

217/785-1705

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- RENEWAL

PERMITTEE

The Dow Chemical Company
Attn: Noel Parker
1255 North Fifth Street
Charleston, Illinois 61920

<u>Application No.:</u> 03010014	<u>I.D. No.:</u> 029010AAV
<u>Applicant's Designation:</u>	<u>Date Received:</u> December 11, 2009
<u>Subject:</u> Insulated Foam Panels Manufacturing Plant	
<u>Date Issued:</u>	<u>Expiration Date:</u>
<u>Location:</u> 1255 North Fifth Street, Charleston, Coles County	

This Permit is hereby granted to the above-designated Permittee to OPERATE emission units(s) and/or air pollution control equipment consisting of the polyisocyanurate foam application head, two (2) curing ovens, foam boards trimming and cutting operations controlled by dust collector, one (1) insulated panel laminating machine, one (1) manual laminating operation, five (5) raw material storage tanks, and two (2) blowing agent and one (1) fire retardant pressure storage tank pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year for Volatile Organic Materials (VOM)). As a result the source is excluded from requirement to obtain a Clean Air Act Permit Program Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 Ill. Adm. Code 212.122.
- b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 m (1000 ft) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such

opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.

- c. Pursuant to 35 Ill. Adm. Code 212.301, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the emission source.
 - d. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).
- 3a. Pursuant to 35 Ill. Adm. Code 215.122(b), no person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe, submerged fill, or an equivalent device approved by the Illinois EPA according to the provisions of 35 Ill. Adm. Code 201 or unless such tank is a pressure tank as described in 35 Ill. Adm. Code 215.121(a) or is fitted with a recovery system as described in 35 Ill. Adm. Code 215.121(b)(2).
- b. Pursuant to 35 Ill. Adm. Code 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 Ill. Adm. Code 215.302, 215.303, 215.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 215 Subpart K shall apply only to photochemically reactive material.
- 4a. This permit is issued based on the source not being subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Flexible Polyurethane Foam Production, 40 CFR 63 Subpart III, because this source does not produce flexible polyurethane or rebond foam and is not a major source, as defined in 40 CFR 63.2.
- b. This permit is issued based on the source not being subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Flexible Polyurethane Foam Fabrication Operations, 40 CFR 63 Subpart M because this source is not a flexible polyurethane foam fabrication plant site and is not located at, or is part of a major emission source of hazardous air pollutants (HAP).
 - c. This permit is issued based on the source not being subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Flexible Polyurethane Foam Production and Fabrication Area Sources, 40 CFR 63 Subpart O because this source is not a flexible polyurethane foam fabrication facility, as defined in 40 CFR 63.11419.

5. Pursuant to 35 Ill. Adm. Code 212.314, 35 Ill. Adm. Code 212.301 shall not apply when the wind speed is greater than 40.2 km/hr (25 mph). Determination of wind speed for the purposes of this rule shall be by a one-hour average or hourly recorded value at the nearest official station of the U.S. Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to this rule is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements.
6. Pursuant to 35 Ill. Adm. Code 215.122(c), if no odor nuisance exists the limitations of this Section shall only apply to the loading of volatile organic liquid with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).
7. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the nuisance.
- 8a. VOM emissions from insulated boards manufacturing process shall not exceed 7.50 tons/mo and 75.50 tons/yr.

- i. Emissions from the insulated boards manufacturing process should be calculated using the following equation:

$$E = \sum(L \times C) / 2,000$$

Where:

E = VOM Emissions (tons);

L = Foam Board Production (10^3 board-feet); and

C = VOM Blowing Agent/Fire Retardant/MDI combined emission factor (lb/ 10^3 board-feet);

- ii. The following value of C shall be used as determined by the most recent stack tests (January 2004 and September 2010) and engineering calculations for MDI emission:

$$C = 0.88 \text{ lb}/10^3 \text{ board-feet}$$

- iii. These limits are based on the material usage, composition and operational conditions consistent with those during the stack test for the worst case board type. If a new blowing agent composition (containing new components or differing more than 10% by weight of major component from used during the stack tests) is introduced in the production process the Permittee shall perform a stack test and revise operating permit to implement a new emission factor.
- b. Emissions and operation of the laminating operations shall not exceed the following limits:

<u>Operation</u>	<u>VOM Usage</u>		<u>VOM Emissions</u>	
	<u>(Ton/Mo)</u>	<u>(Tons/Yr)</u>	<u>(Ton/Mo)</u>	<u>(Tons/Yr)</u>
Machine	0.13	1.50	0.13	1.50
Manual	0.21	2.50	0.21	<u>2.50</u>
			Total:	4.00

These limits are based on the maximum laminating adhesive usage, the maximum VOM content of adhesive, and 8,760 hours per year of operation.

- c. This permit is issued based on negligible emission of volatile organic materials from raw material storage tanks. For this purpose emission shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/year.
 - d. This emissions of particulate matter from the board trimming/cutting operations shall not exceed 13.60 lb/hr and 36.80 tons/yr. The hourly limit is based on the maximum process rate 6tons/hr and emission rate allowed by 35 Ill. Adm. Code 212.322.
 - e. This permit is issued based on negligible fugitive emission of volatile organic materials from the facility operations. For this purpose emission shall not exceed nominal emission rates of 0.44 ton/year. VOM emissions shall be calculated using USEPA SOCOMI factors (EPA-453/R-95-017).
 - f. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
9. This permit is issued based on the Potential to Emit (PTE) for Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act from the source being less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements of Section 112(g) of the Clean Air Act.
- 10a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
- i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective

until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.

- ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.
- b. Testing required by Condition 11 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.
- 11. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
- 12. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The

requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

13. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
- 14a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
 - i. Production rate of each type of insulation board (10^3 board-feet/mo, 10^3 board-feet/yr) and (tons/mo, tons/yr);
 - ii. Each type of blowing agent and fire retardant usage (ton/mo, ton/yr) in each type of product;
 - iii. Blowing agent composition (wt. % of each component);
 - iv. Laminating adhesive usage (tons/month, tons/year);
 - v. The VOM and HAP content of laminating adhesive (wt.%); and
 - vi. Monthly and annual VOM, HAP and PM emissions from the source with supporting calculations (tons/mo, tons/yr).
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
15. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
- 16a. If there is an exceedance of or a deviation from the requirements of this permit, as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance or deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant

records, and a description of the exceedance or deviation, and efforts to reduce emissions and future occurrences.

- b. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
2009 Mall Street
Collinsville, Illinois 62234

If you have any questions on this permit, please call Valeriy Brodsky at 217/785-1705.

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

ECB:VJB:

cc: Illinois EPA, FOS Region 3
Lotus Notes

Attachment A - Emissions Summary

This attachment provides a summary of the maximum emission from the Insulated Foam Panels Manufacturing Plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from the plant. The resulting maximum emissions are below the levels (e.g., 100 tons/year for VOM) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that material is handled, and control measures are more effective than required in this permit.

<u>Emission Unit</u>	E M I S S I O N S (Tons/year)	
	<u>PM</u>	<u>VOM</u>
Board Manufacturing	--	75.50
Laminating Operations	--	4.00
Storage Tanks	--	0.44
Fugitive Leaks		0.44
Board Trimming/Cutting	36.80	--
Totals	36.80	80.38

VJB: