



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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TO: Interested Parties / Applicant
DATE: February 28, 2008
RE: Carpenter Co. / 039-17988-00086
FROM: Matthew Stuckey, Deputy Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.



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Part 70 Operating Permit Renewal OFFICE OF AIR QUALITY

**Carpenter Co.
195 County Road 15 South
Elkhart, Indiana 46516**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70, Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 039-17988-00086	
Issued by: <i>Original document signed by</i> Matthew Stuckey, Deputy Branch Chief Permits Branch Office of Air Quality	Issuance Date: February 28, 2008 Expiration Date: February 28, 2013

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in Conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a polyurethane foam production source.

Source Address:	195 County Road 15 South, Elkhart, Indiana 46516
Mailing Address:	P.O. Box 2386, Elkhart, Indiana 46515
General Source Phone Number:	574 - 522 - 2800
SIC Code:	3086, 2899, 2297
County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) foam pouring line, identified as EU-01A/B, constructed in 1982, consisting of a mixer, tunnel, foam block cut, and slab room, exhausting through Vents 14, 15 and 16 and Vents b through i, capacity: 60,000 pounds of foam per hour using TDI. EU-01A/B is not able to use MDI.
- (b) Four (4) loop slitting process lines, identified as EU-02B, constructed in 1998, including three (3) adhesive stations used to coat polyurethane foam, equipped with high volume low pressure (HVLP) spray applicators and exhausting to Stacks 22 and 22a, capacity: 0.148 gallons of adhesive per set-up with a maximum set-up rate of 30 set-ups per 8 hours, total. This process also includes two (2) ink stamping lines, identified as EU-6.1 and EU-6.2, installed in 2005.
- (c) One (1) natural gas-fired boiler, identified as EU-03, constructed in 1992, exhausting to Stack V6, rated at 12.55 million British thermal units per hour.
- (d) One (1) bonded foam line, identified as EU-04, constructed in 1990 and modified in 2000, exhausting to Stacks S17 and S18, capacity: 25,000 pounds per hour, consisting of the following equipment:
 - (1) One (1) foam shredding operation;
 - (2) One (1) pneumatic conveyer system;
 - (3) Various storage bins;
 - (4) One (1) foam dry mixer;
 - (5) One (1) wet mixer;

- (6) One (1) molding unit; and
 - (7) Various storage operations.
- (e) Two (2) closed mold polyurethane foam turnstile production operations, identified as EU-5.1 and EU-5.2, constructed in March 1998, equipped with a total of two (2) robotic high volume low pressure (HVLP) spray applicators, exhausting to Vents V27, V28, V29, V34 and V35, capacity:
- (1) EU-5.1 and EU-5.2 with solvent based mold release: 37.0 pounds of release agent per hour, 808.30 pounds of Isocyanate and 1,550 pounds of polyols per hour.
 - (2) EU-5.1 with water based mold release: 9.8 pounds of release agent per hour, 216 units per hour.
- (f) The following tanks are grouped into four (4) general categories - Primary Pour Tanks (EU-01), Rebond Tanks, Chemical Blending Tanks, and Mold Tanks (EU-05):

Primary Pour Tanks EU-01

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual throughput (gallons)
P1	12,500	10.5	19.5	1,000	POLYOL	0.00	200,000
P2	12,500	10.5	19.5	3,000	POLYOL	0.00	200,000
P3	12,500	10.5	19.5	3,500	POLYOL	0.00	800,000
P4	12,500	10.5	19.5	102	PROPYLENE CARBONATE	0.00	800,000
P5*CA	12,500	10.5	19.5	174	ISO	0.010	550,000
P6*CA	12,500	10.5	19.5	360	MDI	0.00	800,000
P7*CV	12,500	10.5	19.5	6000	PrePoly	0.00	250,000
P8	4,890	8.00	15.0	174	ISO PP	0.010	500,000
P9	12,500	10.5	19.5	3,000	POLYOL	0.00	200,000
P10	12,500	10.5	19.5	5,000	POLYOL	0.00	115,000
P11	12,500	10.5	19.5	6,500	POLYOL	0.00	150,000
P12	12,500	10.5	19.5	6,500	POLYOL	0.00	150,000
P13	11,500	10.5	18.0	410	FR	N/A	120,000
P14	12,000	10.5	18.0	410	FR	0.020	200,000
P15	12,000	10.5	18.0	6,500	POLYOL	0.00	150,000
P16	12,000	10.5	18.0	5,000	POLYOL	0.00	100,000
P17	12,000	10.5	18.0	5,000	POLYOL	0.00	115,000
P18	12,000	10.5	18.0	3,000	POLYOL	0.00	200,000
P19***	12,000	10.5	18.0	174	ISO PP	0.010	700,000
P20	12,000	10.5	18.0	6000	PrePoly	0.00	250,000
P21*CA	12,000	10.5	18.0	174	ISO	0.010	550,000
P22*CA	12,000	10.5	18.0	174	ISO	0.010	550,000
P23	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P24	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P25	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P26	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P26A	3,000	8.00	8.00	3,500	POLYOL	0.00	200,000
P27	50,000	24	16	174	ISO	0.010	Pending
P28	50,000	24	16	174	ISO	0.010	Pending
P29	50,000	24	16	174	ISO	0.010	Pending
P30	50,000	24	16	174	ISO	0.010	Pending

Notes: * Emission Control Device: conservation vents (CV), Nitrogen Blanket (N2) or Carbon Adsorption bed filters (CA)
** Closed System

Rebond Tank

Fixed Roof Cone Storage Tank	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
R2***	4,000	8.00	10.0	174	ISO-PP	0.010	700,000***

Notes: * Emission control device, CV, N2, or CA
 ** Closed System
 ISO-PP - Isocyanate Prepolymer
 *** P19 and R2 cascade from one tank to the next for a TOTAL throughput of 700,000 gallons.

Chemical Blending Tanks

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
C1	11,500	8.00	30.5	5,000	POLYOL	0.00	20,000
C2	28,500	12.0	34.0	6,500	POLYOL	0.00	900,000
C3	11,500	8.00	30.5	285	FR	0.200	40,000
C4	11,500	8.00	30.5	410	FR	0.200	40,000
C5	11,500	8.00	30.5	N/A	EMPTY	N/A	0.00
C6	11,500	8.00	30.5	575	POLYOL	0.00	10,000
C7	11,500	8.00	30.5	575	POLYOL	0.00	10,000
C8	11,500	8.00	30.5	700	POLYOL	0.00	20,000
C9	11,500	8.00	30.5	700	POLYOL	0.00	100,000
C10	11,500	8.00	30.5	575	POLYOL	0.00	100,000
C11	28,500	12.0	34.0	360	POLYOL	0.00	150,000
C12	11,500	8.00	30.5	575	POLYOL	0.00	25,000
C13**	11,500	8.00	30.5	5,000	POLYOL	0.00	50,000
C14	11,500	8.00	30.5	5,000	POLYOL	0.00	50,000
C15	11,500	8.00	30.5	5,000	POLYOL	0.00	50,000
C16	11,500	8.00	30.5	575	POLYOL	0.00	100,000 gallons total for C16, C17 and C18 combined
C17	11,500	8.00	30.5	575	POLYOL	0.00	
C18	11,500	8.00	30.5	575	POLYOL	0.00	
C19	28,500	12.0	34.0	360	MDI	0.00	150,000
C20	11,500	8.00	30.5	5,000	POLYOL	0.00	80,000
C21	11,500	8.00	30.5	360	MDI	0.00	200,000
C22	11,500	8.00	30.5	360	MDI	0.00	400,000
C23 externally vented	11,500	8.00	30.5	174	ISO	0.010	120,000
C24	11,500	8.00	30.5	N/A	POLYOL	N/A	60,000
C25 externally vented	28,500	12.0	34.0	500	EXTENDER	0.100	800,000
C26	11,500	8.00	30.5	5,000	POLYOL	0.00	60,000
C27	11,500	8.00	30.5	3,000	POLYOL	0.00	130,000
C28	11,500	8.00	30.5	360	MDI	0.00	30,000
C29	11,500	8.00	30.5	174	A-PP	0.00	200,000
C30	11,500	8.00	30.5	538	BPOLYOL	0.00	470,000
C31	11,500	8.00	30.5	538	BPOLYOL	0.00	200,000
C32	11,500	8.00	30.5	174	A-PP	0.00	500,000
C33	11,500	8.00	30.5	174	A-PP	0.00	500,000
C34	11,500	8.00	30.5	538	BPOLYOL	0.00	500,000
C35	11,500	8.00	30.5	N/A	EMPTY	N/A	0.00
C36	11,500	8.00	30.5	538	BPOLYOL	0.00	500,000
C37	28,500	12.0	34.0	360	MDI	0.00	150,000
C38**	12,000	9.00	41.0	120.8	ABA	0.00	40,000

Notes: * Emission control device: conservation vent (CV), Nitrogen blanket (N2), or carbon adsorption bed filters (CA)
 ** Closed system

Mold Tanks EU-05

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
MLD1	8,200	10.0	14.0	195	ISO BLEND	0.010	131,549
MLD2	8,200	10.0	14.0	5,000	BPOLY	0.00	200,000
MLD3	8,200	10.0	14.0	5,000	BPOLY	0.00	100,000
MLD4	7,500	10.0	13.0	5,000	BPOLY	0.00	200,000

Notes: * Emission control device, CV, N2, or CA
 ** Closed System

TDI Storage Tanks

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
TDI Tank 1	50,000	24.0	16.0	N/A	TDI	0.010	700,000
TDI Tank 2	50,000	24.0	16.0	N/A	TDI	0.010	700,000
TDI Tank 3	50,000	24.0	16.0	N/A	TDI	0.010	700,000
TDI Tank 4	50,000	24.0	16.0	N/A	TDI	0.010	700,000

Notes: * Emission control device, CV, N2, or CA
 ** Closed System

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour: One (1) boiler, identified as B1, constructed in 1982, exhausting to Stack V5, rated at 8.36 million British thermal units per hour. [326 IAC 6-2-3]
- (b) The following activities with potential uncontrolled particulate emissions less than five (5) pounds per hour or twenty-five (25) pounds per day: One (1) Non-Woven Fiber Line, identified as IS-3, constructed in 2003, equipped with dry filters for particulate control, capacity: 2,500 pounds of fibers per hour. [326 IAC 6-3-2]

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 Permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5] [326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]

- (a) This permit, T 039-17988-00086, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U.S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by the "responsible official" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) The "responsible official" is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ and Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or

Telephone Number: 317-233-0178 (ask for Compliance Section)
Facsimile Number: 317-233-6865
Northern Regional Office phone: 574-245-4870; fax: 574-245-4877

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

Northern Regional Office
220 W. Colfax Avenue, Suite 200
South Bend, Indiana 46601-1634

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
 - (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.
 - (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
 - (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
 - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and
 - (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]

- (a) All terms and conditions of permits established prior to T 039-17988-00086 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.
- (b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated non-compliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
 - (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.17 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
 - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.18 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12] [40 CFR 72]

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:
- Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1 (34).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11 (c)(3)]

B.19 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]

- (a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.
- (b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.20 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b),(c), or (e) without a prior permit revision, if each of the following conditions is met:
- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
 - (2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
 - (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
 - (4) The Permittee notifies the:
- Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b),(c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

- (b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.21 Source Modification Requirement [326 IAC 2-7-10.5] [326 IAC 2-3-2]

- (a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.
- (b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-3-2.

B.22 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.23 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.25 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than one hundred (100) pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed five hundred fifty-one thousandths (0.551) pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least two hundred sixty (260) linear feet on pipes or one hundred sixty (160) square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least seventy-five hundredths (0.75) cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the

reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within ninety (90) days after the date of issuance of this permit.

The ERP does require the certification by the "responsible official" as defined by 326 IAC 2-7-1 (34).

- (c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

- (f) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

- (a) In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:
- (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
 - (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private

shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-3]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.
- (c) If there is a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) affecting an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with the following:
 - (1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, document and maintain the following records:
 - (A) A description of the project.
 - (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
 - (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
 - (i) Baseline actual emissions;
 - (ii) Projected actual emissions;
 - (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1(mm)(2)(A)(iii); and
 - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.
 - (2) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
 - (3) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-3]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each devia-

tion, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.
- (f) If the Permittee is required to comply with the record keeping provisions of (c) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:
- (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C - General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1(xx) and/or 326 IAC 2-3-1(qq), for that regulated NSR pollutant, and
 - (2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).
- (g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:
- (1) The name, address, and telephone number of the major stationary source.
 - (2) The annual emissions calculated in accordance with (c)(2) and (3) in Section C - General Record Keeping Requirements.
 - (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).
 - (4) Any other information that the Permittee deems fit to include in this report.

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Air Compliance Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C - General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Polyurethane Foam Operations

- (a) One (1) foam pouring line, identified as EU-01A/B, constructed in 1982, consisting of a mixer, tunnel, foam block cut, and slab room, exhausting through Vents 14, 15 and 16 and Vents b through i, capacity: 60,000 pounds of foam per hour using TDI. EU-01A/B is not able to use MDI.
- (b) Four (4) loop slitting process lines, identified as EU-02B, constructed in 1998, including three (3) adhesive stations used to coat polyurethane foam, equipped with high volume low pressure (HVLP) spray applicators and exhausting to Stacks 22 and 22a, capacity: 0.148 gallons of adhesive per set-up with a maximum set-up rate of 30 set-ups per 8 hours, total. This process also includes two (2) ink stamping lines, identified as EU-6.1 and EU-6.2, installed in 2005.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to SPM 039-17958-00086, issued on April 12, 2004, and 326 IAC 8-1-6 (New facilities; General reduction requirements), BACT for the one (1) foam pouring line, identified as EU-01A/B, has been determined to be:

- (a) The total VOC emissions from the one (1) foam pouring line shall be limited to less than 38.6 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The continued development of non-emitting amine catalysts for replacement of existing emitting catalysts where feasible.
- (c) The listed work practice as follows:

Storage containers used to store VOC and/or HAP containing materials shall be kept covered when not in use.

Compliance Determination Requirements

D.1.2 Volatile Organic Compounds (VOC)

- (a) Compliance with the VOC emission limitation contained in Condition D.1.1(a) shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.
- (b) To comply with Condition D.1.1, the VOC limitation is determined by the following equation:

$$\text{VOC Emissions (tons/year)} = (\text{Catalyst Usage (tons)} \times \text{Flash Off (\%)}) + (\text{TDI Usage (tons)} \times \text{Flash Off (\%)})$$

Where: The flash off shall not exceed seventy (70) percent for the catalyst usage in the foam pouring line, identified as EU-01A/B.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.3 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1(a), the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limit established in Condition D.1.1(a). Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.
- (1) The amount of raw material used on a monthly basis. Records shall include inline flow meter readings of raw material usages and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (2) The total VOC usage for each month; and
 - (3) The weight of VOC emitted for each compliance period.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Boiler EU-03

- (c) One (1) natural gas-fired boiler, identified as EU-03, constructed in 1992, exhausting to Stack V6, rated at 12.55 million British thermal units per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission limitations for facilities specified in 326 IAC 6-2-1(d)), the particulate emissions from EU-03 shall not exceed 0.494 pounds per million British thermal units heat input (lb/MMBtu). This limitation was calculated using the following equation:

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate emitted per million British thermal units (lb/mmBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (mmBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

For this unit, Q = 20.91 million British thermal units per hour.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Polyurethane Foam Operations

- (d) One (1) bonded foam line, identified as EU-04, constructed in 1990 and modified in 2000, exhausting to Stacks S17 and S18, capacity: 25,000 pounds per hour, consisting of the following equipment:
- (1) One (1) foam shredding operation;
 - (2) One (1) pneumatic conveyer system;
 - (3) Various storage bins;
 - (4) One (1) foam dry mixer;
 - (5) One (1) wet mixer;
 - (6) One (1) molding unit; and
 - (7) Various storage operations.
- (e) Two (2) closed mold polyurethane foam turnstile production operations, identified as EU-5.1 and EU-5.2, constructed in March 1998, equipped with a total of two (2) robotic high volume low pressure (HVLP) spray applicators, exhausting to Vents V27, V28, V29, V34 and V35, capacity:
- (1) EU-5.1 and EU-5.2 with solvent based mold release: 37.0 pounds of release agent per hour, 808.30 pounds of Isocyanate and 1,550 pounds of polyols per hour.
 - (2) EU-5.1 with water based mold release: 9.8 pounds of release agent per hour, 216 units per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emission rate from the one (1) bonded foam line, identified as EU-04, shall not exceed 22.27 pounds per hour when operating at a process weight rate of 25,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

D.3.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to T 039-6059-00086, issued on June 11, 1999, and 326 IAC 8-1-6 (New facilities; General reduction requirements), BACT for the foam turnstile production operations, identified as EU-5.1 and EU-5.2, has been determined to be as follows:

- (a) High volume low pressure (HVLP) spray application shall be used at all times when the two (2) closed mold polyurethane turnstile production units identified as EU-5.1 and EU-5.2 are in operation.

High volume low pressure (HVLP) spray means technology used to apply coating to a substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

- (b) The weight percentage solid content and maximum usage of mold release at the two (2) closed polyurethane turnstile production units identified as EU-5.1 and EU-5.2, with a combined maximum capacity of 400 units per hour, shall be no less than 7% and no more than 0.003 gallons per unit when using solvent based mold release agents. This shall be equivalent to or less than a total of 65.0 tons of VOC per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance Determination Requirements

D.3.3 Volatile Organic Compounds (VOC)

Compliance with the content and usage limitations contained in Condition D.3.2(b) shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.4 Record Keeping Requirements

- (a) To document compliance with Condition D.3.2(b), the Permittee shall maintain records in accordance with (1) and (2) below. Records maintained for (1) and (2) shall be complete and sufficient to establish compliance with the content and usage limits established in Condition D.3.2(b).
- (1) The weight percentage solid content of each mold release agent used.
- (2) The amount of mold release agent used on a monthly basis. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.5 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.2(b) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.4

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Insignificant Activities

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour: One (1) boiler, identified as B1, constructed in 1982, exhausting to Stack V5, rated at 8.36 million British thermal units per hour. [326 IAC 6-2-3]
- (b) The following activities with potential uncontrolled particulate emissions less than five (5) pounds per hour or twenty-five (25) pounds per day: One (1) Non-Woven Fiber Line, identified as IS-3, constructed in 2003, equipped with dry filters for particulate control, capacity: 2,500 pounds of fibers per hour. [326 IAC 6-3-2]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3(d) (Particulate Emission Limitations for Sources of Indirect Heating: emission limitations for facilities specified in 326 IAC 6-2-1 (b)), particulate emissions from boiler B1 shall not exceed eight-tenths (0.8) pounds of particulate matter per million British thermal units heat input.

D.4.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 the particulate emission rate from the insignificant Non-Woven Fiber Line, identified as IS-3, shall not exceed 4.76 pounds per hour when operating at a process weight rate of 2,500 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where} \quad E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY**

**PART 70 OPERATING PERMIT
CERTIFICATION**

Source Name: Carpenter Co.
Source Address: 195 County Road 15 South, Elkhart, Indiana 46516
Mailing Address: P.O. Box 2386, Elkhart, Indiana 46515
Part 70 Permit No.: T 039-17988-00086

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify) _____
- Report (specify) _____
- Notification (specify) _____
- Affidavit (specify) _____
- Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
100 North Senate Avenue
MC61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865**

**PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT**

Source Name: Carpenter Co.
Source Address: 195 County Road 15 South, Elkhart, Indiana 46516
Mailing Address: P.O. Box 2386, Elkhart, Indiana 46515
Part 70 Permit No.: T 039-17988-00086

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Carpenter Co.
Source Address: 195 County Road 15 South, Elkhart, Indiana 46516
Mailing Address: P.O. Box 2386, Elkhart, Indiana 46515
Part 70 Permit No.: T 039-17988-00086
Facility: EU-01A/B
Parameter: VOC Emissions
Limit: Less than 38.6 tons per twelve (12) consecutive month period, with compliance determined at the end of each month based on the following equation:

$$\text{VOC Emissions (tons)} = (\text{Catalyst Usage (tons)} \times \text{Flash Off (\%)}) + (\text{TDI Usage (tons)} \times \text{Flash Off (\%)})$$

QUARTER: _____ YEAR: _____

Month	VOC Emissions (tons)	VOC Emissions (tons)	VOC Emissions (tons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Carpenter Co.
Source Address: 195 County Road 15 South, Elkhart, Indiana 46516
Mailing Address: P.O. Box 2386, Elkhart, Indiana 46515
Part 70 Permit No.: T 039-17988-00086
Facility: EU-5.1 and EU-5.2
Parameter: VOC Emissions
Limit: Less than a total of 65.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	VOC Usage (tons)	VOC Usage (tons)	VOC Usage (tons)
	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE DATA SECTION**

**PART 70 OPERATING PERMIT
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Carpenter Co.
 Source Address: 195 County Road 15 South, Elkhart, Indiana 46516
 Mailing Address: P.O. Box 2386, Elkhart, Indiana 46515
 Part 70 Permit No.: T 039-17988-00086

Months: _____ **to** _____ **Year:** _____

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Part 70 Operating Permit Renewal

Source Name: Carpenter Co.
Source Location: 195 County Road 15 South, Elkhart, Indiana 46516
County: Elkhart
SIC Code: 3086, 2899, 2297
Permit Renewal No.: T 039-17988-00086
Permit Reviewer: David J. Matousek

On November 9, 2007, the Office of Air Quality (OAQ) had a notice published in the Press Dispatch in Petersburg, Indiana, stating that Carpenter Co. had applied for a Part 70 permit renewal for a polyurethane foam production operation. The notice also stated that OAQ proposed to issue a permit renewal for this operation and provided information on how the public could review the proposed permit renewal and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit renewal should be issued as proposed.

Changes to the permit are noted as follows: ~~struck~~ language has been deleted; **bold** language has been added. The Table of Contents has been updated without reproduction herein.

No changes will be made to the TSD but rather noted in this addendum.

OAQ Change #1

Upon further review, the mailing address has been changed in Section A.1 and throughout the permit as follows:

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a polyurethane foam production source.

Source Address:	195 County Road 15 South, Elkhart, Indiana 46516
Mailing Address:	195 County Road 15 South P.O. Box 2386 , Elkhart, Indiana 46516 5
General Source Phone Number:	574 - 522 - 2800
SIC Code:	3086, 2899, 2297
County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

OAQ Change #2

On October 23, 2007, the Office of Air Quality (OAQ) received an application for an administrative amendment, involving the addition of an insignificant activity and a change in the descriptive information for emission unit EU-5.1. The Potential to Emit is shown in Appendix A to this Addendum, page 1 of 1. The specific changes requested are as follows:

- 1) The Permittee requests the addition of a mattress producing line to the source. This line applies a water based adhesive using rollers. The mattress producing line is considered a specifically regulated insignificant activity in accordance with 326 IAC 2-7-1(21)(G)(ix)(EE), water based activities, including water based adhesives that are less than or equal to five percent (5%) by volume of VOCs excluding HAPs.
- 2) The Permittee requests a change in the method of operation of emission unit EU-5.1, to allow the use of a water based mold release agent, in addition to the solvent based mold release agent currently in use. The Permittee states the water based mold release agent does not contain VOCs or HAPs; therefore no VOC or HAP emissions are anticipated. The use of a water based mold release agent in EU-5.1 qualifies as an exempt activity in accordance with 326 IAC 2-1.1-3(e)(1)(A), since the potential to emit of PM or PM10 is less than five (5) tons per year.

To address the specific changes requested by the Permittee, the emission unit description for EU-5.1 will be revised to indicate the ability to use a water based solvent. In addition, the mattress producing line will be considered an insignificant activity without applicable requirements. The mattress producing line will not be added to Section A.3 - Specifically Regulated Insignificant Activities since there are no applicable rules associated with this activity. The revisions required by this administrative amendment request are as follows:

Section A.2(e) has been revised to update the capacity of emission unit EU-5.1 using both solvent based and water based mold release agent. The revised section follows:

- (e) Two (2) closed mold polyurethane foam turnstile production operations, identified as EU-5.1 and EU-5.2, constructed in March 1998, equipped with a total of two (2) robotic high volume low pressure (HVLP) spray applicators, exhausting to Vents V27, V28, V29, V34 and V35, capacity:
 - (1) **EU-5.1 and EU-5.2 with solvent based mold release:** 37.0 pounds of release agent per hour, 808.30 pounds of Isocyanate and 1,550 pounds of polyols per hour.
 - (2) **EU-5.1 with water based mold release: 9.8 pounds of release agent per hour, 216 units per hour.**

The facility description box in Section D.3 has been updated with the revised emission unit description for EU-5.1. The revised facility description box follows:

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Polyurethane Foam Operations

- (d) One (1) bonded foam line, identified as EU-04, constructed in 1990 and modified in 2000, exhausting to Stacks S17 and S18, capacity: 25,000 pounds per hour, consisting of the following equipment:
 - (1) One (1) foam shredding operation;
 - (2) One (1) pneumatic conveyer system;
 - (3) Various storage bins;
 - (4) One (1) foam dry mixer;
 - (5) One (1) wet mixer;

- (6) One (1) molding unit; and
- (7) Various storage operations.
- (e) Two (2) closed mold polyurethane foam turnstile production operations, identified as EU-5.1 and EU-5.2, constructed in March 1998, equipped with a total of two (2) robotic high volume low pressure (HVLP) spray applicators, exhausting to Vents V27, V28, V29, V34 and V35, capacity:
 - (1) **EU-5.1 and EU-5.2 with solvent based mold release:** 37.0 pounds of release agent per hour, 808.30 pounds of Isocyanate and 1,550 pounds of polyols per hour.
 - (2) **EU-5.1 with water based mold release: 9.8 pounds of release agent per hour, 216 units per hour.**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Condition D.3.2(b) has been revised to clarify the limits for weight percentage solid content and maximum usage of mold release listed in the condition applies to the use of solvent based mold release agents. The revised permit condition follows:

D.3.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to T 039-6059-00086, issued on June 11, 1999, and 326 IAC 8-1-6 (New facilities; General reduction requirements), BACT for the foam turnstile production operations, identified as EU-5.1 and EU-5.2, has been determined to be as follows:

- (a) High volume low pressure (HVLP) spray application shall be used at all times when the two (2) closed mold polyurethane turnstile production units identified as EU-5.1 and EU-5.2 are in operation.

High volume low pressure (HVLP) spray means technology used to apply coating to a substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

- (b) The weight percentage solid content and maximum usage of mold release at the two (2) closed polyurethane turnstile production units identified as EU-5.1 and EU-5.2, with a combined maximum capacity of 400 units per hour, shall be no less than 7% and no more than 0.003 gallons per unit **when using solvent based mold release agents**. This shall be equivalent to or less than a total of 65.0 tons of VOC per twelve (12) consecutive month period, with compliance determined at the end of each month.

OAQ Change #3

On February 13, 2008, the Office of Air Quality (OAQ) received an application for an administrative amendment, involving a change in descriptive information for primary pour tanks P4 and P6. Tank P4 will now store propylene carbonate. Tank P6 will now store Rubinate 9471, a polymeric version of MDI. The specific changes requested result in changes in Section A.2(f). The revised section follows:

- (f) The following tanks are grouped into four (4) general categories - Primary Pour Tanks (EU-01), Rebond Tanks, Chemical Blending Tanks, and Mold Tanks (EU-05):

Primary Pour Tanks EU-01

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual throughput (gallons)
P1	12,500	10.5	19.5	1,000	POLYOL	0.00	200,000
P2	12,500	10.5	19.5	3,000	POLYOL	0.00	200,000
P3	12,500	10.5	19.5	3,500	POLYOL	0.00	800,000
P4	12,500	10.5	19.5	3,500 102	POLYOL Propylene Carbonate	0.00	800,000
P5*CA	12,500	10.5	19.5	174	ISO	0.010	550,000
P6*CA	12,500	10.5	19.5	174 360	ISO MDI	0.040	550,000 800,000

...

Comments on the proposed Part 70 permit renewal were received on November 27, 2007. The comments were received from Ms. Elizabeth Hill of Bruce Carter Associates, L.L.C. representing the Carpenter Company.

Comment #1

Carpenter Co. has notified IDEM that due to potential TDI shortages there may be an increase in the MDI usages. There will, however, not be any MDI emissions from the EU-01A/B Foam Pouring Line. Additionally, the vapor pressure of MDI is significantly lower than that of TDI and since there will not be 100% substitution of MDI for TDI the maximum potential emissions for MDI will remain below 10 tons per year and should not require additional monitoring/reporting to verify the source is a minor source of HAPs. The source is requesting that if the reporting is still required that it will not be for all MDI sources as there are currently not methods to track the amount of material used at these sources. The source could demonstrate that the MDI emissions from the rebond line are less than 5.03 tons per 12 consecutive months and not have to do any additional tracking for the other MDI emission sources.

Response to Comment #1

The Technical Support Document (TSD) for renewal T039-17988-00086 assumed all processes were capable of substituting MDI for TDI. This would have been the worst case situation that could arise if the supply of TDI was seriously curtailed. The Permittee states it is physically impossible for the Foam Pouring Line, identified as EU-01A/B to use MDI in this specific process. The potential to emit HAPs for the source has been revised to reflect the sole use of TDI in emission units EU-01A/B.

The table below summarizes the potential to emit HAPs, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after the issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Emission Unit ID	Process Description	Potential MDI Emissions (TPY)	Potential TDI Emissions (TPY)	Worst Case HAP (TPY)
EU-01A/B	Foam Pouring Line	0.0000	2.9800	2.9800
EU-02B	Loop Slitting Process	4.8700	0.0000	4.8700
EU-03	Natural Gas Boiler	0.0000	0.0000	0.1040
EU-6.1 and EU-6.2	Ink Stamping Line	0.0000	0.0000	0.1490
EU-04	Bonded Foam Line	5.0500	5.0500	5.0500
EU-5.1 and EU-5.1	Closed Mold Polyurethane Foam Turnstiles	0.0002	0.0870	0.0880
All ISO Storage Tanks	---	0.0017	0.0017	0.0017
Boiler B1	Insignificant Activity	0.0000	0.0000	0.0690
Natural Gas Combustion	Insignificant Activity	0.0000	0.0000	0.0780
Total PTE HAPs	---	9.9219	8.1187	13.3897

Condition D.1.2(b) has been revised to remove all references to MDI in the VOC emission calculations. The revised condition is shown in Response to Comment #2, which is addressed later in this ATSD. In addition, the emission unit description for EU-01A/B has been revised to clarify the use of TDI and MDI. Section A.2 and the facility description box in Section D.1 have been updated with the revised emission unit description for EU-01A/B. The revised sections follow:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]
 [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) foam pouring line, identified as EU-01A/B, constructed in 1982, consisting of a mixer, tunnel, foam block cut, and slab room, exhausting through Vents 14, 15 and 16 and Vents b through i, capacity: 60,000 pounds of foam per hour- **using TDI. EU-01A/B is not able to use MDI.**

...

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Polyurethane Foam Operations

- (a) One (1) foam pouring line, identified as EU-01A/B, constructed in 1982, consisting of a mixer, tunnel, foam block cut, and slab room, exhausting through Vents 14, 15 and 16 and Vents b through i, capacity: 60,000 pounds of foam per hour-, **using TDI. EU-01A/B is not able to use MDI.**

- (b) Four (4) loop slitting process lines, identified as EU-02B, constructed in 1998, including three (3) adhesive stations used to coat polyurethane foam, equipped with high volume low pressure (HVLP) spray applicators and exhausting to Stacks 22 and 22a, capacity: 0.148 gallons of adhesive per set-up with a maximum set-up rate of 30 set-ups per 8 hours, total. This process also includes two (2) ink stamping lines, identified as EU-6.1 and EU-6.2, installed in 2005.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Section D.4 of the Part 70 Operating Permit Renewal is no longer required since the potential to emit MDI is less than ten (10) tons per year. The portions of the Part 70 Operating Permit Renewal being removed are shown below:

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Entire Source

- ~~(a) One (1) foam pouring line, identified as EU-01A/B, constructed in 1982, consisting of a mixer, tunnel, foam block cut, and slab room, exhausting through Vents 14, 15 and 16 and Vents b through i, capacity: 60,000 pounds of foam per hour.~~
- ~~(b) Four (4) loop slitting process lines, identified as EU-02B, constructed in 1998, including three (3) adhesive stations used to coat polyurethane foam, equipped with high volume low pressure (HVLP) spray applicators and exhausting to Stacks 22 and 22a, capacity: 0.148 gallons of adhesive per set-up with a maximum set-up rate of 30 set-ups per 8 hours, total. This process also includes two (2) ink stamping lines, identified as EU-6.1 and EU-6.2, installed in 2005.~~
- ~~(c) One (1) natural gas-fired boiler, identified as EU-03, constructed in 1992, exhausting to Stack V6, rated at 12.55 million British thermal units per hour.~~
- ~~(d) One (1) bonded foam line, identified as EU-04, constructed in 1990 and modified in 2000, exhausting to Stacks S17 and S18, capacity: 25,000 pounds per hour, consisting of the following equipment:~~
- ~~(1) One (1) foam shredding operation;~~
 - ~~(2) One (1) pneumatic conveyer system;~~
 - ~~(3) Various storage bins;~~
 - ~~(4) One (1) foam dry mixer;~~
 - ~~(5) One (1) wet mixer;~~
 - ~~(6) One (1) molding unit; and~~
 - ~~(7) Various storage operations.~~
- ~~(e) Two (2) closed mold polyurethane foam turnstile production operations, identified as EU-5.1 and EU-5.2, constructed in March 1998, equipped with a total of two (2) robotic high volume low pressure (HVLP) spray applicators, exhausting to Vents V27, V28, V29, V34 and V35, capacity: 37.0 pounds of release agent per hour, 808.30 pounds of Isocyanate and 1,550 pounds of polyols per hour.~~

(f) The following tanks are grouped into four (4) general categories—Primary Pour Tanks (EU-01), Rebond Tanks, Chemical Blending Tanks, and Mold Tanks (EU-05):

Primary Pour Tanks EU-01

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual throughput (gallons)
P1	12,500	10.5	19.5	1,000	POLYOL	0.00	200,000
P2	12,500	10.5	19.5	3,000	POLYOL	0.00	200,000
P3	12,500	10.5	19.5	3,500	POLYOL	0.00	800,000
P4	12,500	10.5	19.5	3,500	POLYOL	0.00	800,000
P5*CA	12,500	10.5	19.5	174	ISO	0.010	550,000
P6*CA	12,500	10.5	19.5	174	ISO	0.010	550,000
P7*CV	12,500	10.5	19.5	6000	PrePoly	0.00	250,000
P8	4,890	8.00	15.0	174	ISO-PP	0.010	500,000
P9	12,500	10.5	19.5	3,000	POLYOL	0.00	200,000
P10	12,500	10.5	19.5	5,000	POLYOL	0.00	115,000
P11	12,500	10.5	19.5	6,500	POLYOL	0.00	150,000
P12	12,500	10.5	19.5	6,500	POLYOL	0.00	150,000
P13	11,500	10.5	18.0	410	FR	0.020	120,000
P14	12,000	10.5	18.0	410	FR	0.020	200,000
P15	12,000	10.5	18.0	6,500	POLYOL	0.00	150,000
P16	12,000	10.5	18.0	5,000	POLYOL	0.00	100,000
P17	12,000	10.5	18.0	5,000	POLYOL	0.00	115,000
P18	12,000	10.5	18.0	3,000	POLYOL	0.00	200,000
P19***	12,000	10.5	18.0	174	ISO-PP	0.010	700,000
P20	12,000	10.5	18.0	6000	PrePoly	0.00	250,000
P21*CA	12,000	10.5	18.0	174	ISO	0.010	550,000
P22*CA	12,000	10.5	18.0	174	ISO	0.010	550,000
P23	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P24	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P25	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P26	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P26A	3,000	8.00	8.00	3,500	POLYOL	0.00	200,000
P27	50,000	24	16	174	ISO	0.010	Pending
P28	50,000	24	16	174	ISO	0.010	Pending
P29	50,000	24	16	174	ISO	0.010	Pending
P30	50,000	24	16	174	ISO	0.010	Pending

Notes: * Emission Control Device: conservation vents (CV), Nitrogen-Blanket (N2) or Carbon Adsorption bed filters (CA)
 *** P19 and R2 cascade from one tank to the next for a TOTAL throughput of 700,000 gallons.

Rebond Tank

Fixed Roof Cone Storage Tank	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
R2***	4,000	8.00	10.0	174	ISO-PP	0.010	700,000***

Notes: ISO-PP—Isocyanate Prepolymer
 *** P19 and R2 cascade from one tank to the next for a TOTAL throughput of 700,000 gallons.

Chemical Blending Tanks

Fixed-Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
C1	11,500	8.00	30.5	5,000	POLYOL	0.00	20,000
C2	28,500	12.0	34.0	6,500	POLYOL	0.00	900,000
C3	11,500	8.00	30.5	285	FR	0.200	40,000
C4	11,500	8.00	30.5	410	FR	0.200	40,000
C5	11,500	8.00	30.5	N/A	EMPTY	N/A	0.00
C6	11,500	8.00	30.5	575	POLYOL	0.00	10,000
C7	11,500	8.00	30.5	575	POLYOL	0.00	10,000
C8	11,500	8.00	30.5	700	POLYOL	0.00	20,000
C9	11,500	8.00	30.5	700	POLYOL	0.00	100,000
C10	11,500	8.00	30.5	575	POLYOL	0.00	100,000
C11	28,500	12.0	34.0	360	POLYOL	0.00	150,000
C12	11,500	8.00	30.5	575	POLYOL	0.00	25,000
C13**	11,500	8.00	30.5	5,000	POLYOL	0.00	50,000
C14	11,500	8.00	30.5	5,000	POLYOL	0.00	50,000
C15	11,500	8.00	30.5	5,000	POLYOL	0.00	50,000
C16	11,500	8.00	30.5	575	POLYOL	0.00	100,000 gallons total for C16, C17 and C18 combined
C17	11,500	8.00	30.5	575	POLYOL	0.00	
C18	11,500	8.00	30.5	575	POLYOL	0.00	
C19	28,500	12.0	34.0	360	MDI	0.00	150,000
C20	11,500	8.00	30.5	5,000	POLYOL	0.00	80,000
C21	11,500	8.00	30.5	360	MDI	0.00	200,000
C22	11,500	8.00	30.5	360	MDI	0.00	400,000
C23	11,500	8.00	30.5	174	ISO	0.040	120,000
C24	11,500	8.00	30.5	N/A	POLYOL	N/A	60,000
C25	28,500	12.0	34.0	500	EXTENDER	0.100	800,000
C26	11,500	8.00	30.5	5,000	POLYOL	0.00	60,000
C27	11,500	8.00	30.5	3,000	POLYOL	0.00	130,000
C28	11,500	8.00	30.5	360	MDI	0.00	30,000
C29	11,500	8.00	30.5	174	A-PP	0.00	200,000
C30	11,500	8.00	30.5	538	BPOLYOL	0.00	470,000
C31	11,500	8.00	30.5	538	BPOLYOL	0.00	200,000
C32	11,500	8.00	30.5	174	A-PP	0.00	500,000
C33	11,500	8.00	30.5	174	A-PP	0.00	500,000
C34	11,500	8.00	30.5	538	BPOLYOL	0.00	500,000
C35	11,500	8.00	30.5	N/A	EMPTY	N/A	0.00
C36	11,500	8.00	30.5	538	BPOLYOL	0.00	500,000
C37	28,500	12.0	34.0	360	MDI	0.00	150,000
C38**	12,000	9.00	41.0	120.8	ABA	0.00	40,000

Notes: ** Closed system

Mold Tanks EU-05

Fixed-Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
MLD1	8,200	10.0	14.0	195	ISO BLEND	0.040	131,549
MLD2	8,200	10.0	14.0	5,000	BPOLY	0.00	200,000
MLD3	8,200	10.0	14.0	5,000	BPOLY	0.00	100,000
MLD4	7,500	10.0	13.0	5,000	BPOLY	0.00	200,000

TDI Storage Tanks

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
TDI Tank 1	50,000	24.0	16.0	N/A	TDI	0.010	700,000
TDI Tank 2	50,000	24.0	16.0	N/A	TDI	0.010	700,000
TDI Tank 3	50,000	24.0	16.0	N/A	TDI	0.010	700,000
TDI Tank 4	50,000	24.0	16.0	N/A	TDI	0.010	700,000

Insignificant combustion activities:

- (1) ~~One (1) boiler, identified as B1, constructed in 1982, exhausting to Stack V5, rated at 8.36 million British thermal units per hour.~~
- (2) ~~One (1) oven, identified as O1, used in the one (1) Non-Woven Fiber Line, exhausting to Stack V5, constructed in 2003, rated at six (6) million British thermal units per hour.~~
- (3) ~~Fifteen (15) radiant heaters, constructed between 1999 and 2003, rated at 0.2 million British thermal units per hour, each.~~
- (4) ~~Three (3) radiant heaters, constructed between 1999 and 2003, rated at 0.15 million British thermal units per hour, each.~~

~~(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)~~

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Hazardous Air Pollutants (HAPs) [326 IAC 2-4.1]

- (a) ~~The MDI emissions from the one (1) foam pouring line, identified as EU-01A/B, four (4) loop slitting process lines, identified as EU-02B, one (1) bonded foam line, identified as EU-04, and two (2) closed mold polyurethane foam turnstile production operations, identified as EU-5.1 and EU-5.2, shall be limited to less than 9.8 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limitation is based on the following equation:~~

$$\text{Total MDI Emissions (tons)} = \text{(MDI Usage at EU-01A/B (tons) x Flash Off (\%))} + \text{(MDI Usage at EU-02B (tons))} + \text{(MDI Usage at EU-04 (tons) x Flash Off (\%))} + \text{(MDI Usage at EU-5.1 and EU-5.2 (tons) x Flash Off (\%))}$$

- (b) ~~The flash-off factor shall be seventy percent (70%) for EU-01A/B, EU-04, EU-5.1 and EU-5.2 and one hundred percent (100%) for EU-02B.~~

~~In combination with the unrestricted potential to emit MDI from all other processes, this limit shall result in source wide emissions of MDI less than (10) tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit renders the requirements of 326 IAC 2-4.1 not applicable.~~

Compliance Determination Requirements

D.4.2 Hazardous Air Pollutants (HAPs)

~~Compliance with the VOC emission limitation contained in Condition D.4.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the~~

~~manufacturer the copies of the "as supplied" and "as applied" VOC and HAP data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.~~

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19]

~~D.4.3 Record Keeping Requirements~~

- ~~(a) To document compliance with Condition D.4.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the HAP emission limit established in Condition D.4.1. Records necessary to demonstrate compliance shall be available within thirty (30) days of the end of each compliance period.~~
- ~~(1) The amount of raw material used on a monthly basis. Records shall include inline flow meter readings of raw material usages and material safety data sheets (MSDS) necessary to verify the type and amount used.~~
- ~~(2) The total MDI usage for each month at each facility; and~~
- ~~(3) The total weight of MDI emitted for each compliance period.~~
- ~~(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.~~

~~D.4.4 Reporting Requirements~~

~~A quarterly summary of the information to document compliance with Condition D.4.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~

Section D.5 has been renumbered to Section D.4 without reproduction herein.

The quarterly reporting form for VOC emissions from EU-01A/B has been revised to remove references to MDI. The revised header of the form follows:

Part 70 Quarterly Report

Source Name: Carpenter Co.
Source Address: 195 County Road 15 South, Elkhart, Indiana 46516
Mailing Address: P.O. Box 2386, Elkhart, Indiana 46515
Part 70 Permit No.: T 039-17988-00086
Facility: EU-01A/B
Parameter: VOC Emissions
Limit: Less than 38.6 tons per twelve (12) consecutive month period, with compliance determined at the end of each month based on the following equation:
VOC Emissions (tons) = (Catalyst Usage (tons) x Flash Off (%)) + (TDI ~~or~~ MDI Usage (tons) x Flash Off (%))

...

The quarterly reporting form for the source wide worst case single HAP (MDI) is no longer required since the unrestricted potential to emit MDI is less than ten (10) tons per year. The header of the form removed from the permit follows:

Part 70 Quarterly Report

Source Name: ~~_____~~ Carpenter Co.
 Source Address: ~~_____~~ 195 County Road 15 South, Elkhart, Indiana 46516
 Mailing Address: ~~_____~~ P.O. Box 2386, Elkhart, Indiana 46515
 Part 70 Permit No.: ~~_____~~ T 039-17988-00086
 Facility: ~~_____~~ One (1) foam pouring line, identified as EU-01A/B, four (4) loop slitting process lines, identified as EU-02B, one (1) bonded foam line, identified as EU-04, and two (2) closed mold polyurethane foam turnstile production operations, identified as EU-5.1 and EU-5.2
 Parameter: ~~_____~~ Worst Case Single HAP (MDI) Emissions
 Limit: ~~_____~~ Less than 9.8 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, based on the following equation:

$$\text{Total MDI Emissions (tons)} = (\text{MDI Usage at EU-01A/B (tons)} \times \text{Flash Off (\%)}) + (\text{MDI Usage at EU-02B (tons)}) + (\text{MDI Usage at EU-04 (tons)} \times \text{Flash Off (\%)}) + (\text{MDI Usage at EU-5.1 and EU-5.2 (tons)} \times \text{Flash Off (\%)})$$

Comment #2

The throughput for the Mold Tanks identified as EU-05 should be 100,000 gallons for MLD3. This will need to be updated in both A.2 Emission Units and Pollution Control Equipment Summary and the descriptive information in D.4.

Response to Comment #2

Section D.4 has been removed from the permit since the reporting and recordkeeping requirements are not necessary because the potential to emit MDI is less than ten (10) tons per year.

The throughput will be changed in Conditions A.2 as follows:

Mold Tanks EU-05

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
MLD1	8,200	10.0	14.0	195	ISO BLEND	0.010	131,549
MLD2	8,200	10.0	14.0	5,000	BPOLY	0.00	200,000
MLD3	8,200	10.0	14.0	5,000	BPOLY	0.00	0.0 100,000
MLD4	7,500	10.0	13.0	5,000	BPOLY	0.00	200,000

Comment #3

Section D.1.1(b) Volatile Organic Compounds 326 IAC 8-1-6 requires that the flash off shall not exceed seventy (70) percent for the catalyst usage in the foam pouring line, identified as EU-01A/B. This was previously not required by the original BACT that was issued on April 12, 2004. Because this requirement was not a part of the original BACT approved by IDEM it should not be included as a requirement of the BACT analysis.

Response to Comment #3

Since the flash off requirement did not appear in the SPM 039-17958-00086, concerning the BACT determination, the following language shall be removed from Condition D.1.1. However, the flash off factor requirement will be added to the Compliance Determination Requirement as Condition D.1.2(b) as follows:

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to SPM 039-17958-00086, issued on April 12, 2004, and 326 IAC 8-1-6 (New facilities; General reduction requirements), BACT for the one (1) foam pouring line, identified as EU-01A/B, has been determined to be:

- (a) The total VOC emissions from the one (1) foam pouring line shall be limited to less than 38.6 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. ~~This limitation is based on the following equation:~~

$$\text{VOC Emissions (tons/year)} = (\text{Catalyst Usage (tons)} \times \text{Flash Off (\%)}) + (\text{TDI or MDI Usage (tons)} \times \text{Flash Off (\%)})$$

- ~~(b) The flash off shall not exceed seventy (70) percent for the catalyst usage in the foam pouring line, identified as EU-01A/B.~~

- ~~(c)~~(b) The continued development of non-emitting amine catalysts for replacement of existing emitting catalysts where feasible.

- ~~(d)~~(c) The listed work practice as follows:

Storage containers used to store VOC and/or HAP containing materials shall be kept covered when not in use.

Compliance Determination Requirements

D.1.2 Volatile Organic Compounds (VOC)

- (a) Compliance with the VOC emission limitation contained in Condition D.1.1(a) shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

- (b) **To comply with Condition D.1.1, the VOC limitation is determined by the following equation:**

$$\text{VOC Emissions (tons/year)} = (\text{Catalyst Usage (tons)} \times \text{Flash Off (\%)}) + (\text{TDI Usage (tons)} \times \text{Flash Off (\%)})$$

Where: The flash off shall not exceed seventy (70) percent for the catalyst usage in the foam pouring line, identified as EU-01A/B.

Comment #4

The reporting form for EU-5.1 and EU-5.2 requires the source to report on VOC usage but the related Conditions D.3.2(b) and D.3.5 only refer to VOC emissions relating to the mold release. Please revise the reporting form to indicate that the 65.0 ton per 12 consecutive month limit is relating to the VOC emissions from the Mold Release.

Response to Comment #4

The following will be added to reporting form to clarify that the VOC usage is related to the mold release.

...

Source Name: Carpenter Co.
Source Address: 195 County Road 15 South, Elkhart, Indiana 46516
Mailing Address: P.O. Box 2386, Elkhart, Indiana 46515
Part 70 Permit No.: T 039-17988-00086
Facility: EU-5.1 and EU-5.2
Parameter: ~~VOC Emissions~~ ~~Usage of Mold Release~~
Limit: Less than a total of 65.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

...

