.15 tpy and 0.065 lb/hr. The modeled rate for this unit is 0.463 lb/hr. The expected actuals are 14.0% of this value.

In this case, the only limits that were required from the modeling are related to control equipment – no specific process or emissions limits were included in the permit. MPCA staff believes that this permit falls into the case-by-case scenario where the level of future modeling or submittals should be based on the modeling inputs, the MPCA's current review, and the results for this specific facility.

Given that:

- the modeling was conducted for state-only purposes;
- the modeling results were less than the applicable standards;
- the only limits resulting from the modeling are for site-specific capture and controls;
- the permit contains appropriate monitoring to ensure that the capture and control systems are operated and maintained properly;
- the hourly rates are based on worst-case PTE (highest solids, highest flow rate, etc.);
- the expected emissions are less than 5% of the annual modeled rates;
- the expected short-term emissions are less than 30% of the 24-hour modeled rates;
- the expected routine types of changes for this facility (e.g., use of different coatings, replacement of equipment, etc.) are not reasonably expected to affect overall compliance with the NAAQS; and
- if the Permittee proposes to make a change that requires MPCA pre-approval through the permit process, then it is reasonable to require the modeling to follow that same process,

MPCA staff has proposed to include the following in the permit for future modeling requirements:

Citation (basis)	Requirement
40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	Parameters Used in Modeling: The parameters used in the modeling performed for determining emission and/or operational limits for this facility are listed in Appendix III of this permit. If the Permittee intends to change any of these parameters, the Permittee must submit the revised parameters to the Commissioner before making any changes. The revised parameter information submittal must include, but is not limited to: the locations, heights and diameters of the stacks; locations and dimensions of nearby buildings; velocity and temperatures of the gases emitted; and the emission rates. The plume dispersion characteristics due to the parameter revisions must equal or exceed the dispersion characteristics modeled for this permit, and the Permittee shall demonstrate this in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.
40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A), (L) & (M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	Parameters Used in Modeling, continued: Changes that do not require MPCA approval: For changes that do not require a permit amendment, the proposal must be submitted as soon as practicable, but no less than 30 days before making the change to any parameter. For changes that require a minor permit amendment, the proposal must be submitted prior to or with the permit application. Changes that require MPCA approval: For changes that require either a moderate or major amendment, the proposal must be submitted prior to

Citation (basis)	Requirement
	or with the permit amendment application. The Permittee must wait for permit issuance or construction authorization (as allowed under Minn. R. 7007.1450, subp. 7(B)) before making these types of changes. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.

In addition, the air permitting rules give the MPCA the authority to re-open the air permit if the MPCA finds that further permit conditions are required in order to assure compliance with the NAAQS (mandatory permit reopening under Minn. R. 7007.1600, subp. 1(D)).

TECHNICAL MEMORANDUM

TO: Doug Youel, Illbruck Foamtec

FROM: Kathryn Anderson, Wenck Associates, Inc.
Libbie Henderson, Wenck Associates, Inc.

DATE: October 25, 2006
Updated March 22, 2007

SUBJECT: Refined Dispersion Modeling Description and Results – Updated Memo

CC: Chris Nelson, Minnesota Pollution Control Agency

This memorandum summarizes the results from air dispersion modeling for Illbruck Foamtec's (Illbruck's) Minneapolis, MN facility. As required by the Minnesota Pollution Control Agency (MPCA), the purpose of the modeling is to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) and the Minnesota Ambient Air Quality Standards (MAAQS) for particulate matter with diameter less than 10 microns (PM_{10}).

Illbruck received a letter from the MPCA on June 21, 2005 addressing the status of the facility with respect to the NAAQS. The letter indicated that the MPCA completed screening modeling for the facility and determined that the facility had the potential to exceed the 24-hour PM10 NAAQS. The MPCA indicated in the letter that facilities with the potential to exceed the NAAQS must demonstrate that emissions from the facility will not cause or contribute to an exceedance of the NAAQS prior to the MPCA authorizing any modifications at the facility. This memorandum serves as demonstration that modeling of the facility's emissions using AERMOD-PRIME demonstrates compliance with NAAQS/MAAQS. This report provides a discussion of the air dispersion modeling analysis.

MODELING DESCRIPTION

This section summarizes the source parameters, emission rates, building downwash parameters, receptor grid and meteorological data utilized in the analysis.

Source Parameters

The AERMOD-PRIME model, version 07026 was used to complete the modeling analysis. The source specific modeling data was acquired from Illbruck.

