

**CONSTRUCTION PERMIT  
OFFICE OF AIR MANAGEMENT**

**Hartford Concrete Products, Inc.  
1400 North Wabash Avenue  
Hartford City, Indiana 47348**

is hereby authorized to construct

the equipment listed on Page 2 of this permit.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP-009-8870-00022	
Issued by:  Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

- (a) one (1) surface coating booth for coating metal parts for concrete vaults, constructed in 1987, utilizing an air atomization spray application, with a maximum capacity of 0.5 units per hour, with dry filters for overspray control;
- (b) one (1) concrete batching operation, constructed in 1972, with a maximum capacity of 22.5 tons of concrete per hour, with emissions from the cement bin controlled by a baghouse;
- (c) one (1) hadite storage pile with a maximum capacity of 1288.5 tons;
- (d) one (1) sand storage pile with a maximum capacity of 1546 tons;
- (e) one (1) gravel storage pile with a maximum capacity of 2405 tons;
- (f) two (2) diesel storage tanks, each with a maximum capacity of 12,000 gallons, constructed in 1972;
- (g) one (1) new surface coating booth, for coating trucks, with a maximum capacity of 2 gallons of coating per hour, utilizing an air atomization spray application method, utilizing dry filters for overspray control;
- (h) two (2) degreasing stations, identified as DG-1 and DG-2, each with a maximum capacity of 35 gallons and a maximum throughput of 0.25 gallons of mineral spirits per day;
- (i) one (1) degreasing station, identified as DG-3, with a maximum capacity of 35 gallons and a maximum throughput of 0.25 gallons of Crystal Clean Carbureror Clean 1360 per day;
- (j) twenty-four (24) natural gas fired space heaters, each with a maximum heat input capacity of 0.10 million Btu per hour;
- (k) two (2) natural gas fired hanging space heaters, each with a maximum heat input capacity of 0.15 million Btu per hour;
- (l) eight (8) natural gas fired heaters to dry concrete products, each with a maximum heat input capacity of 0.10 million Btu per hour;
- (m) four (4) natural gas fired furnaces, each with a maximum heat input capacity of 0.09 million Btu per hour;
- (n) one (1) natural gas fired Bryan boiler, referred to as B-1, constructed in 1974, with a maximum heat input capacity of 0.9 million Btu per hour;
- (o) two (2) natural gas fired Utica boilers, referred to as B-2 and B-3, constructed in 1982, each with a maximum heat input capacity of 0.3 million Btu per hour.

## Construction Conditions

### General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. That this permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

### Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

### First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
  - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
  - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
  - (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
  - (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees).

- (e) Pursuant to 326 IAC 2-7-4, the Permittee shall apply for a Title V operating permit within twelve (12) months after the source becomes subject to Title V. This 12-month period starts at the postmarked submission date of the Affidavit of Construction. If the construction is completed in phases, the 12-month period starts at the postmarked submission date of the Affidavit of Construction that triggers the Title V applicability. The operation permit issued shall contain as a minimum the conditions in the Operation Conditions section of this permit.

- 7. That when the facility is constructed and placed into operation the following operation conditions shall be met:

### **Operation Conditions**

#### General Operation Conditions

- 1. That the data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
- 2. That the permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder.

#### Preventive Maintenance Plan

- 3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
  - (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
  - (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
  - (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

#### Transfer of Permit

- 4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):
  - (a) In the event that ownership of this concrete batch plant is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
  - (b) The written notification shall be sufficient to transfer the permit from the current owner to

the new owner.

- (c) The OAM shall reserve the right to issue a new permit.

Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. That pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM or other public official having jurisdiction.

Malfunction Condition

7. That pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

PSD Minor Source Limit

- 8. That the amount of VOC delivered to the applicators of the truck coating booth, including the coating, thinner and clean up solvent usage, shall be limited to 14 pounds per day; therefore, the requirements of 326 IAC 8-2-2 (Truck Coating Operations) will not apply to the truck coating booth. Compliance with this limit will also suffice to limit the source potential to emit VOC to less than 249 tons per year. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.

Opacity Limitations

- 9. That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
  - (a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.
  - (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

Particulate Matter Limitation

- 10. That pursuant to 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from the three boilers, referred to as B-1, B-2, and B-3, shall be limited to 0.6 pound per million Btu of heat input.
- 11. That pursuant to 326 IAC 6-3 (Process Operations), the baghouse shall be in operation at all times when concrete batching plant is in operation, and shall not exceed the allowable particulate matter (PM) emission rate of 33 pounds per hour.

Baghouse Operating Condition

- 12. That the baghouse shall be operated at all times when the concrete batch plant is in operation.
  - (a) The Permittee shall take readings of the total static pressure drop across the baghouses, at least once per day. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 1 and 3 inches of water. The Preventive Maintenance Plan for these baghouses shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this range for any one reading.
  - (b) The instrument used for determining the pressure shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

- (c) The gauge employed to take the pressure drop across the baghouses or any part of the facility shall have a scale such that the expected normal reading shall be no less than 20 percent of full scale and be accurate within  $\pm 2\%$  of full scale reading. The instrument shall be quality assured and maintained as specified by the vendor.
- (d) An inspection shall be performed each calendar quarter of the all the baghouses. Defective bags shall be replaced. A record shall be kept of the results of the inspection and the number of bags replaced.
- (e) In the event that a bag's failure has been observed:
  - (i) The affected compartments will be shut down immediately until the failed units have been replaced.
  - (ii) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

Visible Emission Notations

13. That visible emission notations of all exhaust to the atmosphere from the baghouse shall be performed once per working shift. A trained employee will record whether emissions are normal or abnormal.
- (a) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, 80% of the time, the process is in operation, not counting start up or shut down time.
  - (b) In the case of batch or discontinuous operation, readings shall be taken during that part of the operation specified in the facility's specific condition prescribing visible emissions.
  - (c) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal and abnormal visible emissions for that specific process.
  - (d) The Preventive Maintenance Plan for this facility shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

Fugitive Dust Emissions

14. That pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the Permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM. [326 IAC 6-4-5(c)].

Fugitive Dust Emissions

15. That pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emissions Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on October 30, 1997. This plan consists of:

- (a) Vehicle speeds over unpaved roads shall be limited to 15 miles per hour;
- (b) Washed gravel shall be used on the roads;
- (c) Dust suppressant shall be applied to the roads on an as-needed basis;
- (d) Washed sand and gravel shall be used within the concrete batch plant;
- (e) Water shall be applied to storage piles on an as-needed basis;
- (f) The conveyor from the piles to the process shall be completely covered;
- (g) The batch plant shall be located inside the building with the cement bin vented to the baghouse at all times.

16. That pursuant to 326 IAC 6-3 (Process Operations):

(a) The dry filters for particulate matter overspray control shall be in operation at all times when the paint booths are in operation.

(b) The paint booths shall comply with 326 IAC 6-3-2(c) using the following equation:

$$E = 4.10P^{0.67} \quad \text{where: } E = \text{rate of emission in pounds per hour,}$$

P = process weight in tons per hour, if  
P is equal to or less than 60,000 lbs/hr (30 tons/hr)

(c) Daily inspections shall be performed to verify the placement, integrity and particulate loading of the filters.

(d) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Cold Cleaner Operations

17. Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator of the cold cleaning facility shall:

- (a) equip the cleaner with a cover;
- (b) equip the cleaner with a facility for draining cleaned parts;
- (c) close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;



- (e) provide a permanent, conspicuous label summarizing the operation requirements;
- (f) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

Reporting Requirements

18. That a log of information necessary to document compliance with operation permit condition no. 8 shall be maintained. These records shall be kept for at least the past 36 month period and made available upon request to the Office of Air Management (OAM).

- (a) A quarterly summary shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

within thirty (30) calendar days after the end of the quarter being reported in the format attached. The reports shall include the coating, thinner and clean up solvent usage from the truck coating booth each day. The records shall include the coating, thinner and clean up solvent usage, material safety data sheet (MSDS) and the date of use.

- (b) Unless otherwise specified in this permit, any notice, report, or other submissions required by this permit shall be timely if:
  - (i) Postmarked on or before the date it is due; or
  - (ii) Delivered by any other method if it is received and stamped by IDEM, OAM on or before the date it is due.
- (c) All instances of deviations from any requirements of this permit must be clearly identified in such reports.
- (d) Any corrective actions taken as a result of an exceedance of a limit, an excursion from the parametric values, or a malfunction that may have caused excess emissions must be clearly identified in such reports.
- (e) The first report shall cover the period commencing the postmarked submission date of the Affidavit of Construction.

Open Burning

19. That 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.

NESHAP Subpart T Requirements

20. That pursuant to 40 CFR 63, Subpart T, the batch cold cleaning machine shall comply with the following conditions by December 2, 1997:

- (a) The owner or operator shall employ a tightly fitting cover that shall be closed at all times except during parts entry and removal, and a freeboard ratio of 0.75 or greater.
- (b) All waste solvent shall be collected and stored in closed containers. The closed container may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.
- (c) If a flexible hose or flushing device is used, flushing shall be performed only within the freeboard area of the solvent cleaning machine.
- (d) The owner or operator shall drain solvent cleaned parts for 15 seconds or until dripping has stopped, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while draining.
- (e) The owner or operator shall ensure that the solvent level does not exceed the fill line.
- (f) spills during solvent transfer shall be wiped up immediately. The wipe rags shall be stored in covered containers meeting the requirements of (a) of this section.
- (g) When an air or pump-agitated solvent bath is used, the owner or operator shall ensure that the agitator is operated to produce a rolling motion of the solvent but not observable splashing against tank walls or parts being cleaned.
- (h) The owner or operator shall ensure that, when the cover is open, the cold cleaning machine is not exposed to drafts greater than 40 meters per minute (132 feet per minute), as measured between 1 and 2 meters (3.3 and 6.6 feet) upwind and at the same elevation as the tank lip.
- (i) Sponges, fabric, wood, and paper products shall not be cleaned.
- (j) The owner or operator shall submit an initial notification report immediately. The report shall include the following information:
  - (1) The name and address of the owner or operator;
  - (2) The address of the solvent cleaning machine;
  - (3) A brief description of each solvent cleaning machine including machine type, solvent/air interface area, and existing controls.
  - (4) The date of installation for the solvent cleaning machine.
  - (5) The anticipated compliance approach for the solvent cleaning machine;
  - (6) An estimated annual halogenated HAP solvent consumption for the solvent cleaning machine.

- (k) The owner or operator shall submit an initial statement of compliance for the solvent cleaning machine no later than 150 days after December 2, 1997. This statement shall include:
- (1) The name and address of the owner or operator;
  - (2) The address of the solvent cleaning machine;
  - (3) A statement, signed by the owner or operator of the solvent cleaning machine, stating that the solvent cleaning machine for which the report is being submitted is in compliance with the provisions of this subpart.
  - (4) The compliance approach for each solvent cleaning machine.

**MALFUNCTION REPORT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR MANAGEMENT  
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6  
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE: IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATES ? \_\_\_\_\_, 100 LBS/HR VOC ? \_\_\_\_\_, 100 LBS/HR SULFUR DIOXIDE ? \_\_\_\_\_ OR 2000 LBS/HR OF ANY OTHER POLLUTANT ? \_\_\_\_\_ EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION \_\_\_\_\_.  
THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC \_\_\_\_\_ OR, PERMIT CONDITION # \_\_\_\_\_ AND/OR PERMIT LIMIT OF \_\_\_\_\_  
THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ?    Y    N  
THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ?    Y    N

COMPANY: \_\_\_\_\_ PHONE NO. (    ) \_\_\_\_\_  
LOCATION: (CITY AND COUNTY) \_\_\_\_\_  
PERMIT NO. \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ INSP: \_\_\_\_\_  
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/19\_\_\_\_ AM / PM  
ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/19\_\_\_\_  
\_\_\_\_\_ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: \_\_\_\_\_  
ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:  
CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_  
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_  
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_  
INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

**Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1            Applicability of rule**

Sec. 1. The requirements of this rule (326 IAC 1-6) shall apply to the owner or operator of any facility which has the potential to emit twenty-five (25) pounds per hour of particulates, one hundred (100) pounds per hour of volatile organic compounds or SO<sub>2</sub>, or two thousand (2,000) pounds per hour of any other pollutant; or to the owner or operator of any facility with emission control equipment which suffers a malfunction that causes emissions in excess of the applicable limitation.

**326 IAC 1-2-39            “Malfunction” definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. (Air Pollution Control Board; 326 IAC 1-2-39; filed Mar 10, 1988, 1:20 p.m. : 11 IR 2373)

\***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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## Indiana Department of Environmental Management Office of Air Management Compliance Data Section

Company Name: Hartford Concrete Products, Inc.  
Location: 1400 North Wabash Avenue, Hartford City, Indiana 47348  
Permit No.: CP 009-8870-00022  
Source/Facility: Truck coating booth  
Pollutant: VOC  
Limit: The amount of VOC delivered to the applicators of the truck coating booth, including the coating, thinner and clean up solvent usage, shall be limited to 14 pounds per day.

Month: \_\_\_\_\_ Year: \_\_\_\_\_

Day	Usage this day (ton/day)	Day	Usage this day (ton/day)
1		17	
2		18	
3		19	
4		20	
5		21	
6		22	
7		23	
8		24	
9		25	
10		26	
11		27	
12		28	
13		29	
14		30	
15		31	
16		<b>TOTAL</b>	

Submitted by: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## Indiana Department of Environmental Management Office of Air Management

### Technical Support Document (TSD) for New Construction and Operation

#### Source Background and Description

Source Name: Hartford Concrete Products, Inc.  
Source Location: 1400 North Wabash Avenue, Hartford City, Indiana 47348  
County: Blackford  
Construction Permit No.: CP-009-8870-00022  
SIC Code: 3272  
Permit Reviewer: Nisha Sizemore

The Office of Air Management (OAM) has reviewed an application from Hartford Concrete Products, Inc. relating to the construction and operation of a stationary concrete batch plant, consisting of the following equipment:

- (a) one (1) surface coating booth for coating metal parts for concrete vaults, constructed in 1987, utilizing an air atomization spray application, with a maximum capacity of 0.5 units per hour, with dry filters for overspray control;
- (b) one (1) concrete batching operation, constructed in 1972, with a maximum capacity of 22.5 tons of concrete per hour, with emissions from the cement bin controlled by a baghouse;
- (c) one (1) hadite storage pile with a maximum capacity of 1288.5 tons;
- (d) one (1) sand storage pile with a maximum capacity of 1546 tons;
- (e) one (1) gravel storage pile with a maximum capacity of 2405 tons;
- (f) two (2) diesel storage tanks, each with a maximum capacity of 12,000 gallons, constructed in 1972;
- (g) one (1) new surface coating booth, for coating trucks, with a maximum capacity of 2 gallons of coating per hour, utilizing an air atomization spray application method, utilizing dry filters for overspray control;
- (h) two (2) degreasing stations, identified as DG-1 and DG-2, each with a maximum capacity of 35 gallons and a maximum throughput of 0.25 gallons of mineral spirits per day;
- (i) one (1) degreasing station, identified as DG-3, with a maximum capacity of 35 gallons and a maximum throughput of 0.25 gallons of Crystal Clean Carbureror Clean 1360 per day;
- (j) twenty-four (24) natural gas fired space heaters, each with a maximum heat input capacity of 0.10 million Btu per hour;

- (k) two (2) natural gas fired hanging space heaters, each with a maximum heat input capacity of 0.15 million Btu per hour;
- (l) eight (8) natural gas fired heaters to dry concrete products, each with a maximum heat input capacity of 0.10 million Btu per hour;
- (m) four (4) natural gas fired furnaces, each with a maximum heat input capacity of 0.09 million Btu per hour;
- (n) one (1) natural gas fired Bryan boiler, referred to as B-1, constructed in 1974, with a maximum heat input capacity of 0.9 million Btu per hour;
- (o) two (2) natural gas fired Utica boilers, referred to as B-2 and B-3, constructed in 1982, each with a maximum heat input capacity of 0.3 million Btu per hour.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
CBS	concrete batching	46	0.5 x 2	1820	ambient
SB-1	Bryan boiler B-1	15	0.67	unknown	unknown
SB-2	Utica boiler B-2	15	0.67	unknown	unknown
SB-3	Utica boiler B-3	25	0.67	unknown	unknown
VES	vault equipment paint booth	28	2.5	13,000	ambient
TBS	truck coating booth	26	3.5	25,600	ambient

### Enforcement Issue

IDEM is aware that this equipment has been constructed prior to receipt of the proper permit. IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.



## Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, 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 August 14, 1997, with additional information received on October 30, 1997, and November 10, 1997.

## Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations (14 pages).

## Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	162	118
Particulate Matter (PM10)	162	60.6
Sulfur Dioxide (SO <sub>2</sub> )	0.00	0.00
Volatile Organic Compounds (VOC)	137	137
Carbon Monoxide (CO)	0.80	0.80
Nitrogen Oxides (NO <sub>x</sub> )	2.30	2.30
Single Hazardous Air Pollutant (HAP)	>10	>10
Combination of HAPs	>25	>25

- (a) Allowable emissions are determined from the applicability of rule 326 IAC 6-3-2. See attached spreadsheets for detailed calculations.
- (b) The potential emissions before control are less than the allowable emissions, therefore, the potential emissions before control are used for the permitting determination.
- (c) Allowable emissions (as defined in the Indiana Rule) of PM, PM10, and VOC are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

### County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Blackford County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Blackford County has been classified as attainment or unclassifiable for TSP and PM<sub>10</sub>. Therefore, the PM and PM<sub>10</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
Since this type of operation is not one of the 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 PM emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	28.9
PM <sub>10</sub>	24.2
SO <sub>2</sub>	0.00
VOC	22.7
CO	0.80
NO <sub>x</sub>	2.30
Single HAP	11.6
Combination HAPs	11.6

- (a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.
- (b) The amount of VOC delivered to the applicators of the truck coating booth is limited to 14 pounds per day. This requirement will suffice to limit the source potential to emit VOC to less than 249 tons per year; therefore, the PSD requirements do not apply.

### Part 70 Permit Determination

#### 326 IAC 2-7 (Part 70 Permit Program)

This new source is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is greater than or equal to 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, or
- (c) any combination of HAPs is greater than or equal to 25 tons per year.

This new source shall apply for a Part 70 (Title V) operating permit within twelve (12) months after this source becomes subject to Title V.

### Federal Rule Applicability

There are no New Source Performance Standards (326 IAC 12) applicable to this facility.

The degreaser referred to as DG-3 utilizes cleaning products which contain greater than five percent (5%) by weight methylene chloride (CAS No. 75-09-2), and was constructed prior to November 29, 1993; therefore, 40 CFR Part 63 Subpart T - National Emission Standards for Halogenated Solvent Cleaning is applicable to this degreasing operation, with a compliance date of December 2, 1997. Pursuant to 40 CFR 63, Subpart T, the degreasing operation shall comply with the following conditions:

- (a) The owner or operator shall employ a tightly fitting cover that shall be closed at all times except during parts entry and removal, and a freeboard ratio of 0.75 or greater.
- (b) All waste solvent shall be collected and stored in closed containers. The closed container may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.
- (c) If a flexible hose or flushing device is used, flushing shall be performed only within the freeboard area of the solvent cleaning machine.

- (d) The owner or operator shall drain solvent cleaned parts for 15 seconds or until dripping has stopped, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while draining.
- (e) The owner or operator shall ensure that the solvent level does not exceed the fill line.
- (f) Spills during solvent transfer shall be wiped up immediately. The wipe rags shall be stored in covered containers meeting the requirements of (a) of this section.
- (g) When an air or pump-agitated solvent bath is used, the owner or operator shall ensure that the agitator is operated to produce a rolling motion of the solvent but not observable splashing against tank walls or parts being cleaned.
- (h) The owner or operator shall ensure that, when the cover is open, the cold cleaning machine is not exposed to drafts greater than 40 meters per minute (132 feet per minute), as measured between 1 and 2 meters (3.3 and 6.6 feet) upwind and at the same elevation as the tank lip.
- (i) Sponges, fabric, wood, and paper products shall not be cleaned.
- (j) The owner or operator shall submit an initial notification report immediately. The report shall include the following information:
  - (1) The name and address of the owner or operator;
  - (2) The address of the solvent cleaning machine;
  - (3) A brief description of each solvent cleaning machine including machine type, solvent/air interface area, and existing controls.
  - (4) The date of installation for the solvent cleaning machine.
  - (5) The anticipated compliance approach for the solvent cleaning machine;
  - (6) An estimated annual halogenated HAP solvent consumption for the solvent cleaning machine.
- (k) The owner or operator shall submit an initial statement of compliance for the solvent cleaning machine no later than 150 days after December 2, 1997. This statement shall include:
  - (1) The name and address of the owner or operator;
  - (2) The address of the solvent cleaning machine;

- (3) A statement, signed by the owner or operator of the solvent cleaning machine, stating that the solvent cleaning machine for which the report is being submitted is in compliance with the provisions of this subpart.
- (4) The compliance approach for each solvent cleaning machine.

### **State Rule Applicability**

#### **326 IAC 6-2-3 (Particulate Emissions Limitations for Sources of Indirect Heating)**

The three natural gas fired boilers, referred to as B-1, B-2, and B-3 are subject 326 IAC 6-2-3 (Particulate Emissions Limitations for Sources of Indirect Heating) because they are located in Blackford County and were existing and in operation prior to September 21, 1983. Pursuant to this rule, the particulate matter (PM) emissions shall be limited to 0.6 pound per million Btu of heat input.

#### **326 IAC 1-6-2 (Records; Notice of Malfunction)**

Pursuant to this rule, the following conditions shall apply:

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 8-2-2 (Truck Coating Operations)

Pursuant to these rules, the amount of VOC delivered to the applicators of the truck coating booth, including the coating, thinner and clean up solvent usage, shall be limited to 14 pounds per day; therefore, the requirements of 326 IAC 8-2-2 (Truck Coating Operations) will not apply to the truck coating booth. Compliance with this limit will also suffice to limit the source potential to emit VOC to less than 249 tons per year. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.

326 IAC 5-1-2 (Visible Emission Limitations)

Pursuant to this rule, except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:

- (a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.
- (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

326 IAC 6-3 (Process Operations)

Pursuant to this rule the baghouse shall be in operation at all times when concrete batching plant is in operation, and shall not exceed the allowable particulate matter (PM) emission rate of 33 pounds per hour.

326 IAC 6-4 (Fugitive Dust Emissions)

Pursuant to this rule the Permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM. [326 IAC 6-4-5(c)].

326 IAC 6-5 (Fugitive Particulate Matter Emissions Limitations)

Pursuant to this rule, fugitive particulate matter emissions shall be controlled according to the plan submitted on October 30, 1997. This plan consists of:

- (a) Vehicle speeds over unpaved roads shall be limited to 15 miles per hour;
- (b) Washed gravel shall be used on the roads;
- (c) Dust suppressant shall be applied to the roads on an as-needed basis;
- (d) Washed sand and gravel shall be used within the concrete batch plant;
- (e) Water shall be applied to storage piles on an as-needed basis;
- (f) The conveyor from the piles to the process shall be completely covered;

- (g) The batch plant shall be located inside the building with the cement bin vented to the baghouse at all times.

326 IAC 6-3 (Process Operations)

Pursuant to this rule, the following conditions shall apply to the surface coating booths:

- (a) The dry filters for particulate matter overspray control shall be in operation at all times when the paint booths are in operation.

- (b) The paint booths shall comply with 326 IAC 6-3-2(c) using the following equation:

$$E = 4.10P^{0.67} \quad \text{where: } E = \text{rate of emission in pounds per hour,}$$

P = process weight in tons per hour, if  
P is equal to or less than 60,000 lbs/hr (30 tons/hr)

- (c) Daily inspections shall be performed to verify the placement, integrity and particulate loading of the filters.
- (d) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

326 IAC 8-3-2 (Cold Cleaner Operations)

Pursuant to this rule, the owner or operator of the cold cleaning facility shall:

- (a) equip the cleaner with a cover;
- (b) equip the cleaner with a facility for draining cleaned parts;
- (c) close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) provide a permanent, conspicuous label summarizing the operation requirements;
- (f) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 4-1 (Open Burning)

Pursuant to this rule, 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.

### **Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This new source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to Clean Air Act.
- (b) See attached spreadsheets for detailed air toxic calculations.

### **Conclusion**

The construction of this stationary concrete batch plant will be subject to the conditions of the attached proposed Construction Permit No. CP-009-8870-00022.



## Appendix A: Emission Calculations

**Company Name:** Hartford Concrete Products, Inc.  
**Address City IN Zip:** 1400 North Wabash Avenue, Hartford City, IN 47348  
**CP:** 009-8870  
**Plt ID:** 009-00022  
**Reviewer:** Nisha Sizemore

boilers installed prior to September 21, 1983  
Limit pursuant to 326 IAC 6-2-3

$$Pt = (CXaXh) / (76.5 X(Q^{0.75})X(N^{0.25}))$$

C = 50 micrograms per cubic meter  
Q = 1.5 total heat input capacity (MMBtu/hr)  
N = 1 number of stacks  
a = 0.67 plume rise factor  
h = 17 ft --- stack height

Pt = 5.49 lb/MMBtu heat input  
therefore, pursuant to 326 IAC 6-2-3 (e), the limit defaults to 0.6 MMBtu/hr of heat input

$$0.6 \text{ lb/MMBtu} \times 1.5 \text{ MMBtu/hr} = 0.90 \text{ lbs/hr} = 3.94 \text{ tons/yr}$$

three (3) boilers

**Appendix A: Emission Calculations**

**Natural Gas Combustion Only**

**MM Btu/hr 0.3 - < 10**

**Commercial Boiler**

**Company Name: Hartford Concrete Products, Inc.**

**Address City IN Zip: 1400 North Wabash Avenue, Hartford City, IN 47348**

**CP: 009-8870**

**Pit ID: 009-00022**

**Reviewer: Nisha Sizemore**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

1.5

13.1

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	11.9	11.9	0.6	100.0	5.3	21.0
Potential Emission in tons/yr	0.1	0.1	0.0	0.7	0.0	0.1

**Methodology**

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 100, Low Nox Burner = 17, Flue gas recirculation = 36

Emission Factors for CO: uncontrolled = 21, Low NOx Burner = 27, Flue gas recirculation = ND

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

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2 as amended 10/96, and 1.4-3, SCC #1-03-006-03

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

PM Emissions

Appendix A: Emission Calculations

Company Name: Hartford Concrete Products, Inc.  
 Plant Location: Hartford City, Indiana  
 County: Blackford  
 Date Received: August 14, 1997  
 Permit Reviewer: Nisha Sizemore

\*\* emissions before controls \*\*

Storage		** see page 2 **				0.06 tons/yr	AP-42 Ch.13.2.4
Transporting		** see page 3 **				68.21 tons/yr	AP-42 Ch.13.2.2
Aggregate Dropping	22.5 ton/hr x	0.0016 lb/ton	/ 2000 lb/ton x	8760 hr/yr =		0.16 tons/yr	AP-42 Ch.13.2.4
Aggregate Transfer	22.5 ton/hr x	0.029 lb/ton	/ 2000 lb/ton x	8760 hr/yr =		2.86 tons/yr	AP-42 Ch.11.12.2
Cement Transfer	22.5 ton/hr x	0.24 lb/ton	/ 2000 lb/ton x	8760 hr/yr =		23.65 tons/yr	AP-42 Ch.11.12.2
Weigh Scale Loading	22.5 ton/hr x	0.02 lb/ton	/ 2000 lb/ton x	8760 hr/yr =		1.97 tons/yr	AP-42 Ch.11.12.2
Mixer Loading	22.5 ton/hr x	0.04 lb/ton	/ 2000 lb/ton x	8760 hr/yr =		3.94 tons/yr	AP-42 Ch.11.12.2
Total emissions before controls:						100.86 tons/yr	

A construction permit is needed since potential emissions exceed 25 tons per year.

\*\* emissions after controls \*\*

Storage	0.06 tons/yr x	50.0% emitted after controls =		0.03 tons/yr
Transporting	68.21 tons/yr x	50.0% emitted after controls =		34.11 tons/yr
Aggregate Dropping	0.16 tons/yr x	50.0% emitted after controls =		0.08 tons/yr
Aggregate Transfer	2.86 tons/yr x	50.0% emitted after controls =		1.43 tons/yr
Cement Transfer	23.65 tons/yr x	25.0% emitted after controls =		5.91 tons/yr
Weigh Scale Loading	1.97 tons/yr x	25.0% emitted after controls =		0.49 tons/yr
Mixer Loading	3.94 tons/yr x	100.0% emitted after controls =		3.94 tons/yr
Total emissions after controls:				45.99 tons/yr

\* \* fugitive vs. nonfugitive \* \*

Storage	0.06 tons/yr x	50.0% emitted after controls =	0.03 tons/yr
Transporting	68.21 tons/yr x	50.0% emitted after controls =	34.11 tons/yr
Aggregate Dropping	0.16 tons/yr x	50.0% emitted after controls =	0.08 tons/yr
Total fugitive emissions:			34.22 tons/yr
Weigh Scale Loading	1.97 tons/yr x	25.0% emitted after controls =	0.49 tons/yr
Mixer Loading	3.94 tons/yr x	100.0% emitted after controls =	3.94 tons/yr
Aggregate Transfer	2.86 tons/yr x	50.0% emitted after controls =	1.43 tons/yr
Cement Transfer	23.65 tons/yr x	25.0% emitted after controls =	5.91 tons/yr
Total nonfugitive emissions:			11.78 tons/yr

\* \* storage \* \*

Storage emissions, which result from wind erosion, are determined by the following calculations:

$$E_f = 1.7 \cdot (s/1.5) \cdot (365-p) / 235 \cdot (f/15)$$

$$= 1.85 \text{ lb/acre/day}$$

where s = 1.6 % silt content of material  
p = 125 days of rain greater than or equal to 0.01 inches  
f = 15 % of wind greater than or equal to 12 mph

$$E_p (\text{storage}) = E_f \cdot sc \cdot (40 \text{ cuft/ton}) / (2000 \text{ lb/ton}) / (43560 \text{ sqft/acre}) / (25 \text{ ft}) \cdot (365 \text{ day/yr})$$

$$= 0.06 \text{ tons/yr}$$

where sc = 5,000 tons storage capacity

\* \* unpaved roads \* \*

The following calculations determine the amount of emissions created by unpaved roads, based on 8760 hours of use and AP-42, Ch 11.2.1.