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

**Company Name: Carpenter Company
Address City IN Zip: 195 County Road 15, Elkhart, Indiana 46516
Permit Number: 039-17988-00086
Plt ID: 039-00086
Reviewer: David J. Matousek
Date: February 28, 2008**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
PURA 11121W - Turnstyle EU-5.1	8.26	90.00%	90.0%	0.0%	72.0%	28.00%	0.00550	216.000	0.00	0.00	0.00	0.00	0.00	0.64	0.00	85%
Simfla - Mattress Line	8.84	46.00%	46.0%	0.0%	48.8%	51.18%	0.00500	1.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Carpenter Co.
Source Location:	195 County Road 15 South, Elkhart, Indiana 46516
County:	Elkhart
SIC Code:	3086, 2899, 2297
Permit Renewal No.:	T 039-17988-00086
Permit Reviewer:	Edward A. Longenberger

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Carpenter Co. relating to the operation of a polyurethane foam production source.

History

Carpenter Co. was issued a Part 70 Operating Permit, T 039-6059-00086, on June 11, 1999. On September 11, 2003, Carpenter Co. submitted an application to the OAQ requesting to renew its operating permit. On June 5, 2007, Carpenter Co. submitted a letter to the OAQ stating that due to supply shortages of TDI for the bonded foam process, Carpenter plans to substitute MDI in the process as necessary based on finished product quality, raw material supplies, and customer demand. TDI and MDI are both listed as Hazardous Air Pollutants in the 1990 amendments to the Clean Air Act. Carpenter will continue to demonstrate that HAP emissions are less than the major source levels.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) foam pouring line, identified as EU-01A/B, constructed in 1982, consisting of a mixer, tunnel, foam block cut, and slab room, exhausting through Vents 14, 15 and 16 and Vents b through i, capacity: 60,000 pounds of foam per hour.
- (b) Four (4) loop slitting process lines, identified as EU-02B, constructed in 1998, including three (3) adhesive stations used to coat polyurethane foam, equipped with high volume low pressure (HVLP) spray applicators and exhausting to Stacks 22 and 22a, capacity: 0.148 gallons of adhesive per set-up with a maximum set-up rate of 30 set-ups per 8 hours, total. This process also includes two (2) ink stamping lines, identified as EU-6.1 and EU-6.2, installed in 2005.
- (c) One (1) natural gas-fired boiler, identified as EU-03, constructed in 1992, exhausting to Stack V6, rated at 12.55 million British thermal units per hour.
- (d) One (1) bonded foam line, identified as EU-04, constructed in 1990 and modified in 2000, exhausting to Stacks S17 and S18, capacity: 25,000 pounds per hour, consisting of the following equipment:
 - (1) One (1) foam shredding operation;
 - (2) One (1) pneumatic conveyer system;
 - (3) Various storage bins;
 - (4) One (1) foam dry mixer;
 - (5) One (1) wet mixer;
 - (6) One (1) molding unit; and
 - (7) Various storage operations.

- (e) Two (2) closed mold polyurethane foam turnstile production operations, identified as EU-5.1 and EU-5.2, constructed in March 1998, equipped with a total of two (2) robotic high volume low pressure (HVLP) spray applicators, exhausting to Vents V27, V28, V29, V34 and V35, capacity: 37.0 pounds of release agent per hour, 808.30 pounds of Isocyanate and 1,550 pounds of polyols per hour.
- (f) The following tanks are grouped into four (4) general categories - Primary Pour Tanks (EU-01), Rebond Tanks, Chemical Blending Tanks, and Mold Tanks (EU-05):

Primary Pour Tanks EU-01

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual throughput (gallons)
P1	12,500	10.5	19.5	1,000	POLYOL	0.00	200,000
P2	12,500	10.5	19.5	3,000	POLYOL	0.00	200,000
P3	12,500	10.5	19.5	3,500	POLYOL	0.00	800,000
P4	12,500	10.5	19.5	3,500	POLYOL	0.00	800,000
P5*CA	12,500	10.5	19.5	174	ISO	0.010	550,000
P6*CA	12,500	10.5	19.5	174	ISO	0.010	550,000
P7*CV	12,500	10.5	19.5	6000	PrePoly	0.00	250,000
P8	4,890	8.00	15.0	174	ISO PP	0.010	500,000
P9	12,500	10.5	19.5	3,000	POLYOL	0.00	200,000
P10	12,500	10.5	19.5	5,000	POLYOL	0.00	115,000
P11	12,500	10.5	19.5	6,500	POLYOL	0.00	150,000
P12	12,500	10.5	19.5	6,500	POLYOL	0.00	150,000
P13	11,500	10.5	18.0	410	FR	N/A	120,000
P14	12,000	10.5	18.0	410	FR	0.020	200,000
P15	12,000	10.5	18.0	6,500	POLYOL	0.00	150,000
P16	12,000	10.5	18.0	5,000	POLYOL	0.00	100,000
P17	12,000	10.5	18.0	5,000	POLYOL	0.00	115,000
P18	12,000	10.5	18.0	3,000	POLYOL	0.00	200,000
P19***	12,000	10.5	18.0	174	ISO PP	0.010	700,000
P20	12,000	10.5	18.0	6000	PrePoly	0.00	250,000
P21*CA	12,000	10.5	18.0	174	ISO	0.010	550,000
P22*CA	12,000	10.5	18.0	174	ISO	0.010	550,000
P23	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P24	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P25	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P26	12,000	10.5	18.0	3,500	POLYOL	0.00	800,000
P26A	3,000	8.00	8.00	3,500	POLYOL	0.00	200,000
P27	50,000	24	16	174	ISO	0.010	Pending
P28	50,000	24	16	174	ISO	0.010	Pending
P29	50,000	24	16	174	ISO	0.010	Pending
P30	50,000	24	16	174	ISO	0.010	Pending

Notes: * Emission Control Device: conservation vents (CV), Nitrogen Blanket (N2) or Carbon Adsorption bed filters (CA)
 ** Closed System

Rebond Tank

Fixed Roof Cone Storage Tank	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
R2***	4,000	8.00	10.0	174	ISO-PP	0.010	700,000***

Notes: * Emission control device, CV, N2, or CA
 ** Closed System
 ISO-PP - Isocyanate Prepolymer
 *** P19 and R2 cascade from one tank to the next for a TOTAL throughput of 700,000 gallons.

Chemical Blending Tanks

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
C1	11,500	8.00	30.5	5,000	POLYOL	0.00	20,000
C2	28,500	12.0	34.0	6,500	POLYOL	0.00	900,000
C3	11,500	8.00	30.5	285	FR	0.200	40,000
C4	11,500	8.00	30.5	410	FR	0.200	40,000
C5	11,500	8.00	30.5	N/A	EMPTY	N/A	0.00
C6	11,500	8.00	30.5	575	POLYOL	0.00	10,000
C7	11,500	8.00	30.5	575	POLYOL	0.00	10,000
C8	11,500	8.00	30.5	700	POLYOL	0.00	20,000
C9	11,500	8.00	30.5	700	POLYOL	0.00	100,000
C10	11,500	8.00	30.5	575	POLYOL	0.00	100,000
C11	28,500	12.0	34.0	360	POLYOL	0.00	150,000
C12	11,500	8.00	30.5	575	POLYOL	0.00	25,000
C13**	11,500	8.00	30.5	5,000	POLYOL	0.00	50,000
C14	11,500	8.00	30.5	5,000	POLYOL	0.00	50,000
C15	11,500	8.00	30.5	5,000	POLYOL	0.00	50,000
C16	11,500	8.00	30.5	575	POLYOL	0.00	100,000 gallons total for C16, C17 and C18 combined
C17	11,500	8.00	30.5	575	POLYOL	0.00	
C18	11,500	8.00	30.5	575	POLYOL	0.00	
C19	28,500	12.0	34.0	360	MDI	0.00	150,000
C20	11,500	8.00	30.5	5,000	POLYOL	0.00	80,000
C21	11,500	8.00	30.5	360	MDI	0.00	200,000
C22	11,500	8.00	30.5	360	MDI	0.00	400,000
C23 externally vented	11,500	8.00	30.5	174	ISO	0.010	120,000
C24	11,500	8.00	30.5	N/A	POLYOL	N/A	60,000
C25 externally vented	28,500	12.0	34.0	500	EXTENDER	0.100	800,000
C26	11,500	8.00	30.5	5,000	POLYOL	0.00	60,000
C27	11,500	8.00	30.5	3,000	POLYOL	0.00	130,000
C28	11,500	8.00	30.5	360	MDI	0.00	30,000
C29	11,500	8.00	30.5	174	A-PP	0.00	200,000
C30	11,500	8.00	30.5	538	BPOLYOL	0.00	470,000
C31	11,500	8.00	30.5	538	BPOLYOL	0.00	200,000
C32	11,500	8.00	30.5	174	A-PP	0.00	500,000

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
C33	11,500	8.00	30.5	174	A-PP	0.00	500,000
C34	11,500	8.00	30.5	538	BPOLYOL	0.00	500,000
C35	11,500	8.00	30.5	N/A	EMPTY	N/A	0.00
C36	11,500	8.00	30.5	538	BPOLYOL	0.00	500,000
C37	28,500	12.0	34.0	360	MDI	0.00	150,000
C38**	12,000	9.00	41.0	120.8	ABA	0.00	40,000

Notes: * Emission control device: conservation vent (CV), Nitrogen blanket (N2), or carbon adsorption bed filters (CA)
 ** Closed system

Mold Tanks EU-05

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
MLD1	8,200	10.0	14.0	195	ISO BLEND	0.010	131,549
MLD2	8,200	10.0	14.0	5,000	BPOLY	0.00	200,000
MLD3	8,200	10.0	14.0	5,000	BPOLY	0.00	0.00
MLD4	7,500	10.0	13.0	5,000	BPOLY	0.00	200,000

Notes: * Emission control device, CV, N2, or CA
 ** Closed System

TDI Storage Tanks

Fixed Roof Cone Storage Tanks	Storage Capacity (gallons)	Diameter (feet)	Height (feet)	Vapor MW	Containing	VP (mmHg)	Annual Throughput gallons
TDI Tank 1	50,000	24.0	16.0	N/A	TDI	0.010	700,000
TDI Tank 2	50,000	24.0	16.0	N/A	TDI	0.010	700,000
TDI Tank 3	50,000	24.0	16.0	N/A	TDI	0.010	700,000
TDI Tank 4	50,000	24.0	16.0	N/A	TDI	0.010	700,000

Notes: * Emission control device, CV, N2, or CA
 ** Closed System

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, consisting of:
 - (1) One (1) boiler, identified as B1, constructed in 1982, exhausting to Stack V5, rated at 8.36 million British thermal units per hour. [326 IAC 6-2-3]
 - (2) One (1) oven, identified as O1, used in the one (1) Non-Woven Fiber Line, exhausting to Stack V5, constructed in 2003, rated at six (6) million British thermal units per hour.
 - (3) Fifteen (15) radiant heaters, constructed between 1999 and 2003, rated at 0.2 million British thermal units per hour, each.

- (4) Three (3) radiant heaters, constructed between 1999 and 2003, rated at 0.15 million British thermal units per hour, each.
- (b) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) British thermal units per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight.
- (c) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.
- (d) The following VOC and HAP storage containers:

Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (e) Closed loop heating and cooling systems.
- (f) Water based adhesives that are less than or equal to 5% by volume of VOCs, excluding HAPs.
- (g) Noncontact cooling tower systems with either of the following:

Forced and induced draft cooling tower system not regulated under a NESHAP.
- (h) Paved and unpaved roads and parking lots with public access.
- (i) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.
- (j) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (k) Other emergency equipment as follows:

Stationary fire pumps.
- (l) Purge double block and bleed valves.
- (m) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38 degrees C).
- (n) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (o) The following activities with potential uncontrolled VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day:
 - (1) One (1) blending operation, potential VOC emissions: 0.15 tons per year.
 - (2) Four (4) twenty-four (24) feet diameter by sixteen (16) feet tall, TDI storage tanks, identified as TDI Tanks 1 through 4, approved for installation in 2007, each with a storage capacity of fifty thousand (50,000) gallons.

- (p) The following activities with potential uncontrolled particulate emissions less than five (5) pounds per hour or twenty-five (25) pounds per day:
- (1) One (1) Non-Woven Fiber Line, identified as IS-3, constructed in 2003, equipped with dry filters for particulate control, capacity: 2,500 pounds of fibers per hour. [326 IAC 6-3-2]
 - (2) One (1) closed mold polyurethane foam turnstile production process, identified as EU-5.3, with all emissions exhausted through Stack V36.
 - (3) One (1) closed mold polyurethane foam turnstile production process, identified as EU-5.4, using products containing no VOC and no HAPs.
 - (4) One (1) closed mold polyurethane foam turnstile production process, identified as EU-5.5, using products containing no VOC and no HAPs.

Existing Approvals

Since the issuance of the Part 70 Operating Permit T 039-6059-00086 on June 11, 1999, the source has constructed or has been operating under the following approvals as well:

- (a) MSM 039-12641-00086, issued on October 16, 2000; and
- (b) SPM 039-14225-00086, issued on August 14, 2001;
- (c) Reopening 039-13216-00086, issued on November 26, 2001;
- (d) AA 039-15274-00086, issued on March 5, 2002;
- (e) AA 039-17257-00086, issued on April 23, 2003;
- (f) AA 039-17761-00086, issued on June 16, 2003;
- (g) AA 039-17845-00086, issued on January 21, 2004;
- (h) SPM 039-17958-00086, issued on April 12, 2004;
- (i) AA 039-18875-00086, issued on April 27, 2004;
- (j) AA 039-19327-00086, issued on October 13, 2004;
- (k) AA 039-20613-00086, issued on March 10, 2005;
- (l) AA 039-20797-00086, issued on May 12, 2005; and
- (m) AA 039-24675-00086, issued on June 13, 2007.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

The following terms and conditions from previous approvals have been determined no longer applicable; therefore, were not incorporated into this Part 70 Operating Permit Renewal:

- (a) T 039-6059-00086, Condition D.4.3, the condition which required the Permittee to submit a Natural Gas Boiler Certification Form for Boiler EU-03.

Reason not incorporated: Boiler EU-03 burns only natural gas. Therefore, the form is not required.

- (b) T 039-6059-00086, Conditions D.3.1 and D.6.1, the conditions which limited the particulate emissions from the three (3) adhesive stations at EU-02B and the two (2) closed mold polyurethane foam turnstile production operation, identified as EU-5.1 and EU-5.2, to the amount specified by the equation in 326 IAC 6-3-2.

Reason not incorporated: Under the revised rule 326 IAC 6-3-2, these processes are exempt from the requirements of the rule because their potential particulate emissions are less than 0.551 pounds per hour.

- (c) T 039-6059-00086, Condition D.7.1, the condition which required the Permittee to keep readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of each vessel pursuant to 40 CFR 60, NSPS Kb.

Reason not incorporated: None of the tanks at this source are subject to the requirements of this NSPS.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
Vent 14	EU-01A/B	6	3	18,000	Ambient
Vent 15	EU-01A/B	6	3	18,000	Ambient
Vent 16	EU-01A/B	6	3	18,000	Ambient
Vent b	EU-01A/B	NA	4.5	36,400	Ambient
Vent c	EU-01A/B	NA	4.5	36,400	Ambient
Vent d	EU-01A/B	NA	4.5	36,400	Ambient
Vent e	EU-01A/B	NA	4.5	36,400	Ambient
Vent f	EU-01A/B	NA	4.5	36,400	Ambient
Vent g	EU-01A/B	NA	4.5	36,400	Ambient
Vent h	EU-01A/B	NA	4.5	36,400	Ambient
Vent i	EU-01A/B	NA	4.5	36,400	Ambient
Stack 22	EU-02B	3	2	7,500	Ambient
Stack 22a	EU-02B	3	2	7,500	Ambient
Stack V6	EU-03	17	1.5	NA	325
Stack S17	EU-04	18	3.5	39,000	Ambient
Stack S18	EU-04	7	3	15,000	Ambient
Vent 27	EU-5.1, EU-5.2	6	3	25,000	Ambient
Vent 28	EU-5.1, EU-5.2	3	0.5	1,500	Ambient
Vent 29	EU-5.1, EU-5.2	3	0.5	1,500	Ambient
Vent 34	EU-5.1, EU-5.2	6	3.17	25,000	Ambient
Vent 35	EU-5.1, EU-5.2	6	3.17	25,000	Ambient

Emission Calculations

See pages 1 through 10 of Appendix A of this document for detailed emission calculations.

Emission calculations for EU-01A/B and EU-04 have been determined to be confidential in prior approvals because the data is considered a trade secret. Therefore only emissions totals have been presented for these units:

- (a) Emissions calculations for the foam pouring line, identified as EU-01A/B, are based on confidential trade secret information. The foam pouring line is a batch operation. Total foam production is based on a twenty-four (24) hour production cycle with actual foam pouring operating up to nine (9) hours per day (3,285 hours per year). Potential to emit calculations for the foam pouring line are therefore based on 3,285 hours of pouring and 8,760 hours of operation.

The potential to emit VOC for the foam pouring line, identified as EU-01A/B, is 133 tons per year with no particulate matter emissions. HAP emissions are less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs.

- (b) Based on applicant-supplied confidential emission factors and material throughput rates, the potential emissions of the bonded foam line, identified as EU-04, have been verified to be:

Pollutant	Potential Emissions (pounds/hour)	Potential Emissions (tons/year)
PM	3.33	14.58
VOC	1.15	5.05
HAPs (TDI)	1.15	5.05

Particulate matter emitted by this process are greater than ten microns in diameter, therefore no PM₁₀ is emitted.

- (c) VOC and HAP emissions from the U.S. EPA Tanks 4.0 program were submitted with this application. The only tanks which emit calculable amounts of VOC emissions are the TDI (ISO) storage tanks (P5, P6, P8, P19, P21, P22, P27, P28, P29, P30, R2, C23, MLD1, TDI Tank #1, TDI Tank #2, TDI Tank #3 and TDI Tank #4). The potential to emit of VOC and HAP (TDI) from these tanks are as follows:

Tank ID	Working losses (lbs/yr)	Breathing losses (lbs/yr)	Total losses (lbs/yr)	Total losses (tons/yr)
P5	0.13	0.00	0.14	0.00007
P6	0.13	0.00	0.14	0.00007
P8	0.08	0.00	0.08	0.00004
P19	0.13	0.00	0.14	0.00007
P21	0.12	0.01	0.13	0.000065
P22	0.12	0.01	0.13	0.000065
P27	0.23	0.08	0.31	0.000155
P28	0.23	0.08	0.31	0.000155
P29	0.23	0.08	0.31	0.000155
P30	0.23	0.08	0.31	0.000155
R2	0.06	0.00	0.06	0.00003
C23	0.03	0.03	0.06	0.00003
MLD1	0.04	0.01	0.05	0.000025
TDI #1	0.23	0.08	0.31	0.000155
TDI #2	0.23	0.08	0.31	0.000155
TDI #3	0.23	0.08	0.31	0.000155
TDI #4	0.23	0.08	0.31	0.000155
Total			3.41	0.001705

County Attainment Status

The source is located in Elkhart County

Pollutant	Status
PM ₁₀	Attainment
PM _{2.5}	Attainment
SO ₂	Attainment
NO _x	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Elkhart County has been classified as attainment for PM_{2.5}. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM_{2.5} emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions. See the State Rule Applicability – Entire Source section.
- (b) On September 5, 2007, the Indiana Air Pollution Control Board adopted an emergency rulemaking redesignating Allen, Clark, Elkhart, Floyd, LaPorte and St. Joseph Counties to attainment for the eight-hour ozone standard.

Volatile organic compounds (VOC) and nitrogen oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Elkhart County

has been designated as attainment for the 8-hour ozone standard. Therefore, VOC emissions and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

- (c) Elkhart County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (e) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	22.9
PM ₁₀	9.11
SO ₂	4.52
VOC	217
CO	11.5
NO _x	14.6

HAPs	tons/year
TDI	8.12
MDI	12.99 ^(a)
Chromium	0.151
Benzene	0.0003
Dichlorobenzene	0.0002
Formaldehyde	0.010
Hexane	0.239
Toluene	0.0005
Lead	0.0001
Cadmium	0.0001
Manganese	0.0002
Nickel	0.0003
Diethanolamine	0.001
Total	13.39

- (a) The worst case potential to emit of MDI assumes that all processes that normally use TDI substitute MDI. This is the worst-case situation that could arise due to TDI supply shortages. The total HAPs potential would remain 13.39 tons per year, it would not increase due to the substitution.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC is equal to or greater than one hundred (100) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than one hundred (<100) tons per year.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are not counted toward the determination of Part 70 applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2003 OAQ emission data and the 2005 U.S. EPA Toxics Release Inventory (TRI) data.

Pollutant	Actual Emissions (tons/year)
PM	Not reported
PM ₁₀	0
SO ₂	0
VOC	17
CO	1
NO _x	2
HAP (TDI)	0.022

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/Emission Unit	Potential to Emit (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAP
EU-01A/B	-	-	-	Less than 38.6 ⁽¹⁾	-	-	2.98 (TDI)
EU-02B	-	-	-	9.73	-	-	4.87 (MDI)
EU-6.1 and EU-6.2	-	-	-	3.19	-	-	0.149
Natural Gas Boiler EU-03	0.104	0.418	0.033	0.302	4.62	5.50	0.104
EU-04	14.58	-	-	5.05	-	-	5.05 (TDI)
EU-5.1 and 5.2	0.589	0.589	-	Less than 65.0	-	-	0.088 (0.087 is TDI)
All ISO Storage Tanks	-	-	-	0.0017	-	-	0.0017 (TDI)
INSIGNIFICANT:							
Boiler B1	0.070	0.278	0.022	0.201	3.08	3.66	0.069
Non woven fiber line	3.38	3.38	-	-	-	-	-
Natural Gas Combustion	0.079	0.315	0.025	0.228	3.48	4.14	0.078
EU 5.3	2.00	2.00	-	-	-	-	-
EU 5.4	2.00	2.00	-	-	-	-	-
EU 5.5	2.00	2.00	-	-	-	-	-
Blending	-	-	-	0.150	-	-	-
Diesel combustion	0.125	0.125	4.44	0.021	0.313	1.25	0.0004
Total	24.93	11.11	4.52	Less than 122.47	11.49	14.55	8.12 (TDI)⁽²⁾ 13.39 (Total)
Major Source Threshold	250	250	250	100	250	250	Single 10 Combined 25

⁽¹⁾ The VOC emissions are limited by the requirements of 326 IAC 8-1-6.

⁽²⁾ Although the potential emissions of the worst case single HAP (TDI) are calculated to be less than ten (10) tons per year, the applicant has stated that supply shortages of TDI could result in increased usage of MDI. While the potential to emit of combined HAPs would not change, it is possible that the increased MDI usage could reach ten (10) tons per year. Therefore, the single and combined HAPs emissions from this source have been limited to less than ten (10) and twenty-five (25) tons per year, respectively, by limiting MDI emissions to less than ten (10) tons per year. This will ensure that this source remains a minor source under 326 IAC 2-4.1.

- (a) This existing stationary source is not major for PSD because the emissions of each attainment criteria pollutant are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories.
- (b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, fugitive emissions are not counted toward the determination of PSD applicability.

Federal Rule Applicability

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each pollutant-specific emission unit that meets the following criteria:
- (1) has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;
 - (2) is subject to an emission limitation or standard for that pollutant; and
 - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

None of the emission units at this source meet all three of the above criteria. The only emission unit with the potential to emit greater than the major source threshold is EU-01A/B (greater than one hundred (100) tons per year of VOC). However, EU-01A/B is not equipped with add-on control equipment. Therefore, the requirements of 40 CFR Part 64, CAM are not applicable to any of the existing units as part of this Part 70 Permit Renewal.

- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (c) The requirements of the New Source Performance Standard, 40 CFR Part 60.110b, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels, apply to tanks with a storage capacity greater than 75 cubic meters (19,812.9 gallons) and that store a liquid with a maximum true vapor pressure greater than 3.5 kilopascals (26.25 millimeters of mercury). The only tanks at this source with storage capacities greater than 75 cubic meters are P27, P28, P29, P30, C2, C11, C19, C25, C37, TDI Tank #1, TDI Tank #2, TDI Tank #3 and TDI Tank #4. However, these tanks do not store a liquid with a maximum true vapor pressure greater than 3.5 kilopascals. Therefore, the requirements of the NSPS, 40 CFR 60, Subpart Kb, are not included in the permit for this source.
- (d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit renewal.
- (e) The requirements of the NESHAP, 40 CFR 63, Subpart III, National Emission Standards for Flexible Polyurethane Foam Production are not included in the permit for this source because this source is not a major source of HAPs, as defined in 40 CFR 63.2.
- (f) The requirements of the NESHAP, 40 CFR 63, Subpart M, National Emission Standards for Hazardous Air Pollutants: Flexible Polyurethane Foam Fabrication Operations are not included in the permit for this source because this source is not a major source of HAPs, as defined in 40 CFR 63.2.