755 and 756 Spray Lines: These spray lines exhaust from defined stacks. They vent to a total enclosure; therefore, all emissions generated vent to one stack, respectively. These sources were included in the model as point sources. The specific point source parameters include: base elevation, stack height, stack temperature, exhaust flowrate, exit velocity, and stack diameter. These parameters are summarized in Table 1.

North Spray Booth and Hot Wire Cutter: The north spray booth and hot wire cutter do not have a total enclosure. The captured emissions vent to a defined stack; however, the uncaptured emissions vent to roof or wall exhaust points. The uncaptured north spray booth emissions vent to 4 roof/wall vents. The hot wire cutter uncaptured emissions vent to one (1) roof vent. The roof vents are included in the model as volume sources. The specific volume source parameters include: base elevation, release height, and initial vertical and lateral dimensions. These parameters are summarized in Table 2.

Stack vents that emit less than 0.1 lb/hr are not included in the modeling analysis as indicated in MPCA Air Dispersion Modeling Guidance for Minnesota Title V Modeling Requirements and Federal Prevention of Significant Deterioration (PSD) Requirements (Version 2.2, October 20, 2004). This includes the ***captured*** north spray booth and ***captured*** hot wire cutter stack vents.

Table 1. Point Source Parameters

Model ID	Source Description	Base Elevation		Stack Height		Stack Temperature		Exhaust Flowrate	Exit Velocity		Stack Diameter	
		(ft)	(m)	(ft)	(m)	(F)	(K)	(acfm)	(ft/min)	(m/s)	(ft)	(m)
SV002	756 Spray Line	824	251	27.5	8.38	75	297	4000	2265	11.51	1.5	0.46
SV008	755 Spray Line	824	251	28.0	8.54	75	297	4000	2265	11.51	1.5	0.46

Table 2. Volume Source Parameters

Model ID	Source Description	Base Elevation		Release Height		Initial Vertical Dimension		Initial Lateral Dimension	
		(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)
SV012	Vent H	824	251	21.4	6.52	1.65	0.50	0.82	0.25
SV013	Vent J	824	251	21.4	6.52	1.65	0.50	0.82	0.25
SV014	Wall Vent	824	251	15.0	4.57	0.62	0.19	0.31	0.09

Emission Rates

Emission rates were obtained from Illbruck and are included in the facility's State Permit Application (October 2006). Table 3 below provides the emission rates for all sources included in the modeling analysis.

As indicated previously, the uncaptured emissions for the spray booth can vent to 4 different roof or wall vents. The emission rates for the roof/wall vents were based on airflow of the vent exhaust. The uncaptured emissions were divided between the 4 roof/wall vents based on the airflow of the exhaust fan for each vent.

Example: North Spray Booth uncaptured emissions vent from the following roof or wall vents: Vent H, Vent J, Wall Vent or Paint Prep Wall Vent

The total uncaptured emissions = 1.22 lb/hr (North Spray Booth) + 0.15 lb/hr (Hot Wire Cutter) = 1.37 lb/hr (Total)

Air flow for each vent:

Vent H =	8,820 acfm
Vent J =	11,290 acfm
Wall Vent =	3,112 acfm
Paint Prep Wall Vent =	700 acfm
Total =	23,322 acfm

Emission Rates:

Vent J = 1.37 lb/hr * 11,290 acfm/23,322 acfm = 0.59 lb/hr

Wall Vent = 1.37 lb/hr * 3,112 acfm/23,322 acfm = 0.16 lb/hr

Paint Prep = 1.37 lb/hr * 700 acfm/23,322 acfm = 0.04 lb/hr
(not included in the modeling analysis. Below 0.1 lb/hr)

Vent H (also includes the uncaptured Hot Wire Cutter Emissions)
= 1.37 lb/hr * 8,820 acfm/23,322 acfm = 0.43 lb/hr
0.43 lb/hr + Hot Wire Cutter uncpatured (0.15 lb/hr) = 0.58 lb/hr

Table 3. PM_{10} Emission Rates

Model ID	Source Description	24-Hour Averaging Period	
		(g/s)	(lb/hr)
SV002	756 Spray Line	0.058	0.46
SV008	755 Spray Line	0.058	0.46
SV012	Vent H	0.073	0.58
SV013	Vent J	0.074	0.59
SV014	Wall Vent	0.021	0.16

Daily Operations

Illbruck currently operates two (2) shifts per day; 1-8-hour shift and 1-10 hour shift for a total of 18 hours of operation. The first shift starts at 7am and the second shift ends at 1am. In addition, operations are not run for the entire 18 hours each day. The spray lines require both set-up and clean-up for projects each day. During the set-up and clean-up time, the spray lines are not operating; therefore, no particulate would be emitted from the facility during these times.

