

*Hammond Department of Environmental Management*

*- Air Pollution Control Division -*

*Construction/Operation Permit Application*

*IDEM Revised March 3, 1998  
HDEM Revised March 19, 2010*

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

CONSTRUCTION/OPERATION PERMIT APPLICATION

Pursuant to 326 IAC 2-1.1-7 Fees, a filing fee of one hundred dollars (\$100) shall be submitted with an Air Pollution Construction Permit application submitted to HDEM for review.

Both the fee and the application should be submitted **together** to the following:

Hammond Department of Environmental Management  
Air Pollution Control Division  
5925 Calumet Avenue, Room 304  
Hammond, Indiana 46320

Make the fee payable to: *Hammond City Controller*. You will be billed appropriately when due. An excerpt from the *Indiana Administrative Code* that addresses fees for registration and construction permit is enclosed.

\*\*Any applicant must provide a copy of their application to a local library and fill out form A-C indicating the address and phone number of the library.

**What can you do to expedite the application Process?**

Please follow these guidelines to accelerate the application process.

1. Make **ONLY 2** copies of the application.
2. Keep **both** copies (of the application) together.
3. Since HDEM will make copies of the application, please do the following:
  - a. Single sided copies
  - b. Do not staple 2 or 3 pages at a time together
4. Place A-C Form on the front page of the application.
5. Fax requested information when possible.
6. Do not supply information for previously permitted equipment unless the previously permitted equipment is being used with the equipment being permitted. For example, using a previously permitted thermal incinerator to control emissions from a new press.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Fees Document

Page 1 of 2

An Air Construction Permit application may be subject to the following fees as stated in 326 IAC 2-1.1-7.

Excerpt from 326 IAC 2-1-7.1 regarding registration and construction permit fees

Sec. 7 The applicant shall pay a fee based upon the cost to the department of processing and reviewing the applicable registration, construction permit, or operating permit application and the cost of determining compliance with the terms and conditions of a permit. Except for sources identified in subdivisions (5)(A), (5)(B), or (5)(E), sources subject to 326 IAC 2-7-19 are exempt from the fees established by subdivisions (1) and (4) through (6). Sources that have received a permit under 326 IAC 2-8 are exempt from the fees established by subdivisions (1) and (4) through (6), except to the extent provided in 326 IAC 2-8-16. Sources subject to 326 IAC 2-9 are exempt from the fees established by subdivision (1). The fees are established as follows:

(1) A basic filing fee of one hundred dollars (\$100) shall be submitted with any application submitted to the commissioner for review in accordance with this article.

(2) A registration fee (Local Construction Permit fee) of five hundred dollars (\$500) shall be submitted upon billing for registration of those sources subject to section 2(A) of this rule.

(3) At the time the notice of a proposed permit, modification approval, or permit revision is published under 326 IAC 2-5.1-3 or 326 IAC 2-6.1-6(i) of this rule, construction permit fees shall be assessed as follows:

- (A) For applications received after July 1, 1994, a construction permit fee of three thousand five hundred dollars (\$3500) shall be submitted upon billing for those sources subject to 326 IAC 2-5.1-3 or 326 IAC 2-6.1-6(i). The fee assessed under subdivision (1) shall be credited toward this fee.
- (B) For applications received after July 1, 1994, a construction permit fee of six thousand dollars (\$6000) shall be submitted upon billing for those applications requiring review for prevention of significant deterioration requirements under 326 IAC 2-2 or emission offset under 326 IAC 2-3. The fees assessed under subdivision (1) and clause (A) shall be credited toward this fee.
- (C) Air quality analyses fees shall be assessed as follows:
  - (i) A fee of three thousand five hundred dollars (\$3,500) shall be submitted upon billing if an air quality analysis is required under 326 IAC 2-2-4 or 326 IAC 2-3-3.
  - (ii) In lieu of the fee under item (i), a fee of six thousand dollars (\$6,000) shall be submitted upon billing for an air quality analysis per pollutant performed by the department upon request of the source owner or operator. The department may deny a request to perform an air quality analysis.
- (D) Fees for control technology analyses for best available control technology (BACT) under 326 IAC 2-2-3, lowest achievable emission rate (LAER) under 326 IAC 2-3-3, or comparison of control technology to BACT or LAER for purposes of a clean unit designation as described in 326 IAC 2-2.2-2 or 326 IAC 2-3.2-2 shall be assessed as follows per emissions unit or group of identical emissions units which a control technology analysis is required:

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Fees Document (Continued)

Page 2 of 2

- (i) A fee of three thousand dollars (\$3,000) shall be submitted upon billing if two (2) to five (5) control technology analyses are required.
  - (ii) A fee of six thousand dollars (\$6,000) shall be submitted upon billing if six (6) to ten (10) control technology analyses are required.
  - (iii) A fee of ten thousand dollars (\$10,000) shall be submitted upon billing if more than ten (10) control technology analyses are required.
- (E) Miscellaneous fees to cover technical and administrative costs shall be assessed as follows:
- (i) A fee of five hundred dollars (\$500) shall be submitted upon billing for each review for an applicable national emission standard for hazardous air pollutants under 326 IAC 14 or 326 IAC 20 or an applicable new source performance standard under 326 IAC 12.
  - (ii) A fee of five hundred dollars (\$500) shall be submitted upon billing for each public hearing conducted prior to issuance of the permit or modification approval.
  - (iii) A fee of six hundred dollars (\$600) shall be submitted upon billing for each control technology analysis for best available control technology (BACT) for volatile organic compounds under 326 IAC 8-1-6 and for maximum achievable control technology (MACT) under 326 IAC 2-4.1.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Form Summary**

**GENERAL INFORMATION**

<u>Forms</u>	<u>Titles</u>
Check	Preview Construction Checklist
A-C	General Source Information
B	Source Layout
E	Process Information
F	Flow Diagram
G	Storage and Handling of Bulk Material
Y1-Y5	Air Toxic Pollutants
AA	Fugitive Emissions from Vehicular Traffic
EE-1	Affidavit of Applicability <i>(Use for a new source)</i>
EE-2	Owners and Occupants Notified
EE-3	Affidavit of Non-applicability <i>(Use for a source that already exists)</i>
FF	Facility Identification

**PROCESS INFORMATION**

<u>Forms</u>	<u>Titles</u>
W-1	Surface Coating and Accessory Solvents
W-2	Surface Coating and Accessory Solvents
W-3	As Supplied VOC Data Sheets
W-4	As Applied VOC Data Sheets
X	Woodworking and Plastics Machining
Z	On-Site Soil Remediation
BB-1	Pneumatic Blasting
BB-2	Mechanical Blasting
CC	Welding and Oxygen Cutting of Metal
DD	Reinforced Plastics and Composites

**CONTROL EQUIPMENT INFORMATION**

Q-1	Particulate Control Equipment
Q-2	Thermal and Catalytic Oxidizers

**PROCESS INFORMATION**

C	Solid or Waste Incinerator Information
D	Combustion
H	Process for Asphalt Plant
I	Brick and Clay Products
J-1	Reciprocating Internal Combustion Engines
J-2	Gas Turbine Engines
K	Concrete Batchers
L-1	Cold Cleaners
L-2	Open Top Degreasers
L-3	Conveyorized Degreaser
M	Dry Cleaners
N-1 & N-2	Foundry Operations
O	Grain Elevators
P	Lime Manufacturing
R-1 & R-2	Tank(s) Storing VOCs and/or HAPs
S	Portland Cement Manufacturing
T	Printing Operations
U	Sand and Gravel Processing Plant
V	Nonmetallic Mineral Processing Plant

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Preview Construction Checklist**

Check the appropriate box indicating whether or not each application form is **Applicable** or **Not Applicable (N/A)** to the source's process operations. In order to reduce paper volume, the Office of Air Management requests that only those forms pertinent to the permit application be submitted. If neither box is checked, this will halt or prolong the construction permit review process.

<b>Applicable</b>	<b>N/A</b>	<b>Forms</b>
X		<i>Preview Construction Checklist</i>
X		<i>Form A-C General Information</i>
X		<i>Form B Plan Layout and GEP Stack Height Information Sheet</i>
		<i>Form C Solid or Liquid Waste Incinerator Information</i>
X		<i>Form D Combustion</i>
X		<i>Form E Process Information</i>
X		<i>Form F Flow Diagram</i>
X		<i>Form G Storage and Handling of Bulk Material</i>
		<i>Form H Process for Asphalt Plant</i>
		<i>Form I Brick and Clay Products</i>
		<i>Form J-1 Reciprocating Internal Combustion Engines</i>
		<i>Form J-2 Gas Turbine Engines</i>
		<i>Form K Concrete Batching</i>
		<i>Form L-1 Degreasing: Cold Cleaners</i>
		<i>Form L-2 Degreasing: Open Top Degreasers</i>
		<i>Form L-3 Degreasing: Conveyorized Degreasers</i>
		<i>Form M Dry Cleaners</i>
		<i>Form N-1 Foundry Operations</i>
		<i>Form N-2 Foundry Operations</i>
		<i>Form O Grain Elevators</i>
		<i>Form P Lime Manufacturing</i>
X		<i>Form Q-1 Particulate Control Equipment</i>
		<i>Form Q-2 Thermal and Catalytic Oxidizers</i>
		<i>Form R-1 &amp; R-2 Tanks storing VOC and/or HAPs</i>
		<i>Form S Portland Cement Manufacturing</i>
		<i>Form T Printing Press</i>

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 - AIR POLLUTION CONTROL DIVISION -

**Preview Construction Checklist (Continued)**

Page 2 of 2

<b>Applicable</b>	<b>N/A</b>	<b>Forms</b>
		<i>Form U Sand and Gravel Processing Plant</i>
		<i>Form V Nonmetallic Mineral Processing Plant</i>
		<i>Form X Woodworking and Plastics Machining</i>
X		<i>Forms Y1-Y5 Air Toxic Pollutants</i>
		<i>Form Z On-Site Soil Remediation</i>
X		<i>Form AA Fugitive Emissions from Vehicular Traffic</i>
		<i>Form BB-1 Pneumatic Blasting</i>
		<i>Form BB-2 Mechanical Blasting</i>
		<i>Form CC Welding and Oxygen Cutting of Metal</i>
		<i>Form DD Reinforced Plastics and Composites</i>
X		<i>Form EE-1 Affidavit</i>
X		<i>Form EE-2 Owners and Occupants Notified</i>
		<i>Form EE-3 Affidavit of Nonapplicability</i>
X		<i>Form FF Facility Identification</i>

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

GENERAL INFORMATION FORM A-C

Page 1 of 2

Form A-C provides HDEM with important information and should not be construed as irrelevant. The following requested information is necessary to determine applicable Indiana State Rules and assist in expediting the permitting process. Any **information missing** in the A-C Form will **halt** or **prolong** the review process.

1. **Company:** Self explanatory
2. **Phone number and fax number:** Self explanatory
3. Please note the A-C Form requests a "**mailing address**" in order to correspond with applicants. The "mailing address" should not be confused with the "**address of source**" since the addresses may be different.
4. **Address of Source:** Provide all information requested on Form A-C. This is necessary to inform IDEM and public of the exact location.
5. **Person to contact:** Please be sure to indicate whether the contact person is a consultant. There have been times when the review process has been prolonged by corresponding with the company instead of the consultant.
6. Always provide the previous "**company's name and location change**" to expedite the background checks on permits, registrations, etc.
7. **Standard Industrial Classification Code:** Absolutely necessary for rule applicability purposes. (You may find the SIC Code by using the Standard Industrial Classification Manual available in public libraries.)
8. **Describe the process equipment covered in this application:** Include any equipment modifications and/or additions. Supply a drawing or listing of the equipment.  
  
**Air pollution control equipment being installed:** Necessary to understand what is being constructed.
9. **Are you constructing an entirely new plant or facility, or modifying an existing plant or facility?:** If you are constructing or modifying an existing plant or facility indicate by stating yes or no. For a modification only draw or list the equipment which is an addition to the plant or facility. You may include equipment not previously permitted or registered.
10. If the construction is a modification\*, provide one extra copy of the existing air construction permit(s). This will help to expedite the permit review process.
- 11 & 12. **Date construction\*\* "will and did start" or "will be or was" completed:** This is necessary to satisfy rule 326 IAC 2-1-3 (1)(2) which requires a schedule for construction and modification of said source or facility. If it is uncertain when construction will start and be completed please fill in estimated. However, if you are certain when construction will start and be completed please fill in actual. By informing HDEM that the date provided is an estimate or actual construction date this can help determine whether you are in compliance. You must provide a construction date even if the facility or source is already constructed.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

GENERAL INFORMATION FORM A-C (Continued)

Page 1 of 2

13. **Date operation will or did begin:** You must provide an operation date even if the facility or source is already in operation. Again, if you are uncertain when construction will start and be completed, please check estimated. However, if you are certain when construction will start and be completed, please check actual.
14. **326 IAC 2-1,2-7,2-8 states** "Each applicant shall place a copy of the permit application for public review at a library in the county where the construction is proposed. Each applicant shall provide the commissioner with the location of the library where the copy can be found."
15. **Did you complete preview construction checklist?** Check the appropriate box indicating whether or not each application form is **Applicable** or Not Applicable (**N/A**) to the source's process operations. If neither box is checked, this will halt or prolong the construction permit review process.
16. **Each application must be signed:** In order to satisfy rule 326 IAC 2-1-3 (e) an authorized individual must sign the application whose signature constitutes agreement that the applicant assumes responsibility of assuring that the source, facility, or emission control equipment will be constructed and/or will operate in compliance with all applicable Indiana air pollution control rules. The application process **will be stopped** if signature and/or date is missing.