$$\begin{aligned} & 8 \text{ trip/hr} \times \\ & 0.125 \text{ mile/trip} \times \\ & 2 \text{ (round trip) } \times \\ & 8760 \text{ hr/yr} = \qquad 17520 \text{ miles per year} \end{aligned}$$

$$\begin{aligned} E_f &= k \cdot 5.9 \cdot (s/12) \cdot (S/30) \cdot (W/3)^{0.7} \cdot (w/4)^{0.5} \cdot ((365-p)/365) \\ &= 7.79 \text{ lb/mile} \end{aligned}$$

- where k = 0.8 (particle size multiplier)  
s = 4.8 % silt content of unpaved roads  
p = 125 days of rain greater than or equal to 0.01 inches  
S = 15 miles/hr vehicle speed  
W = 38 tons average vehicle weight  
w = 18 wheels

$$\frac{7.79 \text{ lb/mi} \times 17520 \text{ mi/yr}}{2000 \text{ lb/ton}} = 68.21 \text{ tons/yr}$$

\* \* aggregate handling \* \*

The following calculations determine the amount of emissions created by dropping of material, based on 8760 hours of use and AP-42, Ch 11.2.3.

$$\begin{aligned} E_f &= k \cdot (0.0032) \cdot (U/5)^{1.3} \cdot (M/2)^{1.4} \\ &= 0.0016 \text{ lb/ton} \end{aligned}$$

- where k = 0.74 (particle size multiplier)  
U = 10 mile/hr mean wind speed  
M = 5 % material moisture content

Hartford Concrete Products, Inc.  
Hartford City, Indiana

CP 009-8870  
Pit ID 009-00022

The following calculations determine compliance with 326 IAC 6-3-2 for process weight rates less than or equal to 30 tons per hour:

$$\text{limit} = 4.1 * (22.5 ^{0.67}) = 33.02 \text{ lb/hr}$$

$$11.7767 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 2.69 \text{ lb/hr} \quad (\text{will comply})$$

PM10 Emissions

Appendix A: Emission Calculations

Company Name: Hartford Concrete Products, Inc.  
 Plant Location: Hartford City, Indiana  
 County: Blackford  
 Date Received: August 14, 1997  
 Permit Reviewer: Nisha Sizemore

\*\* emissions before controls \*\*

Storage		** see page 2 **				0.02 tons/yr	AP-42 Ch.13.2.4
Transporting		** see page 3 **				23.87 tons/yr	AP-42 Ch.13.2.2
Aggregate Dropping	22.5 ton/hr x	0.0006 lb/ton	/ 2000 lb/ton x	8760 hr/yr =		0.06 tons/yr	AP-42 Ch.13.2.4
Aggregate Transfer	22.5 ton/hr x	0.029 lb/ton	/ 2000 lb/ton x	8760 hr/yr =		2.86 tons/yr	AP-42 Ch.11.12.2
Cement Transfer	22.5 ton/hr x	0.14 lb/ton	/ 2000 lb/ton x	8760 hr/yr =		13.80 tons/yr	AP-42 Ch.11.12.2
Weigh Scale Loading	22.5 ton/hr x	0.01 lb/ton	/ 2000 lb/ton x	8760 hr/yr =		0.99 tons/yr	AP-42 Ch.11.12.2
Mixer Loading	22.5 ton/hr x	0.02 lb/ton	/ 2000 lb/ton x	8760 hr/yr =		1.97 tons/yr	AP-42 Ch.11.12.2
Total emissions before controls:						43.56 tons/yr	

A construction permit is needed since potential emissions exceed 25 tons per year.

\*\* emissions after controls \*\*

Storage	0.02 tons/yr x	50.0% emitted after controls =		0.01 tons/yr
Transporting	23.87 tons/yr x	50.0% emitted after controls =		11.94 tons/yr
Aggregate Dropping	0.06 tons/yr x	50.0% emitted after controls =		0.03 tons/yr
Aggregate Transfer	2.86 tons/yr x	50.0% emitted after controls =		1.43 tons/yr
Cement Transfer	13.80 tons/yr x	25.0% emitted after controls =		3.45 tons/yr
Weigh Scale Loading	0.99 tons/yr x	25.0% emitted after controls =		0.25 tons/yr
Mixer Loading	1.97 tons/yr x	100.0% emitted after controls =		1.97 tons/yr
Total emissions after controls:				19.07 tons/yr

\* \* fugitive vs. nonfugitive \* \*

Storage	0.02 tons/yr x	50.0% emitted after controls =	0.01 tons/yr
Transporting	23.87 tons/yr x	50.0% emitted after controls =	11.94 tons/yr
Aggregate Dropping	0.06 tons/yr x	50.0% emitted after controls =	0.03 tons/yr
Total fugitive emissions:			11.98 tons/yr
Weigh Scale Loading	0.99 tons/yr x	25.0% emitted after controls =	0.25 tons/yr
Mixer Loading	1.97 tons/yr x	100.0% emitted after controls =	1.97 tons/yr
Aggregate Transfer	2.86 tons/yr x	50.0% emitted after controls =	1.43 tons/yr
Cement Transfer	13.80 tons/yr x	25.0% emitted after controls =	3.45 tons/yr
Total nonfugitive emissions:			7.10 tons/yr

\* \* storage \* \*

Storage emissions, which result from wind erosion, are determined by the following calculations:

$$E_f = 1.7 \cdot (s/1.5) \cdot (365-p)/235 \cdot (f/15) \cdot 0.35$$

$$= 0.65 \text{ lb/acre/day}$$

where s = 1.6 % silt content of material

p = 125 days of rain greater than or equal to 0.01 inches

f = 15 % of wind greater than or equal to 12 mph

$$E_p (\text{storage}) = E_f \cdot sc \cdot (40 \text{ cuft/ton}) / (2000 \text{ lb/ton}) / (43560 \text{ sqft/acre}) / (25 \text{ ft}) \cdot (365 \text{ day/yr})$$

$$= 0.02 \text{ tons/yr}$$

where sc = 5,000 tons storage capacity



\* \* unpaved roads \* \*

The following calculations determine the amount of emissions created by unpaved roads, based on 8760 hours of use and AP-42, Ch 11.2.1.