The MPCA is allowing Illbruck to include the daily operation schedule of 18 hours per day in this modeling analysis model. Chris Nelson of the MPCA discussed this methodology with Kathryn Anderson of Wenck Associates, Inc. on March 22, 2007. Based on MPCA's recommendation, Illbruck has included the schedule into the model by the use of the scalers operation. The model will assume no emissions from the facility during the hours from 1am to 7am. The maximum hourly emission rate for the facility operations will be assumed during the hours from 7am to 1am.

An example of the modeling code for this assumption is below:

```
SO EMISFACT  SV002  HROFDY  0.0  0.0  0.0  0.0  0.0  0.0  1.0  1.0  1.0  1.0
SO EMISFACT  SV002  HROFDY  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.0
SO EMISFACT  SV002  HROFDY  1.0  1.0  1.0  1.0
```

Building Downwash

To asses the impact of building downwash, building dimensions used in the AERMOD-PRIME model were calculated suing the USEPA Building Profile Input Program – Plume Rise Model Enhancements (BPIP-PRIME), version 04274. Locations for stacks and buildings provided by Illbruck were input into BPIP-PRIME.

Receptor Grid

The receptor grid was based on the MPCA recommend grid for State Title V modeling purposes (MPCA Air Dispersion Modeling Guidance for Minnesota Title V Modeling Requirements and Federal Prevention of Significant Deterioration (PSD) Requirements (Version 2.2, October 20, 2004)). The following grid was used for this modeling analysis:

- Discrete receptors placed every 25 meters along the property line.
- Polar grid with 36 directions with distances of 100 meter to 2000 meters every 100 meters.

Receptor elevations were determined using the AERMOD terrain preprocessor (AERMAP), version 03107, and USGS 7.5-minute resolution DEM files. The option of NADA = 4 was used to reference the NAD83 anchor coordinates based on the AERMAP users manual.

Meteorological Data

For refined modeling analyses, USEPA and MPCA guidelines specify the use of either one (1) year of on-site meteorological data, or five (5) years of representative, hourly National Weather Service (NWS) observations. Because no on-site data existed, NWS data were relied upon in this analysis.

The meteorological data necessary for the AERMOD meteorological preprocessor (AERMET, version 04300) were based on hourly surface observation data from the Minneapolis-St. Paul, Minnesota, NWS station no. 14922 and upper air sounding data from the St. Cloud, Minnesota, NWS station no. 14926 for meteorological years 1986 through 1990. The meteorological data was downloaded from MPCA's website.

Background Data

Illbruck submitted a memo on March 7, 2007 outlining the proposed background concentrations for the dispersion modeling. The MPCA agreed that the proposed monitor (monitor ID 270531007) is the most representative of the area. This monitor is located approximately 1.5 miles from Illbruck and has PM_{10} data from 2001 through 2006. Table 4 below outlines the values obtained from the monitor. For PM10, 24-hr modeled compliance is based on the high sixth high (H6H) value. Therefore, since this data will be used for PM_{10} 24-hour modeling, only the 2nd high values for each year were analyzed.

Table 4. PM_{10} 24-Hour 2nd High Monitored Values – Monitor ID 270531007

Year	Monitored Value ($\mu g/m^3$)
2001	55
2002	48
2003	41
2004	41
2005	48
2006	43
Average	**46**

The MPCA concurred that the average 24-hour 2nd high monitored value of 46 $\mu g/m^3$ is most appropriate to use in this analysis.

Note that it is possible that this monitor is influenced by the Xcel Energy Riverside Plant which is located across the Mississippi River and slightly North of Illbruck. That facility is currently moving from a coal fired boiler system to a natural gas fired combustion turbine system. That will decrease ambient air quality impacts from the facility significantly. It is possible, therefore, that monitored values in this area may decrease in the near future.

DISPERSION MODELING RESULTS

Modeling of Illbruck's potential emissions using AERMOD-PRIME demonstrates compliance with 24-hour NAAQS/MAAQS for PM_{10}. The impacts were compared to the applicable air quality standards presented in Table 5.

Table 5. Dispersion Modeling Results

Model Description	Year	Model Results ($\mu g/m^3$)	Background Conc. ($\mu g/m^3$)	Total Result ($\mu g/m^3$)	Standard ($\mu g/m^3$)
24-hr H6H NAAQS	1986-1990	91.07	46.0	137.07	150