State Rule Applicability - Entire Source

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

Although the potential emissions of the worst case single HAP (TDI) from the polyurethane foam production source are calculated to be less than ten (10) tons per year, the applicant has stated that supply shortages of TDI could result in increased usage of MDI. While the potential to emit of combined HAPs would not change, it is possible that the increased MDI usage could potentially exceed ten (10) tons per year before limits. Therefore, the single HAP emissions from this source have been limited to less than ten (10) tons per year. This will ensure that this source remains a

minor source under 326 IAC 2-4.1. Therefore, 326 IAC 2-4.1 does not apply. The emission limitation is as follows:

- (a) The MDI emissions from the one (1) foam pouring line, identified as EU-01A/B, four (4) loop slitting process lines, identified as EU-02B, one (1) bonded foam line, identified as EU-04, and two (2) closed mold polyurethane foam turnstile production operations, identified as EU-5.1 and EU-5.2, shall be limited to less than 9.8 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limitation is based on the following equation:

$$\text{Total MDI Emissions (tons)} = (\text{MDI Usage at EU-01A/B (tons)} \times \text{Flash Off (\%)}) + (\text{MDI Usage at EU-02B (tons)}) + (\text{MDI Usage at EU-04 (tons)} \times \text{Flash Off (\%)}) + (\text{MDI Usage at EU-5.1 and EU-5.2 (tons)} \times \text{Flash Off (\%)})$$

- (b) The flash off factor shall be seventy percent (70%) for EU-01A/B, EU-04, EU-5.1 and EU-5.2 and one hundred percent (100%) for EU-02B.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit under 326 IAC 2-7, Part 70 program. Pursuant to this rule, the Permittee shall submit an emission statement certified pursuant to the requirements of 326 IAC 2-6. Since the potential VOC emissions from this source are less than two hundred fifty (250) tons per year and this source is located in Elkhart County, in accordance with the compliance schedule specified in 326 IAC 2-6-3, an emission statement must be submitted triennially by July 1 beginning in 2004 and every 3 years after. Therefore, the next emission statement for this source must be submitted by July 1, 2010. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in the permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability – Individual Facilities

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

The one (1) natural gas-fired boiler, identified as EU-03, rated at 12.55 million British thermal units per hour, was installed in 1992. Therefore, pursuant to 326 IAC 6-2-1(d), the particulate emissions from the boiler shall be limited by the following equation given in 326 IAC 6-2-4(a):

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate emitted per million British thermal units (lb/mmBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (mmBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

The total boiler heat input capacity for the source is 20.91 million British thermal units per hour.

$$Pt = 1.09/(20.91)^{0.26} = 0.494 \text{ lb/mmBtu heat input}$$

Based on Appendix A, the potential particulate emission rate before controls from the boiler (EU-03) is:

$$0.104 \text{ ton/yr} \times (2000 \text{ lbs/ton} / 8760 \text{ hrs/yr}) = 0.024 \text{ lb/hr}$$
$$(0.024 \text{ lb/hr} / 12.55 \text{ mmBtu/hr}) = 0.002 \text{ lb PM per mmBtu}$$

The particulate emissions from the boiler (EU-03) are 0.002 pounds per million British thermal units, which is less than the allowable of 0.024 pounds per million British thermal units. Therefore, the boiler (EU-03) can comply with this rule.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

- (a) The spray application of the release agent at the two (2) closed mold polyurethane foam turnstile production operations (EU-5.1 and EU-5.2) are exempt from the requirements of 326 IAC 6-3-2, because they each have potential particulate emissions less than 0.551 pounds per hour.
- (b) The requirements of 326 IAC 6-3-2 are not applicable to the adhesive stations at the loop slitting process (EU-02B), because the adhesive used at the stations does not produce particulate emissions.
- (c) Pursuant to 326 IAC 6-3-2 the particulate emission rate from the one (1) bonded foam line, identified as EU-04, shall not exceed 22.27 pounds per hour when operating at a process weight rate of 25,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and}$$
$$P = \text{process weight rate in tons per hour}$$

Based on applicant-supplied confidential emission factors and material throughput rates, the potential particulate emissions from EU-04 are 3.33 pounds per hour. Therefore, the bonded foam line (EU-04) can comply with this rule.

326 IAC 8-1-6 (New facilities; General reduction requirements)

- (a) Pursuant to SPM 039-17958-00086, issued on April 12, 2004, and 326 IAC 8-1-6, BACT for the foam pouring line, identified as EU-01A/B, has been determined to be:

- (1) The total VOC emissions from the foam pouring line shall be limited to less than 38.6 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This limitation is based on the following equation:

$$\text{VOC Emissions (tons)} = (\text{Catalyst Usage (tons)} \times \text{Flash Off (\%)}) + (\text{TDI or MDI Usage (tons)} \times \text{Flash Off (\%)})$$

Note that the flash off % of the catalysts and the TDI or MDI is a confidential trade secret. Therefore, the flash off will not be specified in the permit document. The Permittee shall maintain the flash off factors as part of the record keeping requirements, so that IDEM, OAQ Compliance Section can verify compliance with this limit. However, to ensure that this limit is an enforceable limit the flash off shall not exceed seventy percent (70%) for the catalyst usage in the foam pouring line, identified as EU-01A/B.

- (2) The continued development of non-emitting amine catalysts for replacement of existing emitting catalysts where feasible.
- (3) The listed work practice as follows:

Storage containers used to store VOC and/or HAP containing materials shall be kept covered when not in use.

- (b) Pursuant to T 039-6059-00086, issued on June 11, 1999, and 326 IAC 8-1-6, BACT for the foam turnstile production operations, identified as EU-5.1 and EU-5.2, has been determined to be as follows:

- (1) High volume low pressure (HVLP) spray application shall be used at all times when the two (2) closed mold polyurethane turnstile production units identified as EU-5.1 and EU-5.2 are in operation.

High volume low pressure (HVLP) spray means technology used to apply coating to a substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

- (2) The weight percentage solid content and maximum usage of mold release at the two (2) closed polyurethane turnstile production units identified as EU-5.1 and EU-5.2 with a combined maximum capacity of 400 unit per hour shall be no less than 7% and no more than 0.003 gallons per unit. This shall be equivalent to or less than a total of 65.0 tons per twelve (12) consecutive month period.

Any change or modification which may increase the potential VOC emissions from the two (2) closed mold polyurethane turnstile production operation identified as EU-5.1 and EU-5.2 in this BACT analysis shall be approved by the Office of Air Quality (OAQ).

State Rule Applicability – Insignificant Activities

326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating)

The one (1) natural gas-fired boiler, identified as B1, rated at 8.36 million British thermal units per hour, was installed in 1982. Therefore, pursuant to 326 IAC 6-2-1(c), the particulate emissions from the boiler shall be limited by the following equation given in 326 IAC 6-2-3(a):

$$Pt = (C \times a \times h) / (76.5 \times Q^{0.75} \times N^{0.25})$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal 50 micrograms per cubic meter for a period not to exceed a sixty (60) minute time period.

N = Number of stacks in fuel burning operation.

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 million British thermal units per hour heat input.

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height will be computed using a weighted average of stack heights.

$$Pt = (50 \mu\text{g}/\text{m}^3 \times 0.67 \times 16 \text{ ft}) / (76.5 \times 8.36^{0.75} \times 1^{0.25}) = 1.43 \text{ lb PM} / \text{MMBtu}$$

This number is greater than the allowable emissions stated in 326 IAC 6-2-3(d). Therefore the allowable emissions for the one (1) natural gas-fired boiler (B1) which was existing and in operation prior to June 8, 1972 shall be limited to 0.8 pounds of particulate per million British thermal units.

Based on Appendix A, the potential particulate emission rate from boiler (B1) is:

$$0.07 \text{ ton/yr} \times (2000 \text{ lbs/ton} / 8760 \text{ hrs/yr}) = 0.016 \text{ lb/hr}$$
$$(0.016 \text{ lb/hr} / 8.36 \text{ mmBtu/hr}) = 0.002 \text{ lb PM per mmBtu}$$

The particulate emissions from boiler (B1) are 0.002 pounds per million British thermal units, which is less than the allowable of 0.8 pounds per million British thermal units. Therefore, boiler (B1) can comply with this rule.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

- (a) The spray application of the release agent at the three (3) insignificant closed mold polyurethane foam turnstile production operations (EU-5.3, EU-5.4 and EU-5.5) are exempt from the requirements of 326 IAC 6-3-2, because they each have potential particulate emissions less than 0.551 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2 the particulate emission rate from the insignificant Non-Woven Fiber Line, identified as IS-3, shall not exceed 4.76 pounds per hour when operating at a process weight rate of 2,500 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

According to Appendix A, the potential particulate emissions from the insignificant Non-Woven Fiber Line (IS-3) are 3.38 pounds per hour. Therefore, IS-3 can comply with this rule, without the use of the dry particulate filters.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no specific compliance monitoring requirements applicable to this source.

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 11, 2003. Additional information was received on September 2, 2004, June 8, 2007 and August 10, 2007.

Conclusion

The operation of this polyurethane foam production source shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. 039-17988-00086.

**Appendix A: Emissions Calculations
VOC, HAP and Particulate
From EU-02B Adhesive Stations**

**Company Name: Carpenter Co.
Address City IN Zip: 195 County Road 15 South, Elkhart, Indiana 46516
Permit Number: T 039-17988-00086
Reviewer: Edward A. Longenberger
Date: July 9, 2007**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Slabond 523-C (Acetone based)	7.0	75.000%	75.0%	0.0%	0.0%	0.00%	0.14800	3.750	0.00	0.00	0.00	0.00	0.00	0.00	NA	100%
Richadh 2354	10.0	40.000%	0.0%	40.0%	0.0%	0.00%	0.14800	3.750	4.00	4.00	2.22	53.32	9.73	0.00	NA	100%

Total = Worst Case Adhesive

PM Control Efficiency:	0.00%				
Uncontrolled	2.22	53.32	9.73	0.00	
Controlled	2.22	53.32	9.73	0.00	

The adhesive has no particulate emissions (100% transfer efficiency).

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

HAPs emissions

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % MDI	MDI Emissions (ton/yr)	Total HAP Emissions (ton/yr)
Richadh 2354	10.0	0.14800	3.750	20.00%	4.87	4.87
					4.87	4.87

METHODOLOGY

Slabond 523-C contains no HAPs
HAPs emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
VOC, HAP and Particulate
From Ink Stamping Lines EU-6.1 and EU-6.2**

**Company Name: Carpenter Co.
Address City IN Zip: 195 County Road 15 South, Elkhart, Indiana 46516
Permit Number: T 039-17988-00086
Reviewer: Edward A. Longenberger
Date: July 9, 2007**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
EU-6.1																
Ink 1	6.91	100.00%	0.00%	100.0%	0.00%	0.00%	0.0410	1.00	6.91	6.91	0.28	6.80	1.24	0.00	N/A	100%
Ink 2	6.71	100.00%	0.00%	100.0%	0.00%	0.00%	0.0120	1.00	6.71	6.71	0.08	1.93	0.35	0.00	N/A	100%
EU-6.2																
Ink 1	6.91	100.00%	0.00%	100.0%	0.00%	0.00%	0.0410	1.00	6.91	6.91	0.28	6.80	1.24	0.00	N/A	100%
Ink 2	6.71	100.00%	0.00%	100.0%	0.00%	0.00%	0.0120	1.00	6.71	6.71	0.08	1.93	0.35	0.00	N/A	100%

PM Control Efficiency: 0.00%

Total = Sum of all inks

Uncontrolled	0.73	17.46	3.19	0.00
Controlled	0.73	17.46	3.19	0.00

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Chromium	Chromium Emissions (ton/yr)
EU-6.1					
Ink 1	6.91	0.041000	1.00	6.00%	0.074
Ink 2	6.71	0.012000	1.00	0.00%	0.000
EU-6.2					
Ink 1	6.91	0.041000	1.00	6.00%	0.074
Ink 2	6.71	0.012000	1.00	0.00%	0.000

0.149

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

**Company Name: Carpenter Co.
Address City IN Zip: 195 County Road 15 South, Elkhart, Indiana 46516
Permit Number: T 039-17988-00086
Reviewer: Edward A. Longenberger
Date: July 9, 2007**

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100	5.50	84.0
				**see below		

*PM emission factor is filterable PM only. PM-10 emission factor is filterable and condensable PM-10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Equipment	Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Potential Emission in tons/yr					
			PM*	PM10*	SO2	NOx	VOC	CO
Boiler EU-03	12.55	109.938	0.104	0.418	0.033	5.497	0.302	4.617
Boiler B-1 (Insignificant)	8.36	73.2336	0.070	0.278	0.022	3.662	0.201	3.076
Other insignificant units	9.45	82.782	0.079	0.315	0.025	4.139	0.228	3.477
Total	30.36	266	0.253	1.01	0.080	13.3	0.73	11.2

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 4 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions**

**Company Name: Carpenter Co.
Address City IN Zip: 195 County Road 15 South, Elkhart, Indiana 46516
Permit Number: T 039-17988-00086
Reviewer: Edward A. Longenberger
Date: July 9, 2007**

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 0.0021	Dichlorobenzene 0.0012	Formaldehyde 0.0750	Hexane 1.8000	Toluene 0.0034
Potential Emission in tons/yr	0.0003	0.0002	0.010	0.239	0.0005

HAPs - Metals

Emission Factor in lb/MMcf	Lead 0.0005	Cadmium 0.0011	Chromium 0.0014	Manganese 0.0004	Nickel 0.0021	Total HAPs
Potential Emission in tons/yr	0.0001	0.0001	0.0002	0.0001	0.0003	0.251

Methodology is the same as page 3.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
VOC and Particulate
From Closed Mold Polyurethane Foam Operations EU-5.1 and EU-5.2

Company Name: Carpenter Co.
Address City IN Zip: 195 County Road 15 South, Elkhart, Indiana 46516
Permit Number: T 039-17988-00086
Reviewer: Edward A. Longenberger
Date: July 9, 2007

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Flash Off %	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (lb/hour)	Potential VOC (lb/day)	Potential VOC (ton/year)	Particulate Potential (ton/year)	lb VOC/gal solids	Transfer Efficiency
Release Agent RCT - B1208	6.40	96.5%	0.00%	96.5%	0.00%	7.00%	100%	0.006	400	6.18	6.18	14.8	356	64.9	0.589	88.2	75.0%
Part A Blend																	
Isocyanate NPU 586203	10.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00002%	0.031	400	0.00	0.00	0.00	0.00	0.00	0.00	N/A	100%
Isocyanate	10.16	0.00%	0.00%	0.00%	0.00%	0.00%	0.005%	0.121	400	0.00	0.00	0.00	0.00	0.00	0.00	N/A	100%
Fire Retardant	12.7	0.010%	0.00%	0.010%	0.00%	0.00%	0.00%	0.011	400	0.00	0.00	0.00	0.00	0.00	0.00	N/A	100%
Part B Blend																	
Carpol GP 5015	8.50	0.050%	0.050%	0.00%	0.00%	0.00%	0.00%	0.249	400	0.00	0.00	0.00	0.00	0.00	0.00	N/A	100%
Arcol E-519	8.83	0.040%	0.040%	0.00%	0.040%	28.0%	0.00%	0.113	400	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Surfactant	8.39	0.300%	0.00%	0.300%	2.70%	0.00%	0.00%	0.004	400	0.026	0.025	0.00	0.00	0.00	0.00	N/A	100%
Cross-Linker	9.00	100%	15.5%	84.5%	16.7%	0.00%	0.001%	0.006	400	9.13	7.61	0.00	0.00	0.00	0.00	N/A	100%
Catalyst	8.66	100%	0.00%	100%	0.00%	0.00%	0.00%	0.001	400	8.66	8.66	0.00	0.00	0.00	0.00	N/A	100%
Catalyst	8.66	100%	2.70%	97.3%	2.80%	0.00%	0.00%	0.002	400	8.67	8.43	0.00	0.00	0.00	0.00	N/A	100%
Catalyst	9.50	0.200%	0.200%	0.00%	0.200%	0.00%	0.00%	0.00	400	0.00	0.00	0.00	0.00	0.00	0.00	N/A	100%

PM Control Efficiency: 0.00%

Uncontrolled	14.8	356	64.9	0.589
Controlled	14.8	356	64.9	0.589

Calculations are based on the worst case potential to emit catalyst and TDI-80 mixtures.

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Flash Off (%) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Flash Off (%) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Flash Off (%) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

HAP Emissions

From Closed Mold Polyurethane Foam Operations EU-5.1 and EU-5.2

Company Name: Carpenter Co.

Address City IN Zip: 195 County Road 15 South, Elkhart, Indiana 46516

Permit Number: T 039-17988-00086

Reviewer: Edward A. Longenberger

Date: July 9, 2007

Toluene Diisocyanate (TDI):

Polyurethane foam industry TDI emission factor = 50 lbs TDI / 1,000,000 lbs = 0.00005

Density of Isocyanate (lb/gal)	Weight % TDI	Gal of Mat (gal/unit)	Maximum (unit/hr)	Potential HAP Emissions (tons/yr)
10.16	0.810	0.121	400	0.087

Diethanolamine (DEOA):

Polyurethane foam industry DEOA emission factor = 10 lbs TDI / 1,000,000 lbs = 0.00001

Density of Cross-Linker (lb/gal)	Weight % DEOA	Gal of Mat (gal/unit)	Maximum (unit/hr)	Potential HAP Emissions (tons/yr)
10.16	0.870	0.006	400	0.001

4-4 Methylenediphenyl Diisocyanate (MDI):

MDI Vapor Pressure (mm Hg)	Barometric Pressure (mm Hg)	Number of Molds	Mold Volume (ft ³)	Saturated Vapor Pressure (SVC)ppm	Saturated Vapor Pressure (SVC)lbs/ft ³	Total Volume of Mold ft ³ /mold	Total MDI Released per Mold (lbs/mold)	Total MDI Released per Year (tons/yr)
1400	760.00	2	2	1.84	0.000001	4.00	0.000005	0.0002

Emission Factors taken from "MDI / Polymeric MDI Reporting Guidelines for the Polyurethane Industry: for Section 313 of EPCRA and State Reporting (Completing EPA's Form R)"

METHODOLOGY

Potential HAP Emissions (tons/yr) = Density (lb/gal) x Weight % HAP x Gallons of Material (gal/unit) x Maximum (unit/hr) x Emission Factor x (8760 hrs / year) x (ton / 2000 lbs)

Saturated Vapor Pressure (SVC)ppm = HAP Vapor Pressure (mm Hg) / Barometric Pressure (mm Hg)

Saturated Vapor Pressure (SVC)lbs/ft³ = Saturated Vapor Pressure (SVC)ppm x (10.2mg / M³ MDI / 1 part per million) x (2.2lb/1,000,000mg) x (1M³ / 35.31ft³)

Total Volume of Mold (ft³/mold) = Number of Molds x Mold Volume (ft³)

Total MDI Released per Mold (lbs/mold) = Saturated Vapor Pressure (SVC)lbs/ft³ x Total Volume of Mold (ft³/mold)

Total MDI Release per Year (tons/yr) = Total MDI Released per Mold (lbs/mold) x (1 mold / 8.13 min) x (60 min/hr) x (8760 hrs/yr) (1 ton / 2,000 lbs)

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil
Insignificant Activities

Company Name: Carpenter Co.
Address, City IN Zip: 195 County Road 15 South, Elkhart, Indiana 46516
Permit Number: T 039-17988-00086
Reviewer: Edward A. Longenberger
Date: July 9, 2007

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur 0.500
2.0	125	

Emission Factor in lb/kgal	Pollutant				
	PM*	SO2	NOx	VOC	CO
	2.00	71.0 (142.0S)	20.0	0.340	5.00
Potential Emission in tons/yr	0.125	4.443	1.251	0.021	0.313

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

See page 8 for HAPs emission calculations.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil
HAPs Emissions

Company Name: Carpenter Co.
Address, City IN Zip: 195 County Road 15 South, Elkhart, Indiana 46516
Permit Number: T 039-17988-00086
Reviewer: Edward A. Longenberger
Date: July 9, 2007

HAPs - Metals					
Emission Factor in lb/mmBtu	Arsenic 0.000004	Beryllium 0.000003	Cadmium 0.000003	Chromium 0.000003	Lead 0.000009
Potential Emission in tons/yr	0.0000	0.0000	0.0000	0.0000	0.000

HAPs - Metals (continued)					
Emission Factor in lb/mmBtu	Mercury 0.000003	Manganese 0.000006	Nickel 0.000003	Selenium 0.00002	Total HAPs
Potential Emission in tons/yr	0.0000	0.0001	0.0000	0.000	0.0004

Methodology

No data was available in AP-42 for organic HAPs.

Potential Emissions (tons/year) = Throughput (mmBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton

Appendix A: Emissions Calculations
Particulate Emissions
From Insignificant Non-Woven Fiber Line (IS-3)

Company Name: Carpenter Co.
Address City IN Zip: 195 County Road 15 South, Elkhart, Indiana 46516
Permit Number: T 039-17988-00086
Reviewer: Edward A. Longenberger
Date: July 9, 2007

Run Time (minutes)	60.0
Pounds of Matted Fiber Produced on the Run Time	2500
Production Rate (lbs/hr)	2500
Dust Collected During Production Run (lbs)	1.74
Total Pounds of Dust Generated During Production Run (lbs)	1.78
Filter Efficiency	98.0%
Pounds of Dust Generated per Hour (lbs/hr)	1.78
Pounds of Dust Generated per Pound of Material Produced (lb/lb)	0.071%
% PM Greater than 100 Microns	43.4%
Uncontrolled PM Potential to Emit (tons/yr)	3.38
Controlled PM Potential to Emit (tons/yr)	0.068

METHODOLOGY

Production Rate (lbs/hr) = (Pounds of Matted Fiber Produced on the Run Time / Production Rate (lbs/hr)) x Run Time (minutes)

Total Pounds of Dust Generated During Production Run = Dust Collected During Production Run (lbs) / Filter Efficiency

Pounds of Dust Generated per Hour (lbs/hr) = Total Pounds of Dust Generated During Production Run (lbs) x Run Time (min) / (60 minutes/hr)

Pounds of Dust Generated per Pound of Material Produced (lb/lb) = Production Rate (lbs/hr) / Pounds of Dust Generated per Hour (lbs/hr)

% PM Greater than 100 Microns determined through a sieve analysis

Uncontrolled PM Potential to Emit (tons/yr) = Total Pounds of Dust Generated During Production Run (lbs) x % of PM Greater than 100 Microns x (8760 hrs/yr) x (1 ton / 2000 lbs)

Controlled PM Potential to Emit (tons/yr) = Uncontrolled PM Potential to Emit (tons/yr) x (1-Filter Efficiency)

**Appendix A: Emissions Calculations
VOC and Particulate
From Insignificant Closed Mold Polyurethane Foam Turnstile Production Processes**

**Company Name: Carpenter Co.
Address City IN Zip: 195 County Road 15 South, Elkhart, Indiana 46516
Permit Number: T 039-17988-00086
Reviewer: Edward A. Longenberger
Date: July 9, 2007**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
EU-5.3																
Release agent PURA 11180W	8.26	85.45%	85.45%	0.0%	84.70%	14.55%	0.0117	216	0.00	0.00	0.00	0.00	0.00	2.00	0.00	85%

There are no VOC or HAPs in this water based material.

PM Control Efficiency: 0.00%

Uncontrolled 0.00 0.00 0.00 2.00
Controlled 0.00 0.00 0.00 2.00

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
EU-5.4																
Release agent PURA 11180W	8.26	85.45%	85.45%	0.0%	84.70%	14.55%	0.0117	216	0.00	0.00	0.00	0.00	0.00	2.00	0.00	85%

There are no VOC or HAPs in this water based material.

PM Control Efficiency: 0.00%

Uncontrolled 0.00 0.00 0.00 2.00
Controlled 0.00 0.00 0.00 2.00

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
EU-5.5																
Release agent PURA 11180W	8.26	85.45%	85.45%	0.0%	84.70%	14.55%	0.0117	216	0.00	0.00	0.00	0.00	0.00	2.00	0.00	85%

There are no VOC or HAPs in this water based material.

PM Control Efficiency: 0.00%

Uncontrolled 0.00 0.00 0.00 2.00
Controlled 0.00 0.00 0.00 2.00

METHODOLOGY

- Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
- Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
- Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
- Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
- Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
- Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
- Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)