\* **Modification:** An addition to an existing facility or any physical change, or change in the method of operation of any facility which increases the potential or legally allowed emissions (whichever is more stringent) of any pollutant that could be emitted from the facility or which results in emissions of any pollutant not previously emitted.

\*\* **Construction:** Fabrication, erection, or installation of an **emission** source, air pollution control equipment, or facility. Revised 2/14/95.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form A-C

CONSTRUCTION PERMIT APPLICATION  
**GENERAL INFORMATION**

1.

Company name	
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2.

Phone No.		Fax No.	
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3.

Mailing address	
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4.

Address of source		County	
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5. **Person to contact:** (should be an individual who is familiar with the submitted application)

Name					
Title		Phone No.		Fax No.	

Is this person a consultant?		Name of consulting firm	
Address of consulting firm			

6. Provide the company's prior name and location if a change has occurred in the past six (6) years:

Name	
Location	

7. **Standard Industrial Classification Code:**

--

(If you do not know the SIC Code, a short description of the business will do.)

8. Describe the process equipment covered in this application:

--

**Air pollution control equipment being installed:**

--

9.

Are you constructing an entirely new plant or facility?		Are you modifying an existing plant or facility?	
Yes	No	Yes	No

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Form A-C Continued**

**General Information (continued)**

10. If the application is to modify an existing plant or facility, please attach a copy of any previously issued air construction permit(s) associated with this modification.

11. Date construction will or did start Mo./Day/Yr.	12. Date construction will be or was completed Mo./Day/Yr.	13. Date operation will or did begin Mo./Day/Yr.
Act.	Act.	Act.
Est.	Est.	Est.

14.

Library's name	
Address	
Phone number	

15.

Did you complete the preview construction checklist? Yes or no	
--	--

16. I hereby certify that the information submitted this \_\_\_\_ day of \_\_\_\_\_ is true and complete to the best of my knowledge.

Signature of applicant		Title	
------------------------	--	-------	--

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form B

Plant Layout and GEP\* Stack Height Information Sheet

Form B provides the appropriate information for determining potential emissions. Please use this page as a checklist. If you do not provide the necessary information applicable to your source, the application process **will be stopped**.

1. You **must** provide drawings. Each one **must** be to scale, with the actual scale shown. All dimensions and units **must** be clearly indicated with a brief explanation of what is being shown. Include the following:

Check when completed

- A. \_\_\_\_\_ (feet) Building height(s)
- B. \_\_\_\_\_ (feet) Building width(s)
- C. \_\_\_\_\_ (feet) Building length(s)
- D. \_\_\_\_\_ (feet) Surrounding building(s) dimensions and heights
- F. \_\_\_\_\_ (feet) Building(s) distance to property lines
- E. \_\_\_\_\_ (feet) Indicate any access-limiting features such as fences
- G. \_\_\_\_\_ (feet) Distance to the nearest residence
- H. \_\_\_\_\_ Provide Universal Transverse Mercator coordinates of stack(s) or of building/property or latitude/longitude (if available)

2. You **must** show the location of all applicable emission points and identify each one. Points required but not limited to:

- A. \_\_\_\_\_ Exhaust stacks (include stack identification numbers)
- B. \_\_\_\_\_ Roof monitors
- C. \_\_\_\_\_ Control devices
- D. \_\_\_\_\_ Process vents  
(Horizontal discharge, vertical discharge, center height of vent)

Identify each of these emission points under "Stack Identification" on the appropriate forms.

3. You **must** show the following:

- A. \_\_\_\_\_ All roadways
- B. \_\_\_\_\_ Description of roadway surfaces      Gravel, dirt, paved, etc.)
- C. \_\_\_\_\_ Indicate number of lanes

4. You **must** include a compass pointing north

If fugitive dust is created inside the building then include all doors and/or windows, which would allow fugitive dust to escape.

\*GEP: Good Engineering Practice as defined by 326 IAC 1-7-3.

**Process Information**

1. **Type of material used:**  
Please list materials used in the process and the rate at which you use the materials. This is important in deriving the potential emissions. Please use another Form E if you have more than six (6) materials being used in the process.
2. **Finished product:**  
Please provide the normal amount and maximum amount of products produced in pounds per hour. If you are unable to provide an accurate amount of products produced in an hour, then an estimate will do.
3. **Process and control equipment:**  
The equipment listed in Form E must be consistent with Form F, unless the permit or registration is a proposed modification. In order to write a permit/registration approval letter accurately, it is imperative to list all the equipment involved. (*Include only equipment involved in the new construction or modification*).
4. **Type of Air Pollution Control:**  
Clearly indicate what pollution control device you are installing such as a baghouse, cyclone, wet scrubber, etc. and the efficiency of the control equipment and afterburners (Form Q-2).

Revised 7/27/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form E

**Process Information**

Products produced

**1. Raw material rate** (Please use additional sheets if necessary)

Type of material used	Normal rate (lbs./hr)	Maximum rate (lbs/hr)

**2. Finished product**

Normal \_\_\_\_\_ lbs/hr      Maximum \_\_\_\_\_ lbs/hr

**3. Process and emission control equipment** - List each facility\*. This list of facilities should be consistent with the flow diagram on Form F. (Use an additional sheet if necessary.)


**4. Type of air pollution control**

*(Must be consistent with Form Q)*

- A. Efficiency of emission control equipment
- B. For dry collectors tons/year collected

\*Facility - Any one (1) structure, piece of equipment, installation or operation which **emits** or has the potential to **emit** any air contaminant - PM, SO<sub>x</sub>, VOC, NO<sub>x</sub>, CO, lead, and toxic contents.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Form F**

**Flow Diagram**

This permit application must include a simple flow diagram of the operation. The purpose of the flow diagram is to understand the process and potential emission points. Please use this form as a checklist. Any **information missing** in Form F will **halt** or **prolong** the review process. Duplicate the form if needed.

**Include all applicable information in the flow diagram:**

**Check when completed:**

1. \_\_\_\_\_ State the raw material input in lbs/hr
2. \_\_\_\_\_ State the maximum hourly capacity of each step of the operation in lbs/hr
3. \_\_\_\_\_ Show all equipment, emitting pollutants, used in the process
4. \_\_\_\_\_ Indicate additions and modifications to an existing process
5. \_\_\_\_\_ Show location of stacks (include stack identification)
6. \_\_\_\_\_ Show location and process which the air pollution control (APC) equipment abates
7. \_\_\_\_\_ **Indicate the actual operation schedule for each source being permitted since, operation hours may differ.**

**Stack\* Data**

Stack ID	Height feet above ground	Diameter (feet inside)	Gas discharge temp. (°F)	Gas flow rate (acfm)

\* "Stack" means any point in a source designed to emit solids, gases, or liquids into the air, including a pipe, duct or flares.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form G

**Storage and Handling of Bulk Material**

1. **Material handled or stored:**  
List each material (coal, sand, lime stone, etc.) that will be utilized in the process.
2. **Method of handling:**  
This concerns the removal of material from storage by way of dropping, conveyor belts, manually, etc...
3. **Type of storage:**  
How is the material stored? Indicate whether the material is stock-piled inside or outside a building.
4. **Storage capacity:**  
The maximum amount of material your silo and/or bin can hold.
5. **File acreage:**  
If you stock-pile your material inside or outside of a building, then provide the amount of acreage it covers.
6. **Silt content:**  
Silt content is the fine dirt and sand particles. If you are unable to provide this information please indicate by stating "NA".
7. **Moisture content percent by weight:**  
The moisture content should be determined before wet spray controls. If you are unable to provide this information, please indicate by stating "NA".
8. **Maximum throughput:**  
Indicate the maximum amount of material that could be processed through the line.
9. **Dust control methods:**  
Indicate the process the dust control is abating and elaborate further on Form Q. If necessary, confer to the Indiana State Rule 326 IAC 6-5-1 Fugitive Particulate Matter Emission Limitations.

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form G

**Storage and Handling of Bulk Material**

1. Material handled or stored	2. Method of handling	3. Type of storage	4. Storage capacity

5. Pile acreage	6. Silt content (% by weight)	7. Moisture content (% by weight)	8. Maximum throughput (tons/year)

**9. Dust control methods:**

What process does the dust control abate?	Type of dust control	Efficiency of dust control

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Air Toxic Pollutants**

Company Name:

Location:

Place an "X" beside each compound listed on forms Y1 through Y5 that will be emitted into the air from the equipment covered in this application, and determine the maximum emission rate for each compound. Attach **Sections I, II, and III (only)** of Material Safety Data Sheets (MSDS) for each toxic containing material. List all emission points (as identified on the site plot plan) for each compound. **Include stack parameters for each listed air toxic emission point on the appropriate form.**

<u>X</u>	<u>CAS</u> <u>NUMBER</u>	<u>CHEMICAL</u> <u>NAME</u>	<u>EMISSION</u> <u>POINTS</u>	<u>MAXIMUM</u> <u>EMISSION RATE</u> <u>(POUNDS/HR)</u> <b>BEFORE CONTROLS</b>
___	00075070	Acetaldehyde	_____	_____
___	00060355	Acetamide	_____	_____
___	00075058	Acetonitrile	_____	_____
___	00098862	Acetophenone	_____	_____
___	00053963	2-Acetylaminofluorene	_____	_____
___	00107028	Acrolein	_____	_____
___	00079061	Acrylamide	_____	_____
___	00079107	Acrylic Acid	_____	_____
___	00107131	Acrylonitrile	_____	_____
___	00107051	Allyl chloride	_____	_____
___	00092671	4-Aminodiphenyl	_____	_____
___	00062533	Aniline	_____	_____
___	00090040	o-Anisidine	_____	_____
___	01332214	Asbestos	_____	_____
___	00071432	Benzene (including from gasoline)	_____	_____
___	00092875	Benzidine	_____	_____
___	00098077	Benzotrichloride	_____	_____
___	00100447	Benzyl chloride	_____	_____
___	00092524	Biphenyl	_____	_____
___	00117817	Bis (2-ethylhexyl) phthalate (DEHP)	_____	_____
___	00542881	Bis (chloromethyl) ether	_____	_____
___	00075252	Bromoform	_____	_____
___	00106990	1,3-Butadiene	_____	_____
___	00156627	Calcium cyanamide	_____	_____
___	00105602	Caprolactam	_____	_____
___	00133062	Captan	_____	_____
___	00063252	Carbaryl	_____	_____
___	00075150	Carbon disulfide	_____	_____
___	00056235	Carbon tetrachloride	_____	_____
___	00463581	Carbonyl sulfide	_____	_____
___	00120809	Catechol (1,2-dihydroxylbenzene)	_____	_____
___	00133904	Chloramben	_____	_____
___	00057749	Chlordane	_____	_____
___	07782505	Chlorine	_____	_____
___	00079118	Chloroacetic acid	_____	_____
___	00532274	2-Chloroacetophenone	_____	_____
___	00108907	Chlorobenzene	_____	_____
___	00510156	Chlorobenzilate	_____	_____

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Air Toxic Pollutants (continued)**

00067663	Chloroform	_____	_____
00107302	Chloromethyl methyl ether	_____	_____
00126998	Chloroprene	_____	_____
01319773	Cresols/Cresylic Acid (isomers and mixtures)	_____	_____
00095487	o-Cresol	_____	_____
00108394	m-Cresol	_____	_____
00106445	p-Cresol	_____	_____
00098828	Cumene	_____	_____
00094757	2,4-D, (2,4-Dichlorophenoxyacetic acid, including salts and esters)	_____	_____
00072559	DDE (1,1-Dichloro-2,2-bis(p-chlorophenyl)ethylene	_____	_____
00334883	Diazomethane	_____	_____
00132649	Dibenzofuran	_____	_____
00096128	1,2-Dibromo-3-chloropropane	_____	_____
00084742	Dibutylphthalate	_____	_____
00106467	1,4-Dichlorobenzene	_____	_____
00091941	3,3'-Dichlorobenzidine	_____	_____
00111444	Dichloroethyl ether [Bis (2-chloroethyl) ether]	_____	_____
00542756	1,3-Dichloropropene	_____	_____
00062737	Dichlorvos (DDVP)	_____	_____
00111422	Diethanolamine	_____	_____
00121697	N,N-Dimethylaniline	_____	_____
00064675	Diethyl sulfate	_____	_____
00119904	3,3'-Dimethoxybenzidine	_____	_____
00060117	Dimethyl aminoazobenzene	_____	_____
00119937	3,3'-Dimethylbenzidine	_____	_____
00079447	Dimethylcarbamoyl chloride	_____	_____
00068122	Dimethylformamide	_____	_____
00057147	1,1-Dimethylhydrazine	_____	_____
00131113	Dimethyl phthalate	_____	_____
00077781	Dimethyl Sulfate	_____	_____
00051285	4,6-Dinitro-o-cresol, and salts	_____	_____
00121142	2,4-Dinitrophenol	_____	_____
00123911	2,4-Dinitrotoluene	_____	_____
00123911	1,4-Dioxane (1,4-Diethyleneoxide)	_____	_____
00122667	1,2-Diphenylhydrazine	_____	_____
00106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	_____	_____
00106887	1,2-Epoxybutane	_____	_____
00140885	Ethyl acrylate	_____	_____
00100414	Ethylbenzene	_____	_____
00051796	Ethyl carbamate (Urethane)	_____	_____
00075003	Ethyl chloride (Chloroethane)	_____	_____
00106934	Ethylene dibromide (Dibromoethane)	_____	_____
00107062	Ethylene dichloride (1,2-Dichloroethane)	_____	_____
00107211	Ethylene Glycol	_____	_____
00151564	Ethyleneimine (Aziridine)	_____	_____
00075218	Ethylene Oxide	_____	_____
00096457	Ethylene thiourea	_____	_____
00075343	Ethylidene dichloride(1,1-Dichloroethane)	_____	_____

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Air Toxic Pollutants (continued)**

00050000	Formaldehyde	_____	_____
00076448	Heptachlor	_____	_____
00118741	Hexachlorobenzene	_____	_____
00087683	Hexachlorobutadiene	_____	_____
00058899	1,2,3,4,5,6-Hexachlorocyclohexane (all stereo isomers, including Lindane)	_____	_____
00077474	Hexachlorocyclopentadiene	_____	_____
00067721	Hexachloroethane	_____	_____
00822060	Hexamethylene-1,6-diisocyanate	_____	_____
00680319	Hexamethylphosphoramide	_____	_____
00110543	Hexane	_____	_____
00302012	Hydrazine	_____	_____
07647010	Hydrochloric acid [Hydrogen chloride (gas only)]	_____	_____
07664393	Hydrogen fluoride (Hydrofluoric acid)	_____	_____
00123319	Hydroquinone	_____	_____
00078591	Isophorone	_____	_____
00108316	Maleic anhydride	_____	_____
00067561	Methanol	_____	_____
00072435	Methoxychlor	_____	_____
00074839	Methyl Bromide (Bromomethane)	_____	_____
00074873	Methyl chloride (Chloromethane)	_____	_____
00071556	Methyl Chloroform (1,1,1-Trichloroethane)	_____	_____
00078933	Methyl ethyl ketone (2-Butanone)	_____	_____
00060344	Methylhydrazine	_____	_____
00074884	Methyliodide (Iodomethane)	_____	_____
00108101	Methyl isobutyl ketone (Hexone)	_____	_____
00624839	Methyl isocyanate	_____	_____
00080626	Methyl methacrylate	_____	_____
01634044	Methyl tert-butyl ether	_____	_____
00101144	4,4-Methylenebis(2-chloroaniline)	_____	_____
00075092	Methylene chloride (Dichloromethane)	_____	_____
00101688	4-4' Methylenediphenyl diisocyanate (MDI)	_____	_____
00101779	4,4-Methylenedianiline	_____	_____
00091203	Naphthalene	_____	_____
00098953	Nitrobenzene	_____	_____
00092933	4-Nitrobiphenyl	_____	_____
00100027	4-Nitrophenol	_____	_____
00079469	2-Nitropropane	_____	_____
00684935	N-Nitroso-N-methylurea	_____	_____
00062759	N-Nitrosodimethylamine	_____	_____
00059892	N-Nitrosomorpholine	_____	_____
00056382	Parathion	_____	_____
00082688	Pentachloronitrobenzene (Quintobenzene)	_____	_____
00087865	Pentachlorophenol	_____	_____
00108952	Phenol	_____	_____
00106503	p-Phenylenediamine	_____	_____
00075445	Phosgene	_____	_____
07803512	Phosphine	_____	_____
07723140	Phosphorus	_____	_____
00085449	Phthalic anhydride	_____	_____
01336363	Polychlorinated biphenyls (Aroclors)	_____	_____

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Air Toxic Pollutants (continued)**

01120714	1,3-Propane sultone	_____	_____
00057578	beta-Propiolactone	_____	_____
00123386	Propionaldehyde	_____	_____
00114261	Propoxur (Baygon)	_____	_____
00078875	Propylene dichloride (1,2-Dichloropropane)	_____	_____
00075569	Propylene Oxide	_____	_____
00075558	1,2-Propylenimine (2-Methyl aziridine)	_____	_____
00091225	Quinoline	_____	_____
00106514	Quinone	_____	_____
00100425	Styrene	_____	_____
00096093	Styrene Oxide	_____	_____
01746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin	_____	_____
00079345	1,1,2,2-Tetrachloroethane	_____	_____
00127184	Tetrachloroethylene (Perchloroethylene)	_____	_____
07550450	Titanium tetrachloride	_____	_____
00108883	Toluene	_____	_____
00095807	2,4-Toluenediamine	_____	_____
00584849	2,4-Toluene diisocyanate	_____	_____
00095534	o-Toluidine	_____	_____
08001352	Toxaphene (chlorinated camphene)	_____	_____
00120821	1,2,4-Trichlorobenzene	_____	_____
00079005	1,1,2-Trichloroethane	_____	_____
00079016	Trichloroethylene	_____	_____
00095954	2,4,5-Trichlorophenol	_____	_____
00088062	2,4,6-Trichlorophenol	_____	_____
00121448	Triethylamine	_____	_____
01582098	Trifluralin	_____	_____
00540841	2,2,4-Trimethylpentane	_____	_____
00108054	Vinyl acetate	_____	_____
00593602	Vinyl bromide	_____	_____
00075014	Vinyl chloride	_____	_____
00075354	Vinylidene chloride (1,1-Dichloroethylene)	_____	_____
01330207	Xylenes (isomers and mixtures)	_____	_____
00095476	o-Xylene	_____	_____
00108383	m-Xylene	_____	_____
00106423	p-Xylene	_____	_____
	Antimony Compounds	_____	_____
	Arsenic Compounds (inorganic including arsine)	_____	_____
	Beryllium Compounds	_____	_____
	Cadmium Compounds	_____	_____
	Chromium Compounds	_____	_____
	Cobalt Compounds	_____	_____
	Coke Oven Emissions	_____	_____
	Cyanide Compounds <sup>1</sup>	_____	_____
	Glycol Ethers <sup>2</sup>	_____	_____
	Lead Compounds	_____	_____
	Manganese Compounds	_____	_____
	Mercury Compounds	_____	_____
	Fine Mineral Fibers <sup>3</sup>	_____	_____
	Nickel Compounds	_____	_____
	Polycyclic Organic Matter <sup>4</sup>	_____	_____

**Air Toxic Pollutants (continued)**

\_\_\_\_ Radionuclides (Including Radon) <sup>5</sup> \_\_\_\_\_  
\_\_\_\_ Selenium Compounds \_\_\_\_\_

\_\_\_\_ **None of the compounds listed under  
Air Toxic Pollutants will be emitted  
from the equipment listed in this  
application.**

NOTE: FOR ALL LISTINGS ABOVE WHICH CONTAIN THE WORD "COMPOUNDS" AND FOR GLYCOL ETHERS, THE FOLLOWING APPLIES: UNLESS OTHERWISE SPECIFIED, THESE LISTINGS ARE DEFINED AS INCLUDING ANY UNIQUE CHEMICAL SUBSTANCE THAT CONTAINS THE NAMED CHEMICAL (i.e., antimony, arsenic, etc.) AS PART OF THAT CHEMICAL'S INFRASTRUCTURE.

<sup>1</sup> X'CN where X=H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)<sub>2</sub>

<sup>2</sup> includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>-OR' where: n=1, 2, or 3; R= alkyl or aryl groups; and R' = R, H, or groups which, when removed, yield glycol ethers with the structure R-(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>-OH. Polymers are excluded from the glycol category.

<sup>3</sup> includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

<sup>4</sup> limited to, or refers to, products from incomplete combustion of organic compounds (or material) and pyrolysis processes having more than one (1) benzene ring, and which have a boiling point greater than or equal to 100 degrees Celsius.

<sup>5</sup> a type of atom which spontaneously undergoes radioactive decay.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form AA

**Fugitive Emissions from Vehicular Traffic**

The information requested is necessary to estimate fugitive dust emissions for sources having large vehicles traveling frequently on unpaved roads. If all roads are paved, only the first question must be answered. This form may be duplicated as many times as necessary if more than one type of vehicle is used.

**1. Plant roads are:**

Paved asphalt or paved concrete	Unpaved dirt	Unpaved stone or unpaved gravel	Other (specify at bottom of page)	Combination of the roads mentioned (specify at bottom of page)	Silt content (% by weight)

**2. Type of vehicle (brief description):** \_\_\_\_\_

Maximum amount of round trips made by all vehicles mentioned in # 2 at peak hours* (trips/hr)	Distance of one (1) one-way trip** (miles/trip)	Maximum vehicle speed at peak hours (mph)	Maximum gross vehicle weight (fully loaded) (tons)	Tare weight (tons)	Number of wheels on vehicle (wheels)

\*Two one-way trips\* = one round trip

\*\* For external traffic (vehicles entering and leaving the property lines), the distance from the plant to the property line is the one-way trip distance.

Rules 326 IAC 6-4 and 6-5 require fugitive dust to be controlled so as to prevent dust from visibly crossing property lines. What measures will be implemented for controlling fugitive emissions from vehicle traffic?

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HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**OWNERS and OCCUPANTS NOTIFIED**

**Form EE-2**

IC 13-7-10-1.1 requires that certain applicants comply with its notification provisions. The text of this section is cited below.

IC 13-7-10-1.1 Undeveloped property; notice to owners and occupants of adjoining land; exceptions

Sec. 1.1. (a) This section applies as follows:

(1) This section applies to an application for a permit issued under section 1 of this chapter upon property:

(A) that is undeveloped; or (B) for which a valid existing permit has not been issued.

(2) This section does not apply to an application for a permit issued under section 1 of this chapter if the permit is for the construction, installation, or modification of any of the following:

(A) A combined sewer, (B) A sanitary sewer., (C) A storm sewer., (D) A public water supply., (E) A water main extension.

(b) Not more than ten (10) working days after submitting an application for a permit issued under section 1 of this chapter, the person that submitted the application for the permit shall make a reasonable effort to provide notice:

(1) to all owners of land that adjoins the land that is the subject of the permit application; or

(2) if the owner of land that adjoins the land that is the subject of the permit application does not occupy the land, to all occupants of the land;

that the person has submitted the application for the permit.

(c) The notice provided by a person under subsection (b) shall:

(1) be in writing;

(2) include the date on which the application for the permit was submitted to the department; and

(3) include a brief description of the subject of the application.

(d) A person that submits an application for a permit under section 1 of this chapter shall pay the costs of complying with section. *As added by P.L. 159-1993, SEC.2.*

If this statutory requirement applies to the facilities subject to this application, please complete form EE-1 (IC 13-7-10-1.1 Affidavit of Notification) and Form EE-2 (Owners and Occupants Notified). If this statutory requirement does not apply, please complete form EE-3 (IC 13-7-10-1.1 Affidavit of Nonapplicability).

Name:	Name:
Address:	Address:
Date notified    /    /    Method of notification	Date notified    /    /    Method of notification

Name:	Name:
Address:	Address:
Date notified    /    /    Method of notification	Date notified    /    /    Method of notification

Name:	Name:
Address:	Address:
Date notified    /    /    Method of notification	Date notified    /    /    Method of notification

Name:	Name:
Address:	Address:
Date notified    /    /    Method of notification	Date notified    /    /    Method of notification



HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Facility Identification

Form FF

You **must** submit the facility\* identification number to reduce confusion. It continues to be a problem for inspectors or new owners of an existing source\* to distinguish between permitted facilities from non-permitted facilities due to inadequate reporting. To eliminate this problem use the company ID number, serial number, make, and model number to identify facility(s) being permitted. Furthermore, to be consistent and reduce confusion use the chosen identification number throughout the application (where applicable). For instance the flow diagram and the plant layout identifications would need to correlate.

An example has been provided:

You want to permit a stress relief furnace. First fill out form D "combustion" then fill out form FF providing as much information as requested on form FF.

Facility & maximum capacity	Company ID number	Serial Number	Make	Model number
Stress relief furnace 7.7 MMBtu/hr	124	99999c9999	Master Furnace	B99999-94

\* Facility - Any one (1) structure, piece of equipment, installation or operation which emits or has the potential to emit any air contaminant. Single pieces of equipment or installations with multiple emission points shall be considered a facility for the purpose of this rule.

\* Source - An aggregation of one (1) or more facilities which are located on one (1) piece of property or on contiguous or adjacent properties, and which are owned or operated by the same person (or by persons under common control).



HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Particulate Control Equipment**

**Form Q-1**

Please check for consistency and completeness throughout the forms to eliminate the chance of having your application **halted** or **delayed**. Form Q is just one of three options to determine potential emissions. The first option (preferred by HDEM) is stack data, second option is emission factor(s), obtained from AP-42, or the third option is grain loading. If the source or facility is located in one of the ten counties mentioned below then the grain loading is **required**. Refusal to provide the information from one of the three options will lead to a **denial** of your application.

- |                    |                       |
|--------------------|-----------------------|
| 1. Dearborn County | 6. Wayne County       |
| 2. Dubois County   | 7. Howard County      |
| 3. Lake County     | 8. Vanderburgh County |
| 4. Marion County   | 9. Clark County       |
| 5. Vigo County     | 10. St. Joseph County |

1. **Additional information must be completed:**

It is important to provide the particulate gas or air flow rate, grain loading, and collection efficiency in order to derive potential emissions for before and after the control device. The manufacturer of the pollution control device can provide the information. If the information is not provided, then the application process **will be delayed**.