$$\begin{aligned}
 & 8 \text{ trip/hr} \times \\
 & 0.125 \text{ mile/trip} \times \\
 & 2 \text{ (round trip) } \times \\
 & 8760 \text{ hr/yr} = \qquad \qquad 17520 \text{ miles per year}
 \end{aligned}$$

$$\begin{aligned}
 E_f &= k \cdot 5.9 \cdot (s/12) \cdot (S/30) \cdot (W/3)^{0.7} \cdot (w/4)^{0.5} \cdot ((365-p)/365)^{0.35} \\
 &= 2.73 \text{ lb/mile}
 \end{aligned}$$

- where k = 0.8 (particle size multiplier)
- s = 4.8 % silt content of unpaved roads
- p = 125 days of rain greater than or equal to 0.01 inches
- S = 15 miles/hr vehicle speed
- W = 38 tons average vehicle weight
- w = 18 wheels

$$\frac{2.73 \text{ lb/mi} \times 17520 \text{ mi/yr}}{2000 \text{ lb/ton}} = 23.87 \text{ tons/yr}$$

\* \* aggregate handling \* \*

The following calculations determine the amount of emissions created by dropping of material, based on 8760 hours of use and AP-42, Ch 11.2.3.

$$\begin{aligned}
 E_f &= k \cdot (0.0032) \cdot (U/5)^{1.3} \cdot (M/2)^{1.4} \cdot 0.35 \\
 &= 0.0006 \text{ lb/ton}
 \end{aligned}$$

- where k = 0.74 (particle size multiplier)
- U = 10 mile/hr mean wind speed
- M = 5 % material moisture content

**Degreasing**

**Appendix A: Emission Calculations**

**Company Name:** Hartford Concrete Products, Inc.  
**Address City IN Zip:** 1400 North Wabash Avenue, Hartford City, IN 47348  
**CP:** 009-8870  
**Pit ID:** 009-00022  
**Reviewer:** Nisha Sizemore

Solvent used: Mineral Spirits  
Solvent consumption: 0.25 gallons/day  
Solvent density: 6.55 lbs/gallon  
Wt % VOC: 100%  
  
Potential VOC emissions: 0.30 tons/yr

Solvent used: Mineral Spirits  
Solvent consumption: 0.25 gallons/day  
Solvent density: 6.55 lbs/gallon  
Wt % VOC: 100%  
  
Potential VOC emissions: 0.30 tons/yr

Solvent used: Crystal Clean Carbureror Clean 1360  
Solvent consumption: 0.25 gallons/day  
Solvent density: 9.48 lbs/gallon  
Wt % VOC: 100%  
Wt % methylene chloride: 49%  
Wt % phenol: 8.7%  
Wt % xylene: 8.8%

Potential VOC emissions: 0.43 tons/yr  
Potential methylene chloride emissions: 0.21 tons/yr  
Potential phenol emissions: 0.04 tons/yr  
Potential xylene emissions: 0.04 tons/yr

Total VOC Emissions 1.03 tons/yr

Methodology:  
VOC emissions (tons/yr) = solvent consumption (gal/day) x 365 (days/yr) x solvent density (lbs/gallon) x wt % VOC / 2000 lbs/ton

24 space heaters  
 2 hanging space heaters  
 8 heaters for concrete products  
 4 furnaces

**Appendix A: Emission Calculations**  
**Natural Gas Combustion Only**  
**Residential Furnaces**

**Company Name:** Hartford Concrete Products, Inc.  
**Address City IN Zip:** 1400 North Wabash Avenue, Hartford City, IN 47348  
**CP:** 009-8870  
**Pit ID:** 009-00022  
**Reviewer:** Nisha Sizemore

Heat Input Capacity  
 MMBtu/hr

Potential Throughput  
 MMCF/yr

3.9

33.8

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	11.2	11.2	0.6	94.0	7.3	40.0
Potential Emission in tons/yr	0.2	0.2	0.0	1.6	0.1	0.7

**Methodology**

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 100, Low Nox Burner = 17, Flue gas recirculation = 36

Emission Factors for CO: uncontrolled = 21, Low NOx Burner = 27, Flue gas recirculation = ND

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

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2 as amended 10/96, and 1.4-3

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

**Appendix A: Emission Summary**

**Company Name:** Hartford Concrete Products, Inc.  
**Address City IN Zip:** 1400 North Wabash Avenue, Hartford City, IN 47348  
**CP:** 009-8870  
**Plt ID:** 009-00022  
**Reviewer:** Nisha Sizemore

**Potential Emissions  
(tons/year)**

	PM	PM10	SO2	NOx	VOC	CO	Xylene	Toluene	MIBK	Methylene Chloride	phenol	Total HAPs
boilers	0.10	0.10	0.00	0.70	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
heaters	0.20	0.20	0.00	1.60	0.10	0.70	0.00	0.00	0.00	0.00	0.00	0.00
truck booth	3.70	3.70	0.00	0.00	117.20	0.00	unknown	unknown	unknown	unknown	unknown	unknown
vault booth	13.07	13.07	0.00	0.00	19.01	0.00	0.35	5.99	2.31	0.00	0.00	8.65
concrete batching	100.86	43.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
degreasing	0.00	0.00	0.00	0.00	1.03	0.00	0.04	0.00	0.00	0.21	0.04	0.29
<b>Totals</b>	<b>117.93</b>	<b>60.63</b>	<b>0.00</b>	<b>2.30</b>	<b>137.34</b>	<b>0.80</b>	<b>0.39</b>	<b>5.99</b>	<b>2.31</b>	<b>0.21</b>	<b>0.04</b>	<b>8.94</b>

Note: Since the source has not decided which coatings are to be used in the truck coating booth, it is assumed that the potential single HAP emissions are >10 tons per year and the potential combination HAPs emissions are >25 tons per year.

**Allowable Emissions  
(tons/year)**

	PM	PM10	SO2	NOx	VOC	CO	Xylene	Toluene	MIBK	Methylene Chloride	phenol	Total HAPs
boilers	0.10	0.10	0.00	0.70	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
heaters	0.20	0.20	0.00	1.60	0.10	0.70	0.00	0.00	0.00	0.00	0.00	0.00
truck booth	3.70	3.70	0.00	0.00	117.20	0.00	unknown	unknown	unknown	unknown	unknown	unknown
vault booth	13.07	13.07	0.00	0.00	19.01	0.00	0.35	5.99	2.31	0.00	0.00	8.65
concrete batching	145.00	145.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
degreasing	0.00	0.00	0.00	0.00	1.03	0.00	0.04	0.00	0.00	0.21	0.04	0.29
<b>Totals</b>	<b>162.07</b>	<b>162.07</b>	<b>0.00</b>	<b>2.30</b>	<b>137.34</b>	<b>0.80</b>	<b>0.39</b>	<b>5.99</b>	<b>2.31</b>	<b>0.21</b>	<b>0.04</b>	<b>8.94</b>

**Limited Emissions  
(tons/year)**

	PM	PM10	SO2	NOx	VOC	CO	Xylene	Toluene	MIBK	Methylene Chloride	phenol	Total HAPs
boilers	0.10	0.10	0.00	0.70	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
heaters	0.20	0.20	0.00	1.60	0.10	0.70	0.00	0.00	0.00	0.00	0.00	0.00
truck booth	3.70	3.70	0.00	0.00	2.56	0.00	2.56	2.56	2.56	2.56	2.56	2.56
vault booth	13.07	13.07	0.00	0.00	19.01	0.00	0.35	5.99	2.31	0.00	0.00	8.65
concrete batching	11.78	7.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
degreasing	0.00	0.00	0.00	0.00	1.03	0.00	0.04	0.00	0.00	0.21	0.04	0.29
<b>Totals</b>	<b>28.85</b>	<b>24.17</b>	<b>0.00</b>	<b>2.30</b>	<b>22.70</b>	<b>0.80</b>	<b>2.95</b>	<b>8.55</b>	<b>4.87</b>	<b>2.77</b>	<b>2.60</b>	<b>11.50</b>

Note: The source has accepted a limit of 14 lbs VOC/day for the truck coating booth.

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

**Company Name: Hartford Concrete Products, Inc.  
Address City IN Zip: 1400 North Wabash Avenue, Hartford City, IN 47348  
CP: 009-8870  
Plt ID: 009-00022  
Reviewer: Nisha Sizemore**

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (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
gray green	10.2	48.50%	0.0%	48.5%	0.0%	37.30%	1.550000	0.500	4.93	4.93	3.82	91.74	16.74	8.89	13.22	50%
primer	9.7	53.50%	0.0%	53.5%	0.0%	46.40%	1.550000	0.500	5.21	5.21	4.03	96.82	17.67	7.68	11.22	50%

**State Potential Emissions  
Emissions after controls**

**Add worst case coating to all solvents**

**7.86      188.57      34.41      16.57  
5.80**

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

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % toluene	Weight % MIBK	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	MIBK Emissions (ton/yr)
gray green	10.2	1.550000	0.500	1.00%	3.00%	0.00%	0.35	1.04	0.00
primer	9.7	1.550000	0.500	0.00%	15.00%	7.00%	0.00	4.95	2.31

Total State Potential Emissions  
Totals HAPs

8.65

0.35      5.99      2.31

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

**Company Name: Hartford Concrete Products, Inc.  
Address City IN Zip: 1400 North Wabash Avenue, Hartford City, IN 47348  
CP: 009-8870  
Plt ID: 009-00022  
Reviewer: Nisha Sizemore**

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (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
variprime	6.9	93.80%	0%	93.8%	0.0%	0.80%	1.000000	2.000	6.51	6.51	13.02	312.47	57.03	1.88	813.72	50%
variprime	6.9	93.80%	0%	93.8%	0.0%	79.90%	1.000000	2.000	6.51	6.51	13.02	312.47	57.03	1.88	8.15	50%
variprime	6.9	98.30%	0%	98.3%	0.0%	0.80%	1.000000	2.000	6.82	6.82	13.64	327.46	59.76	0.52	852.75	50%
variprime	6.9	98.30%	0%	98.3%	0.0%	79.90%	1.000000	2.000	6.82	6.82	13.64	327.46	59.76	0.52	8.54	50%
variprime	13.6	93.80%	0.0%	93.8%	0.0%	0.80%	1.000000	2.000	12.77	12.77	25.53	612.78	111.83	3.70	1595.77	50%
variprime	13.6	93.80%	0.0%	93.8%	0.0%	79.90%	1.000000	2.000	12.77	12.77	25.53	612.78	111.83	3.70	15.98	50%
variprime	13.6	98.30%	0.0%	98.3%	0.0%	0.80%	1.000000	2.000	13.38	13.38	26.76	642.17	117.20	1.01	1672.33	50%
variprime	13.6	98.30%	0.0%	98.3%	0.0%	79.90%	1.000000	2.000	13.38	13.38	26.76	642.17	117.20	1.01	16.74	50%

**State Potential Emissions  
Emissions after controls**

**Add worst case coating to all solvents**

**26.76      642.17      117.20      3.70  
1.29**

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

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % Ethanol	Weight % MEK	Weight % Methanol	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Ethanol Emissions (ton/yr)	MEK Emissions (ton/yr)	Methanol Emissions (ton/yr)
variprime	6.9	1.000000	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
variprime	13.6	1.000000	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00

Total State Potential Emissions  
Totals HAPs

0.00

0.00      0.00      0.00      0.00      0.00      0.00

## Indiana Department of Environmental Management Office of Air Management

### Addendum to the Technical Support Document for New Construction and Operation

Source Name: Hartford Concrete Products, Inc.  
Source Location: 1400 North Wabash Avenue, Hartford City, Indiana 47348  
County: Blackford  
Construction Permit No.: CP-009-8870-00022  
SIC Code: 3272  
Permit Reviewer: Nisha Sizemore

On November 25, 1997, the Office of Air Management (OAM) had a notice published in the News Times, Hartford City, Indiana, stating that Hartford Concrete Products, Inc. had applied for a construction permit to construct and operate a stationary concrete batch plant. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit 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 should be issued as proposed.

Upon further review the OAM has made the following change to the permit:

1. Operation condition number 20 now specifies that the degreaser is a batch cold cleaning machine. This change was made in order to clarify that this degreaser is not required to perform reference method 307, pursuant to the NESHAP 40 CFR 63, Subpart T.