2. **Cyclone:**

Please indicate the average particulate size, number of tubes, and tube diameter.

3. **Baghouse:**

Also, please indicate the total filter area and air to cloth ratio. The reason for the pressure drop across the baghouse is to indicate whether the baghouse is doing its job by presenting the minimum pressure drop that can occur without sacrificing efficiency. The manufacturer should be able to supply this information.

4. **Electrostatic Precipitator (ESP):**

Please complete all applicable portions of the form.

5. **Wet collectors:**

If you are unable to provide the requested information, call the manufacturer to obtain the information.

**Note:** The actual efficiency of the control equipment must be provided for each control equipment used. You shall not total, average or take the highest efficiency from the emission control equipment being utilized.

**Closed loop:**

Describes a process that re-introduces its waste products **back into the process** intake. A good example is a foundry that re-melts its runners, sprues and metallic dusts from dust collectors. Exhausting a process back into the building **does not** constitute a closed loop process.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form Q-1

**Particulate Control Equipment**

**1. Additional information needed to complete calculations:**

Emission point ID (one page per control device)	Gas or air flow rate (acfm)	Grain loading/actual standard cubic foot of outlet air	Average gas temperature °F	Actual collection efficiency %

**2. Cyclone:**

Average particulate size at the inlet (microns)	
Number of tubes	Tube diameter (inches)

**3. Baghouse :**

Fabric material	Total filter area (ft <sup>2</sup> )	Air to cloth ratio air flow (dscfm/ft <sup>2</sup> )	Pressure drop across baghouse inches of water	Method of bag cleaning (ie. shaking, jetpulse, etc.)

**4. Electrostatic precipitator (ESP):**

Type of ESP: wet, dry, hot side, cold side	Face velocity across the plates (ft/sec)	Total face surface area (ft <sup>2</sup> )	Gas conditioning agent	Delay time between starting of system and ESP unit operation

Why the delay?	
----------------	--

**5. Wet collectors:**

**A. Scrubber type**

Pressure drop across scrubber inches of water	Flow rate (gpm)	Scrubbing liquor	Liquid to air ratio (gpm/10 <sup>3</sup> acfm)	Is there a demister following the scrubber?

**B. Settling pond:**

Volume (ft <sup>3</sup> )	Depth (ft)	Width (ft)	Length (ft)	Diameter (if circular) (ft)

**6.**

Other pollution control equipment	
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HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Thermal and Catalytic Oxidizers**

**Form Q-2**

1. **Identification:**  
Indicate name of number by which oxidizer is known in plant.
2. **Will contaminated air stream support combustion?**  
Check appropriate line. If no, fill out following two questions. If yes, go to question 4, marking # 3 "NA".
3. **Supplementary fuel used:**  
Write in the supplementary fuel used. If the fuel is not natural gas, attach a sheet showing weight percent ash and sulfur, and the heating value of the supplementary fuel.
4. **Supplementary fuel heat input rate:**  
Show the maximum heat input rate of supplementary fuel in million Btu per hour.
5. **Oxidizer type:**  
Check the type that best describes the proposed oxidizer.
6. **Oxidizing zone minimum temperature:**  
Indicate the minimum operating temperature in the part of the oxidizer where oxidation occurs.
7. **Gas residence time in oxidizing zone:**  
Show the amount of time that gases remain in the part of the oxidizer where oxidation occurs expressed in seconds.
8. **Contaminated air stream flow rate:**  
Write in the rate at which contaminated air is introduced to the oxidizer in actual cubic feet per minute.
9. **Estimated catalyst life:**  
Catalytic incinerators only. Indicate time interval between catalyst regeneration or replacement in months.

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 - AIR POLLUTION CONTROL DIVISION -

Form Q-2

**Thermal and Catalytic Oxidizers**

1.

Identification	
----------------	--

2.

Will contaminated air stream support combustion?	yes	No
--	-----	----

3. Supplementary fuel used	4. Supplementary fuel heat input rate (MMBtu/hr)

5. **Oxidizer type:**

Thermal	Regenerative	Catalytic

6. Oxidizing zone minimum temperature (°F)	7. Gas residence time in oxidizing zone (seconds)

8. Contaminated air stream flow rate (acfm)	9. Estimated catalyst life (months) CATALYTIC ONLY

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Solid or Waste Incinerator Information**

**Form C**

1. **Manufacturer:**  
State name of manufacturer of incinerator and the model or style number (if available) of the incinerator.
  2. **Capacity:**  
*Waste:* Give capacity of waste input in pounds per hour.  
*Heat:* Give heat input capacity of supplemental fuel in Btu per hour. This should be the total of all supplementary fuel Burners. Do not include heating value (if any) of the waste.
  3. **Type of wastes burned:**  
Specify each type of waste to be burned. If you want to burn waste you must specify it here. Indicate if it is a special or hazardous waste and note the RCRA alphanumeric (i.e. F006) for each waste. If you do not specify a waste, your permit will not be issued. If multiple wastes are to be burned, specify the maximum percentage of those wastes to be burned.
  4. **Check one:** Single or Multiple Chamber  
Check the appropriate line. A single chamber with an afterburner is one where the volatilized or pyrolyzed gases pass through only a secondary flame zone. A multiple chamber incinerator is one where the solid or liquid waste gases pass through the settling chamber then through the afterburner.
  5. **Primary chamber:**  
Burner present: Mark Y if a supplementary fuel burner is present in the primary chamber.  
Burner Btu: Indicate the supplementary fuel heat input rate in primary chamber.  
Burner fuel: Indicate primary chamber supplementary fuel.  
**Secondary chamber:**  
Burner present: Mark Y if a supplementary fuel burner is present in the secondary chamber.  
Burner Btu: Indicate the supplementary chamber.  
Burner fuel: Indicate secondary chamber supplementary fuel.
- Note:
1. *If supplementary fuel is oil, indicate the maximum % sulfur content.*
  2. *If the supplementary fuel is a solid fuel, indicate the % sulfur and ash content.*
  3. *The sum of the primary chamber burner Btu and the secondary chamber burner Btu should equal the supplemental fuel heat input rate indicated previously.*
6. **Gas residence time:**  
*Primary and Secondary Chambers:*  
Indicate the time that the gas generated by the incineration spends in each chamber. The easiest (but least rigorous) estimate of this time is the volume of the chamber divided by the gas flow rate. The incinerator manufacturer should be able to provide this data.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form C

**Solid or Waste Incinerator Information(Continued)**

7. **Operating temperature:**  
*Primary and Secondary Chamber:*  
This refers to the average temperature in the chamber, not the outlet temperature. The incinerator manufacturer should be able to supply this data.
8. **Type of particulate controls:**  
Check the appropriate box. Elaborate on Form Q.
9. **Manufacturer's guaranteed particulate emission rate:**  
Indicate this in units of pounds of particulate per 1,000 pounds of dry exhaust gas, corrected to 50 % excess air. This data must be supplied by the manufacturer.
10. **Supply stack test data (if available).**

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form C

**Solid or Liquid Waste Incinerator Information**

1. **Manufacturer:**

2. **Capacity:**

lbs/hr of waste	Btu/hr of supplemental fuel

3. **Type of Wastes Burned:**


4. **Check one:**

A. Single Chamber with afterburner	
B. Multiple Chamber	

5.

Type of Chamber	Burner present?	Burner Btu/hr	Burner fuel
Primary Chamber			
Secondary Chamber			

6. **Gas residence time:**

Primary Chamber (seconds)	
Secondary Chamber (seconds)	

7. **Operating temperature:**

Primary Chamber (Fahrenheit)	
Secondary Chamber (Fahrenheit)	

8. **Type of particulate emission controls:**

None	Baghouse	Cyclone	Electrostatic Precipitator

9. **Manufacturer's guaranteed particulate emission rate:**

(lb particulate matter per 1,000 lb dry exhaust gas, corrected to 50% excess air)

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form D  
Page 1 of 4

**Combustion**

1. **Type of Heating Unit:**  
Indicate use of heating unit (i.e. boiler, radiant space heater, drying oven, incinerator, etc.)  
**Identification:**  
Indicate the name or number of the heating unit as known by the plant.
2. **Heat Input Rate:**  
Indicate rated heat input capacity in million Btu per hour.  
**Note on fuel(s) used:**  
Check any fuels that are not applicable. If the unit has any capability of using a fuel, even if on a backup or intermittent basis; fill out the applicable section. Using a fuel that is not specified in the permit is a violation of the permit. This section is necessary to include that fuel on your permit. If you intend to use a fuel on a backup or intermittent basis, indicate any acceptable limits on page 2 of 4.
3. **Combustion Process:** Check the applicable process(es).
4. **Fill out if Fueled by Coal:**  
Check "Not Applicable" if heating unit cannot use coal.
  - A. *Coal used:* Check the appropriate class of fuel.
  - B. *State of origin:* State where the coal was mined. Indicate county and seam, if known.  
  
*Percent ash:* Indicate maximum ash content on a weight percentage basis. If more than one coal is used, indicate the highest ash content.  
  
*Percent sulfur:* Indicate maximum sulfur content on a weight percentage basis. If more than one coal is used, indicate the highest sulfur content.
  - C. *Percent moisture:* Indicate average moisture content of coal as delivered to the combustor.
  - D. *Heating value:* Indicate minimum heating value of coal used. If more than one coal is used, indicate the lowest heating value. Also, indicate whether heating value was calculated on a dry or moist basis.
5. **Fueled by residual oil:**
  - A. *Grade of residual oil used:* Indicate either No. 5 (H for heavy, L for light) or No. 6.
  - B. *Percent Sulfur:* Indicate sulfur content of fuel on a weight percentage basis if sulfur content is not indicated, a default value of 2% will be used.
  - C. *Firing:* Check the applicable firing technology.
6. **Fueled by distillate fuel:**
  - A. *Grade of distillate fuel used:* Check the appropriate fuel.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form D  
Page 2 of 4

Combustion (Continued)

- B. *Percent sulfur:* Indicate the sulfur content of fuel on a weight percentage basis. If sulfur content is not indicated, the following default values will be used:
- |      |      |
|------|------|
| No.1 | 0.3% |
| No.2 | 0.3% |
| No.4 | 2.0% |
- Heating Value:* Indicate heating value in Btu/gallon.
- C. *Firing:* Check the applicable firing technology.
7. **Fueled by natural gas:**  
*Firing:* Check the appropriate technology. Note that tangential firing applies only to boilers.
8. **Fueled by a process gas:** (include coke oven gas and blast furnace gas)  
*Type of gas:* Indicate the source of the gas.
- Percent sulfur:* Indicate the weight percentage of sulfur in the gas. If not indicated, the default value is 7 percent sulfur.
- Heating value:* Indicate the heating value of the gas in Btu per cubic foot.
9. **Fueled by liquified petroleum gas:**  
*Percent Butane:* Indicate the weight percentage butane content in the LP gas.
- Percent Propane:* Indicate the weight percentage propane content in the LP gas.
- Percent Sulfur:* Indicate the weight percentage sulfur content in the LP gas. Default value is 1.5%.
10. **Fueled by waste oil:**  
This refers to used crankcase oil, hydraulic fluid, automatic transmission fluid, machining oil, and similar fluids. (Also, see Form Y for other Title III toxics.)
- A. *Percent of heat provided by waste oil:* 100% unless another fuel is used.
- B. *Heating Value:* Indicate heating value of waste oil in Btu per gallon.
- C. *Percent ash:* Indicate weight percentage ash in the waste oil. If no value is indicated, the default value is 0.3%.
- Percent sulfur:* Indicate weight percentage sulfur in the waste oil. If no value is indicated, the default value is 2.0%.
- Percent chlorine:* Indicate the weight percentage chlorine in the waste oil. If no value is indicated, the default value is 0.5%.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form D  
Page 3 of 4

Combustion (Continued)

*Percent lead:* Indicate the weight percentage lead in the waste oil. If no value is indicated, the default value is 0.5%.

11. **Fueled by wood, wood waste, and/or bark:**

A. *Check one:* Wood or wood waste, bark only, wood & bark

B. *Percent Moisture:* Indicate maximum weight percentage moisture content. If no value is indicated, the default value is 30%.

*Heating Value:* Indicate heating value of wood products in Btu/lb.

12. **Fueled by liquid waste "other than waste oil": (Also, see Form Y for other Title III toxics.)**

A. *Percent heat provided by liquid waste:* Indicate the portion of heat input that is provided by the liquid waste. Liquid waste is usually co-fired with other fuel.

B. *Heating value:* Indicate the heating value of the liquid waste in Btu per gallon. Use attached sheets to specify heating value, sulfur content, chlorine content, fluorine content, heavy metal(lead, chromium, arsenic, antimony, beryllium, cadmium, cobalt, manganese, mercury, and selenium) content.

C. *Percent sulfur:* Indicate the weight percentage sulfur in the wastes. If no value is indicated, the default value is 7.0%.

*Percent chlorine:* Indicate the weight percentage chlorine in the waste. If no value is indicated, the default is 7.0%.

*Percent fluorine:* Indicate the weight percentage fluorine in the waste. If no value is indicated, the default value is 3.0%.

D. *Special or hazardous waste:* Indicate each special or hazardous waste to be burned. Include RCRA alphanumeric code. Attach sheets for each S or H waste.

13. **Fueled by tires or tire derived fuel (TDF): (Also, see Form Y for other Title III toxics.)**

A. *Check one:* Whole tires, tire derived fuel.

B. *Heating value:* Indicate the heating value of the tires/TDF in Btu/lb. or Btu/tire.

*Percent of heat supplied by tires/TDF:* Indicate the portion of heat input that is provided by the tires/TDF. Tire/TDF are usually co-fired.

C. *Percent sulfur:* Indicate the weight percentage sulfur in the tires/TDF. If no value is indicated, the default value is 2.5%.

*Percent chromium:* Indicate the weight percentage chromium in the tires/TDF. If no value is indicated the default value is 0.2%.

**Combustion (Continued)**

*Percent chlorine:* indicate the weight percentage chlorine in the tires/TDF. If no value is indicated, the default value is 0.3%.

- D. *Type of combustor:* Indicate the type of equipment in which tires/TDF is combusted (i.e. conventional cement kiln, cyclone, combustor, etc.).

14. **Fueled by solid waste:**

- A. *Percent heat supplied by solid waste:* Indicate the amount of heat supplied by the solid waste. Solid waste is sometimes co-fired with other fuels. Do not use this form if the solid waste supplies less than 50% of the heat input. If solid waste supplied less than 50% of the heat input, the device is considered a solid waste incinerator.
- B. *Heating value of waste:* Indicate the heating value of the waste. Do not include the heating value of any supplemental fuel used.
- C. *Type of combustor:* Indicate type of equipment used to burn solid waste (i.e. stoker, waterwall, rotary kiln, etc.).
- D. *Special or hazardous waste:* Indicate each special or hazardous waste to be burned.

15. **Emission controls:**

If any of the fuel combustion units are boilers, fill out this section. This section also applies to any other forms of indicated heating equipment. It is absolutely necessary to complete this section to assure compliance with 326 IAC 6. Indicate the identification, heat input capacity, date installed, and permit number (or date of registration letter) that applies to each unit. It will facilitate review of the application if copies of permits and/or registrations that apply to previously installed units are attached. Please note to which permits apply the indirect heating unit(s). Use as many additional sheets as necessary. Note each additional sheet as relating to this form.

*Indicate any acceptable fuel consumption limits:*

In the case that one or more fuel is burned either intermittently or as a backup, i.e. stating an acceptable limit on fuel consumption at this point will facilitate permit review. If a limit is not stated, it will be assumed that the fuel will be burned at the full rated capacity of the unit for 8760 hours per year.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form D  
Page 1 of 3

**Combustion**

1.

Type of heating unit		ID Number	
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2.

Heat input rate (million Btu/hour)	
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3. **Combustion Process:**

Pulverized (Pv) -Dry Bottom		Spreader Stoker	
Pv - Wet Bottom		Traveling Grate	
Pv - Tangential		Fluidized	
Cyclone		Natural Gas	

Fill out for each **fuel** and check not applicable if not used.

4. **Fueled by coal:** **Not Applicable**

**Anthracite** \_\_\_\_\_, **Bituminous** \_\_\_\_\_, **Subbituminous** \_\_\_\_\_, **Lignite** \_\_\_\_\_, **Coke** \_\_\_\_\_

State of Origin	% Ash	% Sulfur	% Moisture (average)	Heating Btu/lb Dry? Moist?

5. **Residual Oil:** **Not Applicable**

Grade of residual oil used: No.5, No.6	% Sulfur	Heating Value (Btu/gal)	Firing: Normal or Tangential

6. **Distillate Fuel:** **Not Applicable**

Grade of Distillate fuel used: No.1, No.2, No.4,	% Sulfur	Heating Value (Btu/gal)	Firing: Normal or Tangential (No. 4 only)

7. **Natural gas:** **Not Applicable**

Firing:	
Normal	
Tangential	

8. **Process gas or landfill gas:** **Not Applicable**

Type of gas	% Sulfur	Heating Value (Btu/ft <sup>3</sup> )

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form D  
Page 2 of 3

Combustion (Continued)

9. **Liquified petroleum gas:** **Not Applicable**

Butane	% Propane	% Sulfur

10. **Waste oil:** **Not Applicable**

% of heat provided by waste oil	Heating Value (Btu/gal)	% Ash	% Sulfur	% Chlorine	% Lead

11. **Wood, wood waste, and/or Bark:** **Not Applicable**

Wood or Wood Waste	Bark only	Wood and Bark	% Moisture	Heating Value (Btu/gal)

12. **Liquid waste:** **Not Applicable**

% of heat provided by liquid waste	Heating Value (Btu/gal)	% Sulfur	% Chlorine	% Fluorine	Special or Hazardous waste

13. **Tires or tire derived fuel (TDF):** **Not Applicable**

Whole tires	Tire derived fuel	Heating Value (Btu/lb)	% heat supplied by (tires/TDF)	% Sulfur	% Chromium	% Chlorine	Type of combustion

14. **Solid waste:** **Not Applicable**

heat supplied by combustion of solid waste	Heating value of waste (Btu/lb)	Type of combustor	Special or Hazardous Waste

15. **Emission controls:**

A. Particulate Matter (check all applicable)

None	Baghouse	Wet Scrubber	Electrostatic Precipitator
Other (Specify)			

B. SO<sub>2</sub> (check all applicable)

None		Scrubber type		Other (specify)

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form D  
Page 3 of 3

**Combustion (Continued)**

C. NO<sub>x</sub> (check all applicable)

None	Low NO <sub>x</sub> Burners	Selective Catalytic reduction	Selective non-catalytic reduction
Other (specify)			

16. **Acid Gas (check all applicable)**

None		Packed Tower		Scrubber Type		Other (specify)	
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17. **Combustion units are boilers, fill out this section:**

Date of installation	
Are any previously installed boilers present (Yes or No)	

**If yes, complete:**

Identification	Heat Input Capacity	Date Installed	Permit # and/or Registration #

Indicate any acceptable fuel consumption limitations  
Stack Data should be placed on form F.

Provide additional sheets if necessary.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Process for Asphalt Plant**

**Form H**

1. **Batch:**  
Check "batch" if it is a type of aggregate blending, allowing the aggregate to drop from one or more large bins to weigh hoppers. Asphalt is added to the mixture contained in the hoppers. This process enables the operator to control the desired aggregate size.  
**Continuous:**  
Check "continuous" if it is a type of aggregate blending in which all aggregate proportioning is done on a volumetric basis into the mixer. This process drops aggregate into a set of small bins which collect and distribute the classified aggregate to the mixer.  
**Drum-mix:**  
Check "drum mix" if it is a type of aggregate blending in which all aggregate proportioning is done on a volumetric basis, along with asphalt, into the rotating drum. This process uses proportional feed controls in place of hot aggregate storage bins, vibrating screens and the mixer.
2. **Portable or nonportable:**  
Please indicate by stating yes or no. Also, provide the Indiana State Transportation Code number (ISTC), used to identify portable plants.
3. **Age of plant:**  
Self-explanatory  
**Plant capacity tons/hour:**  
Indicate the maximum amount of process material which your plant can store on site.
4. **Dryer burner fuel(s):**  
Indicate the fuel(s) used to create a burn.  
**Percent usage of each fuel:**  
How often and for how long each fuel is used in a 24 hour period.
5. **Average actual tons produced:**  
Indicate the amount of asphalt produced in tons per hour.
6. **Raw Material used (list each type):**  
What materials are being used such as aggregate, asphalt binder(s), etc.  
**Amount used under maximum operation tons/hour:**  
Indicate how much raw material could be used if the plant is operating at maximum.
7. **Will emulsified asphalt be used?**  
Indicate "yes" or "no" in the correct box. Asphalt emulsions creates nonflammable liquids when asphalt and water are mixed with an emulsifying agent (i.e. soap).
8. **What type of emission control method will be used for the pug mill?**  
**Pug mill:** a machine in which materials (as clay and water) are mixed, blended or kneaded into a desired consistency.  
**What is the length of time for the addition of the emulsified asphalt going into the pug mill:**  
This is needed because of emissions being emitted when the asphalt and water are blended together. Provide the length of time it takes to pour the emulsified asphalt into the pug mill in seconds.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form H

**Process for Asphalt Plant**

1. **Type of Plant** (check appropriate one):

Batch	Continuous	Drum-mix

2.

Portable process?	Nonportable process?	ISTC number (if available)

3.

Age of plant	Plant capacity (tons/hour)

4.

Dryer burner fuel (s)	% usage of each fuel

5.

Average actual tons produced (tons/yr)	

6.

Raw materials used (list each type)	Amount used under maximum operation (tons/hour)

7.

Will emulsified asphalt be used?	yes	no

8. **If yes:**

What type of emission control method will be used for the pug mill?	What is the length of time for the addition of emulsified asphalt? (seconds)

Fill out Form AA for fugitive emissions from vehicle traffic.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Brick and Clay Products**

**Form I**

1. **Amount of material dried:**  
Indicate the maximum amount of material that can be dried in pounds per hour. Nameplate capacity of dryers.
2. **Amount of material ground:**  
Indicate the maximum amount of material that can be ground in pounds per hour. Nameplate capacity of grinding equipment.
3. **Amount of material stored:**  
Indicate the maximum amount of material that can be stored on a daily basis in tons per day. The default value is 24 hours output of the amount dried or ground, whichever is larger.
4. **Are raw materials stored inside or outside?**  
Indicate "inside" if raw materials are stored in an enclosure that prevents rain or snow from wetting the material. Otherwise indicate "outside".
5. **Raw material on hand at any given time:**  
Indicate the maximum amount of material that is capable of being stored on the site in tons.
6. **Is grinding done inside or outside?**  
Indicate "inside" if the grinding equipment is located in an enclosure that prevents rain or snow from wetting the process. Otherwise indicate outside.
7. **Number of kilns operating:**  
Indicate the number of kilns to be operated.
8. **Type of kilns:**  
Indicate tunnel or periodic (beehive).
9. **Type of fuel the kilns burn:**  
Indicate the fuel used in the kilns - coal, coke, distillate oil (indicate grade), residual oil (indicate grade), or natural gas.
10. **Heat rate:**  
Indicate the heat rate of the kiln in million Btu per hour.
11. **Length of burn:**  
(Periodic kilns only) Indicate the shortest amount of time in hours needed to satisfactorily fire the product.
12. **Emission control:**  
Indicate the type of air pollution emission controls used. Typical devices are baghouses, scrubbers, electrostatic precipitators, and afterburners.
13. **Fuel analysis:**  
For coal or coke - indicate ash content and sulfur content in weight percentage as consumed. Indicate minimum heating value as consumed. For distillate or residual oil - indicate sulfur content of fuel oil. Default values are:

No.1	Distillate	0.3%
No.2	Distillate	0.3%
No.4	Distillate	2.0%
No.5	Residual	2.0%
No.6	Residual	2.0%

  
For natural gas no entries are required in this box.

If multiple kilns are used, of varying capacities or fuels, please attach a form for each kiln.

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form I

**Brick and Clay Products**

1 Amount of material dried (lbs/hr)	2 Amount of material ground (lbs/hr)	3 Amount of material stored (tons/day)	4 Are the raw materials stored inside or outside	5 Raw Material on hand at any given time (tons)

6.

Is grinding done inside or outside?	
-------------------------------------	--

7 Number of kilns operating	8 Type of kilns	9 Type of fuel the kilns burn	10 Heat rate (MMBtu/hr)	11 Length of burn (hours)	12 Emission control

13. **Fuel analysis:**

% Ash	% Sulfur	Heating Value

14.

Amount of product produced (tons/yr)	
--------------------------------------	--

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form J-1  
Page 1 of 2

**Reciprocating Internal Combustion Engines**

1. **Machine Identification:**  
The name or number by which the machine is known in the plant.
2. **Ignition:**  
Indicate spark ignition with "SI" or compression ignition with "CI".
3. **Stack:**  
The stack indicated on Form F through which the engine exhausts.
4. **Output:**  
Indicate the engine's rated net shaft horsepower (HP), or in the case of an engine-driven generator, the kilovolt-amp (KVA) rating of the generator.
5. **Heat input:**  
Indicate the heat input rate, expressed in million Btu per hour, of the engine when operating at rated power.
6. **Fuel:**  
Indicate the fuel(s) used to operate the engine. Use the following initials:
  - G for Gasoline
  - N for Natural gas
  - U for Dual-fuel (Natural gas with up to 6% No. 2 diesel)
  - D for Distillate
  - R for Residual
  - L for Landfill gas
  - O for Others
7. **Emission controls:**  
Indicate any air pollution emission controls used. Use the following codes:
  - NO for No controls
  - CC for Automotive-Type Catalytic Reduction
  - SC for Selective Catalytic Reduction
  - DR for Derate
  - LB for Lean-Burn Mixture (SI engines only)
  - WI for Water Injection
  - IR for Ignition Return
8. **Fuels used:**

**Reciprocating Internal Combustion Engines (Continued)**

Amplify on fuel(s) indicated for the engine(s) listed above. Gasoline and natural gas are highly uniform fuels that need no further explanation. For distillates and residual fuels, indicate the grade heating value, and sulfur content (expressed in weight percent). Landfill gas is a highly variable fuel. Submit an analysis of the gas stating heating value, sulfur content, chlorine content as a minimum. Dual fuel refers to the practice of using a small (up to about 6% heat value) charge of diesel fuel to ignite natural gas in a compression ignition engine. Indicate the distillate percentage (by Btu content) of the fuel mixture. Six percent (6%) No. 2 is the default content. Default sulfur contents for distillate and residual fuels are as follows:

No.1 - 0.3%	No.3 - 2.0%	No.5 - 2.0%
No.2 - 0.3%	No.4 - 2.0%	No.6 - 2.0%

9. **Duty Cycle:**

Check the appropriate duty cycle.

10. **Acceptable fuel limits:**

If you plan to operate this equipment less than full time, state any annual fuel combustion limits you may wish to accept in order to avoid Federal Rule applicability.

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Reciprocating Internal Combustion Engines**

**Form J-1**

1 Machine ID*	2 Ignition type	3 Stack ID	4 Output (HP, KVA)	5 Heat input (MMBtu/hr)	6 Fuel(s) used	7 Emission controls

\* ID. - Identification

**8. Fuels used:** (check the appropriate line)

Natural gas	Landfill gas (attach gas analysis)	Dual fuel % distillate	Distillate grade	Residual grade	Other (specify):	
			Heating value Btu/gal:		Heating value Btu/gal:	Heat value Btu/gal or Btu/ft <sup>3</sup> :
			% Sulfur content:		% Sulfur content:	% Sulfur content:

Natural gas	Landfill gas (attach gas analysis)	Dual fuel % distillate	Distillate grade	Residual grade	Other (specify):	
			Heating value Btu/gal:		Heating value Btu/gal:	Heat value Btu/gal or Btu/ft <sup>3</sup> :
			% Sulfur content:		% Sulfur content:	% Sulfur content:

Natural gas	Landfill gas (attach gas analysis)	Dual fuel % distillate	Distillate grade	Residual grade	Other (specify):	
			Heating value Btu/gal:		Heating value Btu/gal:	Heat value Btu/gal or Btu/ft <sup>3</sup> :
			% Sulfur content:		% Sulfur content:	% Sulfur content:

**9. Duty cycle:** (check the appropriate line)

Continuous base load (>3000 hr/yr)	Intermittent Duty (<3000 hr/yr)	Stand-by or emergency duty (<500 hr/yr)

**10. Acceptable fuel consumption limits:**

Identification fuel	Consumption limit (oil: gal/yr) or (gas:ft <sup>3</sup> /yr)

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form J-2  
Page 1 of 2

Gas Turbine Engines Form

1. **Identification:**  
The name or number by which the machine is known in the plant.
2. **Stack:**  
The stack (described on Form F) through which the turbine exhausts.
3. **Usage:**  
What does the turbine drive? Common uses are gas pipeline compressors, and electric power generators. If this turbine drives a ship, locomotive, truck, automobile, or airplane, this is a mobile source and therefore not even subject to stationary source review. If the machinery is mounted on a trailer, railcar, barge, or portable skid, it is a stationary source.
4. **Output rating:**  
Indicate the turbine's rated shaft horsepower or in the case of an electric power generating unit the KVA (Kilovolt-amp).
5. **Heat input rate:**  
Indicate the heat input rate in million Btu per hour when operating at rated power.
6. **Fuel:**  
Indicate the fuel(s) used to operate the turbine. Use the following initials:  
  
N for Natural Gas  
  
D for Distillate  
  
R for Residual  
  
O for Others - Attach a sheet describing the fuel including composition, heating value, sulfur controlling use, multiple initials if multiple fuels are used.
7. **Emission Controls:**  
Indicate any air pollution emission controls used. Use the following Initials:  
  
NC for No controls  
  
SI for Steam injection  
  
WI for Water injection  
  
SCR for Selective catalytic reduction
8. **Fuels Used:**  
Amplify on the fuels indicated for the turbine(s) listed above. For distillate and residual fuels, indicate the grade, the heating value and sulfur content of the fuels used. Default sulfur contents are as follows:  
No.1 0.3%                      No.4 2.0%

**Gas Turbine Engines Form**

No.2 0.3%	No.5 2.0%
No.3 2.0%	No.6 2.0%

9. **Duty cycle:**  
Check the appropriate duty cycle

10. **Acceptable fuel limits:**

If you plan to operate this equipment less than full time, state any annual fuel consumption limits you may wish to accept in order to avoid Federal Rule applicability.

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form J-2

**Gas Turbine Engines**

1. Machine ID	2. Stack ID.	3. Usage	4. Output rating (HP/KVA)	5. Heat input rate (MMBtu/hr)	6. Fuel(s)	7. Emission controls

\* ID. - Identification

8. **Fuels Used:** (check the appropriate line)

Natural gas	Distillate grade		Residual grade		Other (specify)	
	Heating value Btu/gal:		Heating value Btu/gal:		Heating value Btu/gal:	
	% Sulfur content:		% Sulfur content:		% Sulfur content:	
	Mark the correct grade No.1, No.2, No.4		Mark the correct grade No.5, No.6			

Natural gas	Distillate grade		Residual grade		Other (specify)	
	Heating value Btu/gal:		Heating value Btu/gal:		Heating value Btu/gal:	
	% Sulfur content:		% Sulfur content:		% Sulfur content:	
	Mark the correct grade No.1, No.2, No.4		Mark the correct grade No.5, No.6			

Natural gas	Distillate grade		Residual grade		Other (specify)	
	Heating value Btu/gal:		Heating value Btu/gal:		Heating value Btu/gal:	
	% Sulfur content:		% Sulfur content:		% Sulfur content:	
	Mark the correct grade No.1, No.2, No.4		Mark the correct grade No.5, No.6			

9. **Duty Cycle:** (check the appropriate line)

Continuous oil base load (>3000 hr/yr)	Intermittent duty (<3000 hr/yr)	Stand-by or emergency duty (<500 hr/yr)

10. **Acceptable fuel consumption limits:**

Identification	Fuel consumption limit (oil: gal/yr) or (gas: ft <sup>3</sup> /yr)

**Concrete Batchers**

1. **Raw material:**  
Self-explanatory  
  
**Raw material for maximum operation:**  
The application must supply the tons/hr rate for each of the raw materials used to produce ready mix concrete.
2. **Mixer capacity:**  
This information is only needed for a central mix plant.  
  
**Amount of concrete produced:**  
The application must supply the tons/hr rate.  
  
**Is this a mobile plant?**  
The plant will be assumed to be stationary unless answered otherwise.

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 - AIR POLLUTION CONTROL DIVISION -

**Form K**

**Concrete Batchers**

1.

Raw Material	Tons/hr (maximum operation)
Sand	
Aggregate	
Cement	
Other additives (specify):	

2.

Mixer capacity (tons/yr)	Amount of concrete produced (tons/hr)	Is this a mobile plant? (yes or no)

\*Remember to fill out form AA for fugitive emissions from vehicle traffic.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**How to fill out Forms L-1, L-2, L-3: Degreasers**

A separate form is supplied for the three most common forms of degreasers. Form L-1 applies to cold cleaners only. Form L-2 applies to open top vapor degreasers only. Form L-3 applies to conveyORIZED degreasers, both vapor phase and liquid phase units. Fill out the forms that apply to your degreasers and mark the "not applicable" at the top right corner. Duplicate forms as needed.

**Cold Cleaners Form L-1**

This form applies to cleaners that spray, immerse, or flood the greasy part with a solvent. Manual or mechanical agitation is often part of the process, and despite the name, the solvent may be heated to improve cleaning.

1. **Identification:**  
Provide the name or number by which the cold cleaner is known in the plant.
2. **Solvent used:**  
Indicate the name of the solvent used. Attach a MSDS sheet for the solvent. The solvent will be assumed to be 100% volatile organic compounds unless an analysis of the solvent is also included.
3. **Daily solvent consumption:**  
Indicate the volume of solvent added per day, less the volume recycled or disposed of as a liquid, in gallons per day. For new cleaners with no consumption history, data from a similar cleaner may be used. If you cannot provide a valid answer, indicate unknown (UNK) and HDEM will estimate cleaner emissions.
4. **Solvent density:**  
The solvent density in pounds per gallon.
5. **Solvent temperature as used:**  
Indicate the temperature of the solvent when in contact with the parts, expressed in degrees Fahrenheit.
6. **Solvent vapor pressure at 100°F:**  
The tested vapor pressure of the solvent measured at 100°F, expressed in pounds per square inch-absolute.
7. **Agitation method:**  
Means by which surface of parts are agitated. Common methods are manual brushing, wiping, spraying, or mechanical vibration.
8. **Drainage time:**  
The minimum period of time that parts are allowed to drain after cleaning and before removal of parts from cleaner.
9. **VOC emission control method used:**  
Method used to mitigate evaporation of solvent.

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 - AIR POLLUTION CONTROL DIVISION -

Form L-1

**Degreasing: Cold Cleaners**

**1. Degreasing: Cold cleaners**

1. Identification (I.D.) Number	2. Solvent used	3. Solvent consumption (gal/day)	4. Solvent density (lb/gal)	5. Solvent temperatur es used (°F)	6. Solvent vapor pressure at 100°F (psia)

7. Agitation method	8. Drainage time (seconds)	9. VOC emission control method used

If multiple cold cleaners are used, or multiple solvents are used, photocopy this form as often as necessary and complete a form for each combination of solvent and cleaner.

Attach MSDS for solvent

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form L-2

**Open Top Degreasers**

1. **Identification:**  
Indicate the name or number by which the degreaser is known in the plant.
2. **Solvent used:**  
Fill in the name of the solvent used, and attach an MSDS sheet for the solvent. The solvent will be assumed to be 100% volatile organic compounds unless a chemical analysis is submitted that indicates otherwise.
3. **Daily solvent consumption:**  
The maximum volume of solvent added per day, less the volume recycled or disposed of as a liquid, in gallons per day. For new degreasers with no consumption history, data from a similar degreaser may be used. If you cannot provide a valid answer, indicate unknown (UNK) and HDEM will estimate degreaser emissions.
4. **Solvent density:**  
The density of the solvent in pounds per gallon.
5. **Solvent temperature as used:**  
Temperature of the solvent when in contact with parts, in degrees Fahrenheit.
6. **Solvent vapor pressure at 100°F:**  
The tested vapor pressure of the solvent measured at 100°F, expressed in pounds per square inch - absolute.
7. **Freeboard ratio:**  
Indicate the freeboard ratio of the degreaser. Freeboard ratio is the ratio of the freeboard height (distance from top of liquid to degreaser rim) to the width of the degreaser. For example, if a degreaser is four (4) feet wide by eight (8) feet long by six (6) feet high with a liquid solvent level maintained at a depth of two (2) feet. The freeboard height is: six (6) feet minus two (2) feet equals four (4) feet. The freeboard height (4 feet) divided by the width (4 feet) is 1.00 or 100%.
8. **Condenser operating temperature:**  
Fill in the maximum condenser coolant temperature in degrees Fahrenheit.
9. **Maximum work velocity:**  
Indicate the maximum speed that the work will move out of the vapor space, expressed in feet per second.
10. **Degreasing time:**  
The maximum amount of time the work will remain in the vapor space, expressed in seconds.
11. **Drying time:**  
The maximum amount of time the work will be allowed to dry, expressed in seconds.
12. **Material being degreased:**  
All work materials being degreased (i.e., steel, aluminum, leather, etc.). If necessary, attach additional sheets.
13. **Exhaust ventilation rate:**  
The exhaust ventilation rate for the degreaser and all other ventilators within fifty (50) feet of the degreaser, expressed in actual cubic feet per minute.
14. **Interface area:**  
Indicate the area where liquid solvent contacts the atmosphere, expressed in square feet.
15. **VOC emission control method used:**  
Method used to mitigate escape of solvent vapor into the atmosphere.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 - AIR POLLUTION CONTROL DIVISION -

Form L-2

**Degreasing: Open Top Degreasers**

1. I.D. Number	2. Solvent used	3. Daily solvent consumption (gal/day)	4. Solvent density (lb/gal)	5. Solvent temperature as used (°F)	6. Solvent vapor pressure at 100°F (psia)

7. Freeboard ratio (%)	8. Condenser operating temp. (°F)	9. Maximum work velocity (ft/sec)	10. Degreasing time (seconds)	11. Drying time (seconds)	12. Material being degreased

13. Exhaust ventilation rate (ft <sup>3</sup> /minute)	14. Interface area (ft <sup>2</sup> )	15. VOC emission control method used

If multiple open top degreasers, or if multiple solvents are used, photocopy this form as often as necessary and complete a form for each combination of cleaner and solvent.

Attach MSDS for solvent.

**Conveyorized Degreasers**

1. **Identification:**  
Indicate the name or number by which the degreaser is known in the plant.
2. **Solvent used:**  
Name the solvent used. Attach a MSDS sheet for the solvent. The solvent will be assumed to be 100% volatile organic compounds unless a chemical analysis is submitted that indicates otherwise.
3. **Daily solvent consumption:**  
The maximum amount of solvent added per day, less the volume recycled or disposed of as a liquid, in gallons per day. For new degreasers with no consumption history, data from a similar degreaser may be used. If you cannot provide a valid answer indicate unknown (UNK) and HDEM will estimate degreaser emissions.
4. **Solvent density:**  
Indicate the density of the solvent in pounds per gallon.
5. **Solvent phase:**  
The solvent phase (liquid or vapor) contacting the work.
6. **Solvent temperature as used:**  
The temperature of the solvent (either as liquid or vapor) when in contact with the work.
7. **Condenser operating temperature:**  
The maximum condenser coolant temperature in degrees Fahrenheit.
8. **Conveyor speed:**  
The maximum speed that work will be conveyed through the conveyor in feet per minute.
9. **Degreasing zone length:**  
The length of the degreaser where work is in contact with the solvent.
10. **Material being degreased:**  
All work materials being degreased (i.e., steel, aluminum, leather, etc.). If necessary, attach additional sheets.
11. **Exhaust ventilation rate:**  
Fill in the exhaust ventilation rate, in actual cubic feet per minute, for the degreaser and all other ventilators within fifty feet of the degreaser.
12. **Maximum tunnel entrance and exit clearance to work being degreased:**  
  
Provide the maximum clearance, in inches, between the tunnel entrance or exit (whichever is larger) and the smallest piece of work that passes through the degreaser. This does not include times no work is entered or exiting the degreaser.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form L-3

**Degreasing: ConveyORIZED Degreasers**

1. I.D. Number	2. Solvent used	3. Solvent consumption (gal/day)	4. Solvent density (lb/gal)	5. Solvent phase	6. Solvent temp. as used (°F)

7. Condenser operating temp. (°F)	8. Conveyor speed (ft/min)	9. Degreasing zone length (ft)	10. Material being degreased	11. Exhaust ventilation rate (ft <sup>3</sup> /min)	12. Maximum tunnel entrance and exit clearance to work being degreased (inches)

If multiple conveyORIZED degreasers are used, or if multiple solvents are used, photocopy this form as often as necessary and complete a form for each combination of cleaner and solvent.

Attach MSDS for solvent

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form M

**Dry Cleaners**

1. **Type of cleaning solvent used:**

The following are just a few examples of cleaning solvents:

- A. Skellysolve S-66
- B. Varsol 3
- C. Valcene
- D. Kwik-Dri
- E. Perchloroethylene

2. **Amount of solvent used:**

Self-explanatory

3. **Density of solvent:**

Contact your supplier to obtain the density of the solvent.

4. **Maximum amount of solvent sold or disposed of:**

Self-explanatory

5. **Type of machine used:**

Please check either transfer or dry-to-dry.

- A. Transfer machines achieve washing and drying in separate machines.
- B. Dry-to-dry machines are single units that perform all of the washing, extraction and drying operations.

6. **Maximum amount of clothes dry cleaned:**

Self-explanatory

7. **Control equipment used:**

Indicate if the unit has a built in carbon adsorber or a refrigerated vapor condenser.

8. **Percent efficiency of the control equipment:**

For example, if the control equipment's efficiency is 95%, you will place 95% in the blank provided on form M.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form M

**Dry Cleaners**

1 Solvent used (provide generic name)	2 Amount of solvent used (gal/day)	3 Density of solvent* (lbs/gal)	4 Maximum amount of solvent sold or disposed of (gal/year)

\* If you do not know the density contact your supplier.

5. **Type of machine used:** (check the appropriate one)

Transfer machine	Dry to Dry machine

6. **Maximum amount of clothes dry cleaned:**

lbs/day		tons/yr	
---------	--	---------	--

7. **Control equipment used:**

8. **Percent efficiency of the control equipment:**

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form N-1

Foundry Operations

1. **Melting operations:**

**Type of furnace and year:**

Indicate whether the furnace is a blast furnace, electric arc furnace, cupola furnace, electric induction furnace or other. Also, include the year when the furnace was put into service.

**Type of metal melted:**

Fill in the metal that is being melted such as pig iron, iron, steel, etc.

**Maximum melt rate of furnace tons of metallics/hr:**

Self-explanatory

**Charging system capacity tons of metallics/hr:**

The maximum amount of metallics that the charging system can add to the furnace.

2. **Pounds/charge of each component in charge:**

**Component in the charge:**

What materials are being added to the charge in pounds per charge.

3. **Cupola information:**

**Maximum combustion fan blast air volume (acfm):**

Self-explanatory

**Maximum blast air temperature (Fahrenheit):**

Self-explanatory

**Cupola inside diameter (inches):**

Self-explanatory

4. **Please fill in the necessary information.**

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form N-1

**Foundry Operations**

**1. Melting operations (fill out this section for each furnace):**

Type of furnace and year	Type of metal melted	Maximum melt rate of furnace tons of metallics/hr	Charging system capacity tons of metallics/hr

**2. Pounds/charge of each component in charge (including non-metallics.):**

Component in the charge	lbs/charge

**3. Cupola information:**

Maximum combustion fan blast air volume (acfm)	Maximum blast air temperature (°F)	Cupola inside diameter (inches)

**4.**

Operations controlled	Type of control	Code on plot plan	Emission control efficiency %	Stack diameter (inches)	Stack Height (ft.)	Gas flow rate (acfm)
Furnace						
Cupola						
Other (specify)						

COMPLETE FORM E (PROCESS INFORMATION) FOR INOCULATION AND MAGNESIUM TREATMENT

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form N-2

Foundry Operations

1. **Please fill in the necessary information.**
2. **Sand handled:**
  - Average tons of sand handled per ton of metallics charge:**  
Self-explanatory
  - Maximum tons per hour of sand which can be handled:**  
Self-explanatory
  - Type of binders and usage rate per tons of sand:**  
Self-explanatory

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form N-2

**Foundry Operations**

1. If one control device controls more than one operation, give it a code (A,B,C, etc.) to indicate which operations it controls. If you have more than one of any type of operation, list it in the blanks and fill out the additional information required. Use duplex sheets if necessary. The information provided should be consistent with Form F.

Operations controlled	Type of control	Code on plot plan	Emission control efficiency	Stack height (ft.)	Stack diameter (inches)	Gas flow rate (acfm)
Muller						
Elevator						
Screens						
Shakeout						
Storage bin						
Conveyor						

2. **Sand handled:**

Average tons of sand handled/ton of metallics charge	Maximum amount of sand which can be handled (tons/hr)

Type of binders used	Usage rate/tons of sand

SUBMIT A FLOW DIAGRAM FOR SAND HANDLING OPERATIONS ON A SEPARATE SHEET (Form F).

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form O

**Grain Elevators**

1. **Grain variety:**  
Indicate the grain being processed and the amount of grain received in bushels per year.
2. **Receiving area:**  
**Is the receiving area enclosed or open?**  
State yes or no. Knowing whether the grain is transferred in an open or enclosed area will aid in determining the particulate emissions.  
**Are hopper emissions controlled?**  
State yes or no.  
**If you answered yes, state the type of control:**  
The type of control may include dead box, cyclone, hood, etc.
3. **Is the grain cleaned?**  
State yes or no. Unwanted materials may be removed from the grain by way of shakers, screens, etc.
4. **Dryers: Fill in the appropriate information for "column dryer" or "rack dryer."**  
**Column dryer:** Any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in one or more continuous packed columns between two perforated metal sheets.  
**Rack dryer:** Any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in a cascading flow around rows of baffles (racks).
5. **Specify other drying equipment:**  
If neither dryer (column or rack) applies to your process please specify the drying technique used.
6. **List the number of bins or silos and their capacity (in bushels) below:**  
Calculate the total storage capacity of the grain elevator.
7. **Check the appropriate handling system.**  
Identify all grain handling operations on Form F.
8. **Shipping area:**  
**Spout:**  
Indicate whether the grain is transferred by fixed down spout, telescope down spout, dead box, or by other means.  
**Loading:**  
State whether the grain is transferred to a truck, rail, barge, etc.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Grain Elevators**

**Form O**

1.

Grain variety	Corn	Soybeans	Wheat	Oats	Other (specify)
Amount of grain received (bushels/yr)					

2. **Receiving area:**

Is the receiving area enclosed or open?	Are hopper emissions controlled?	If yes, state the type of control.

3.

Is the grain cleaned?		Percentage cleaned (%)	

4. **Dryers:**

Column dryer	What is the plate perforation diameter? (inches or mm)
Rack dryer	Mesh size

5. **Specify other drying equipment:**


6. **List the number of bins or silos and their capacity (in bushels) below:**

Storage	Quantity	Number of times bin(s) or silo(s) are filled per yr	Storage capacity (bushels)
Silo(s)			
Bin(s)			
Other (specify)			
Total storage capacity			

7. **Handling system: Identify all grain handling operations on Form F.**

Pneumatic	Auger	Belt conveyor	Bucket elevator	Other (specify)
Are conveyors enclosed?			Are transfer points enclosed?	

8. **Shipping area:**

Spout	Loading

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form P  
Page 1 of 2

**Lime Manufacturing**

1. **Amount of material processed:**

Indicate the amount of material processed in tons per hour.

2. **Amount of material that goes through primary crushers:**

The maximum amount of material that can be crushed in a primary crusher in tons per day.

3. **Amount of material that goes through secondary crushers:**

The maximum amount of material that can be crushed in a secondary crusher in tons per day.

4. **Amount of material that goes through tertiary crusher:**

The maximum amount of material that can be crushed in a tertiary crusher in tons per day.

5. **Calcining:**

Number of kilns operating:

The number of kilns to be operated.

Type of kilns:

Indicate whether the kiln is a rotary kiln, vertical kiln, rotary hearth or other.

Type of fuel the kilns burn:

What is the fuel used in the kilns - coal, coke, distillate oil (indicate grade), residual oil (indicate grade), or natural gas.

Heat rate MMBtu per hour:

Fill in the blank for heat rate in million Btu per hour.

Length of burn:

(Periodic kilns only) Provide the shortest amount of time needed to satisfactorily fire the product in hours.

Emission control:

The type of air pollution emission controls used. Typical devices are baghouses, scrubbers, electrostatic precipitators, and afterburners.

6. **Fuel analysis:**

For coal or coke - indicate ash content and sulfur content in weight percentage as consumed. Provide minimum heating value as consumed. For distillate or residual oil - show sulfur content of fuel oil.

No.1 Distillate 0.3%  
No.2 Distillate 0.3%  
No.4 Distillate 2.0%  
No.5 Residual 2.0%  
No.6 Residual 2.0%

For distillate or residual oil, show heating value of fuel. Default values are:

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form P  
Page 2 of 2

**Lime Manufacturing (Continued)**

No.1 Distillate 0.3%  
No.2 Distillate 0.3%  
No.4 Distillate 2.0%  
No.5 Residual 2.0%  
No.6 Residual 2.0%

For natural gas, no entries are required in this box.

If multiple kilns are used, of varying capacities or fuels, please attach a form for each kiln.

7. **Amount of lime produced:**  
Self-explanatory

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form P

**Lime Manufacturing**

1. Amount of material processed: (lbs/hr)	2. Amount of material that goes through primary crushers (tons/day)	3. Amount of material that goes through secondary crushers (tons/day)	4. Amount of material that goes through tertiary crushers (tons/day)

**5. Calcining:**

Number of kilns operating	Type of kilns	Type of fuel the kilns burn	Heat rate (MMBtu/hr)	Length of burn (hours)	Emission control

**6. Fuel analysis:**

% Ash	% Sulfur	Heating value

**7.**

Amount of lime produced (tons/yr)

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Forms R-1 & R-2

**Tanks Storing VOCs and/or Hazardous Air Pollutants**

1. **Type of tank:**
  - A. Tank ID #: Indicate the name or number of the tank as known by the plant.
  - B. Check the following that applies or fill in appropriate information:
    - a. Fixed roof cone tank
    - b. Fixed roof dome tank
    - c. Internal floating roof tank
    - d. External floating roof tank
    - e. Variable vapor space tank
  - (General information)
  - C. Product stored: Indicate the liquid and/vapor stored in the tanks such as acetone, benzene, jet, kerosene etc.
  - D. Control systems: This should be indicated on Form Q.
  - E. Efficiency: Indicate the efficiency of the control device.
  - F. Method of venting: Such as freely vented, pressure/vacuum vented, rim vented, etc.
  - G. Submerged filled: Indicate by stating yes or no.
  - H. Indicate the following in the units provided:
    - a. Tank -if vertical- height (HS) feet
    - b. Tank -if horizontal- length (L) feet
    - c. Tank diameter (D) feet
    - d. Tank volume (V) feet<sup>3</sup>
    - e. True vapor pressure (PVA), PSI at 20°C (specify other temperature if utilized)
    - f. Vapor molecular weight (Mv), pounds/pounds-mole
    - g. Annual throughput gallons/year
    - h. Maximum liquid height (Hlx) feet
    - i. Indicate the type of paint - white, silver, etc.
2. **For external floating roof tanks, check if applicable or fill in appropriate information:**
  - A. Average liquid density (Wl), lb/gal
  - B. Pontoon floating roof
  - C. Double deck floating roof
3. **For internal floating roof tanks, check if applicable or fill in appropriate information:**
  - A. Average liquid density (Wl), lb/gal
  - B. Number of column supporting fixed roof
  - C. Self-supported fixed roof
  - D. Welded deck
  - E. Bolted deck
4. **For variable vapor space tanks, check if applicable or fill in appropriate information:**
  - A. Volume of liquid pumped into system (V1), bbl/yr
  - B. Volume of expansion capacity of system (V2), bbl
  - C. Number of transfers into the system (N2), during the time period that corresponds to the throughput of V1.
5. **Fill in the necessary information required for State and Federal rules:**
  - A. Date the tank was constructed or the anticipated date of construction
  - B. Tank capacity (gallons).

Revised 2/14/95

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form R-1

**Tanks Storing VOC and/or Hazardous Air Pollutants**

Fill out a section for each tank with a capacity over 250 gallons:

**1. Type of tank:**

Tank information	Tank 1	Tank 2	Tank 3	Tank 4
Tank ID #				
Fixed roof cone tank				
Fixed roof dome tank				
Internal floating roof tank				
External floating roof tank				
Variable vapor space tank				
Is the tank above or below ground?				
Is this a horizontal or vertical Tank?				

**2. General information:**

Tank information	Tank 1	Tank 2	Tank 3	Tank 4
Product stored				
Vapor recovery system or other				
Control systems				
Efficiency				
Method of venting				
Submerged filled (Y/N)				
Tank -if vertical- height (Hs), ft				
Tank -if horizontal- length (L), ft				
Tank diameter (D), ft				
Tank volume (V), ft <sup>3</sup>				
True vapor Pressure (PVA), PSI at 20°C (specify if other temp. is used)				
Vapor molecular wt. (Mv), lb/lbmole				
Annual throughput gal/yr				
Max. liquid height (Hlx), ft				
Type of paint - white, silver, etc.				

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form R-2

**Tanks Storing VOC and/or Hazardous Air Pollutants**

**3. For external floating roof tanks:**

Tank information	Tank 1	Tank 2	Tank 3	Tank 4
Average liquid density (W), lb/gal				
Pontoon floating roof				
Double deck floating roof				

**4. For internal floating roof tanks:**

Tank information	Tank 1	Tank 2	Tank 3	Tank 4
Average liquid density (W1), lb/gal				
Number of column supporting the fixed roof				
Self-supported fixed roof				
Welded deck				
Bolted deck				

**5. For variable vapor space tanks:**

Tank information	Tank 1	Tank 2	Tank 3	Tank 4
Volume of liquid pumped into the system (V1), bbl/yr				
Volume expansion capacity of system (V2), bbl				
Number of transfers into the system (N2), during the time period that corresponds to the throughput of V1				

**6. Information required for State and Federal Rules:**

Tank Information	Tank 1	Tank 2	Tank 3	Tank 4
Date tank constructed or anticipated date of construction				
Tank capacity (gallons)				

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form S

**Portland Cement Manufacturing**

1. **Process:**  
Fill in the appropriate information for each process that is applicable.
2. **Number of kilns:**  
Indicate the number of kilns in the process being permitted.
3. **Dryer:**  
Indicate with a check if a dryer is included in the process.
4. **Type of fuel the kiln burns:**  
Indicate whether the fuel is natural gas, coal, oil, etc. Default is coal.
5. **Heat input rate:**  
Indicate heat input rate in millions of Btu per hour.
6. **Raw material ground:**  
Indicate the maximum hourly weight of material ground in pounds per hour.
7. **Fuel analysis:**  
Indicate the weight content of ash and sulfur, and the heating value in Btu/lb of the fuel as delivered to the burner. Default values are Ash = 11%, Sulfur = 4.5%, Heating value = 10,000 Btu/lb.
8. **Amount of material dried:**  
Indicate the maximum hourly weight of material dried in pounds per hour.

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form S

**Portland Cement Manufacturing**

1. Process	2. Number of kilns you operate	3. Dryer	4. Type of fuel the kiln burns	5. Heat input rate (MMBtu/hr )	6. Raw material ground (lbs/hr)
Wet kiln					
Dry kiln					
Clinker cooler					
Preheater kiln					
Precalciner kiln					
Other (specify)					

**7. Fuel analysis:**

% Ash	% Sulfur	Heating value (specify units)

8.

Amount of material dried (lbs/hr)	
-----------------------------------	--

Fill out Form AA for fugitive emissions from vehicle traffic.

Attach a sheet showing kilns, mills, other equipment, and the particulate control equipment associated with each.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form T

**Printing Operations**

1. If more than five (5) materials such as inks, glues, fountain solutions, clean up solvents are used in the press or presses, or if more than five (5) presses are being reported, please make multiple copies of the form as necessary.

**Press Data:**

2. **Top Part - Column 1: 'Press I.D.'**  
Write in the I.D. name or number that your organization (plant, industry or etc.) has assigned to each press for which a permit application is being made.
3. **Top part - Column 2: 'Press Type'**  
Write in the type of press used i.e. rotogravure, flexographic, offset, etc.
4. **Top Part - Column 3: 'Maximum Line Speed'**  
Write in the maximum line speed in inches per minute of each press.
5. **Top Part - Column 4: 'Maximum Printing Width'**  
Write in the maximum width of substrate that can be printed by each press.
6. **Top Part - Column 5: 'Type of Control Device'**  
Write in the type of equipment, controlling the emission of volatiles captured. Common type of control device are carbon absorbers, thermal incinerators, and catalytic incinerators. If no such device will be installed and operated, write in "none".
7. **Top Part - Column 6: 'Percent Captured'**  
Write in the percentage of volatiles that are captured during press operations. This figure may be provided by the press manufacturer, but most permits will require verification using EPA Method 25.
8. **Top Part - Column 7: 'Destruction Efficiency'**  
Write in the destruction efficiency of the incinerator.

**Material Data:**

9. **Bottom Part - Column 1: 'Material'**  
Write in a short description of the material, i.e. ink, fountain, solution, etc.
10. **Bottom Part - Column 2: 'Identification Number'**  
Write in the identification number or letters assigned to this material by its manufacturer or your organization.
11. **Bottom Part - Column 3: 'Volume % Volatiles'**  
Write in the volume fraction of all organics (both photochemically reactive and non-reactive) and of water.
12. **Bottom Part - Column 4: 'Volume % Water'**  
Write in  $(V_w)_a$  from the "as applied" VOC Data Sheet.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form T

**Printing Operations (Continued)**

13. **Bottom Part - Column 5: 'Weight % Volatiles'**  
Write in the sum of  $(W_o)_a$  plus  $(W_w)_a$  from the "as applied" VOC Data Sheet.
14. **Bottom Part - Column 6: 'Weight % Water'**  
Write in  $(W_w)_a$  from the "as applied" VOC Data Sheet.
15. **Bottom Part - Column 7: 'Maximum Coverage'**  
Write in the **maximum** amount of the material used in printing in one million square inches. For inks and glues, this is self-explanatory. Also, provide such a figure for fountain solution and press wash solvents, even though these materials may not be actually deposited on the substrate. All experienced printers know the rate that fountain solution and press wash solvents are consumed as a function of the amount of substrate printed.
16. **Bottom Part - Column 8: 'Press I.D.'**  
Write in the I.D. name or number of the press or presses in which the material is used. This refers to the first column of the bottom part of this Form T. If the material is used in all presses reported in this application, write in "all".

**Note:**

Do not supply information for previously permitted equipment unless the previously permitted equipment is being used with the equipment being permitted - i.e. using a previously permitted thermal incinerator to control emissions from a new press.

MSDS should contain the

1. Product Identification section
2. Hazardous Ingredients section
3. Physical Characteristics section

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form T

**Printing Press**

**Press Data:**

1. Press I.D.	2. Press Type*	3. Maximum line speed (ft/minute)	4. Maximum printing width (inches)	5. Type of control device	6. ** % Capture efficiency	7. Destruction Efficiency

**Material Data:**

8. Material	9. ID. number	10. Volume % volatile( water & organics)	11. Volume % water	12. Weight % volatiles (water & organics)	13. Weight % Water	14. Maximum coverage (lbs per million square inches)	15. Press I.D.

Attach a Material Safety Data Sheet for each material listed on this form and the VOC Data Sheet.

1. \* Press type includes packaging rotogravure, publication rotogravure, flexographic, heatset offset lithographic, non-heatset offset lithographic, web letter press, and other (specify).
2. \*\* "Percent capture" is the percentage of the total emissions that enter the inlet of the control device.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form U

**Sand and Gravel Processing Plant**

The following information requested is necessary to estimate emissions from stone quarries, stone processing plants, and slag and kish handling plants.

The entire form must be completed for all newly constructed plants. Modifications to existing plants only need to provide information on the increased values, if the plant has valid permits and/or registrations for the existing equipment. (Replacement of existing processing equipment can be specified at the bottom of the page or on a separate page.)

1. **Values on this page are:** \_\_\_\_\_ check the appropriate one

Maximum values for a new emission source	Increases to an existing emission source

2. **Plant throughput:** \_\_\_\_\_ tons/hour.

Capacity	Conveyors	Crushers	Screens	Hoppers
Tons/hr				
Quantity				

3.

% moisture by weight* of the material being processed.	
--	--

\* If the percent moisture by weight is not less than 4%, it will be considered a wet pit. Anything less than 4% will be considered a dry pit.

4. **Aggregate storage pile capacity:** \_\_\_\_\_ tons

5. **Actual Operating schedule:** \_\_\_\_\_ hours/day, \_\_\_\_\_ days/week, \_\_\_\_\_ weeks/year

(Quantities and capacities of other processing equipment can be specified at the bottom of the page or on a separate page.)

6. Rules 326 IAC 6-4 and 6-5 require fugitive dust to be controlled as needed to prevent dust from visibly crossing property lines. What measures will be implemented for controlling fugitive emissions from these processing operations? For example, will you have dry or wet conveying or handling?

Are the stock piles covered or open?

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

**Form V**

**Nonmetallic Mineral Processing Plant**

The information requested is necessary to estimate emissions from stone quarries, stone processing plants, and slag and kish handling plants.

The entire form must be completed for all newly constructed plants. Modifications to existing plants only need to provide information on the increased values if the plant has valid permits and/or registrations for the existing equipment. (Replacement of existing processing equipment can be specified at the bottom of the page or on a separate page.)

1. **Values on this page are:** check the appropriate one

Maximum values for a new emission source	Increases to an existing emission source

2. **Plant throughput:** \_\_\_\_\_ tons/hour.

Capacity	Conveyors	Crushers	Secondary crushers	Tertiary crushers	Screens	Hoppers
Tons/hr						
Quantity						

3.

% moisture by weight* of the material being processed.	
--	--

\* If the percent moisture by weight is not less than 4%, it will be considered a wet pit. Anything less than 4% will be considered a dry pit.

4. **Fines mill capacity:** \_\_\_\_\_ tons/hour

5. **Aggregate storage pile capacity:** \_\_\_\_\_ tons

6. **Actual operating schedule:** \_\_\_\_\_ hours/day, \_\_\_\_\_ days/week, \_\_\_\_\_ weeks/year

(Quantities and capacities of other processing equipment can be specified at the bottom of the page or on a separate page.)

7. Rules 326 IAC 6-4 and 6-5 require fugitive dust to be controlled as needed to prevent dust from visibly crossing property lines. What measures will be implemented for controlling fugitive emissions from these processing operations? For example, will you have dry or wet conveying or handling?

Are the stock piles covered or open?

**Surface Coating and Accessory Solvents**

1. Make a separate copy for each coating booth or area.  
Include the following for each separate copy:  
  
Check what is applicable:  
A. \_\_\_\_\_ Is the coating "as supplied" - out of the can?  
  
B. \_\_\_\_\_ Is the coating "polymeric"?  
  
C. \_\_\_\_\_ Is the coating "thinned" or "diluted"?  
a. \_\_\_\_\_ What is the thinner?  
b. \_\_\_\_\_ Provide the ratio.  
c. \_\_\_\_\_ Assume 100% flash-off of VOC.  
  
D. \_\_\_\_\_ Is the coating "multipart"?  
a. \_\_\_\_\_ What are the parts?  
b. \_\_\_\_\_ Provide the ratio.  
c. \_\_\_\_\_ Indicate the flash-off. If the flash-off is unknown, we will assume 100%.
2. It is important to indicate what product you are coating such as car doors, screens, lamps, etc. Also, include whether the product's material is metal, plastic, fiberglass, etc. (Refer to 326 IAC Article 8 Volatile Organic Compound)
3. **Column 1:**  
Write in proprietary name of each coating cleaning solvent used in the device or area.
4. **Column 2:**  
Please provide the process or booth I.D. number(s). This should be consistent with the layout's I.D. numbers.
5. **Column 3:**  
Write in the "as applied" density -  $(D_c)_a$  from the "as applied" VOC Data Sheet for each coating and cleaning solvent used.
6. **Column 4:**  
Write in the weight percent of organic volatiles and water - the sum of  $(W_w)_a$  plus  $(W_o)_a$  from the "as applied" VOC Data Sheet for each coating and cleaning solvent used.
7. **Column 5:**  
Write in the weight percent of water - from the "as applied" VOC Data Sheet for each coating and cleaning solvent used.  $(W_w)_a$
8. **Column 6:**  
Write in the volume percent of water -  $(V_w)_a$  from the "as applied" VOC Data Sheet for each coating and cleaning solvent used.
9. **Column 7:**  
Write in the volume percentage solids -  $(V_n)_a$  from the "as applied" VOC Data Sheet for each coating and cleaning solvent used.
10. **Column 8:**  
Write in the number of guns that are used when coating.
11. **Column 9:**  
Write in the nozzle size of the guns.
12. **Column 10:**  
**In order to determine what rule(s) apply you must describe the product such as doors, screens, pipes, etc. and the material such as wood, plastic, metal, etc. you are coating.**

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form W-1

**SURFACE COATING AND ACCESSORY SOLVENTS (as APPLIED)**

How Many guns can be supported by the compressor?	
---	--

1 Name of Coatings, Solvents, Etc.	2 Process or Booth I.D.	3 Material density (lbs/gal)	4 Weight % Volatiles (Water and Organics)	5 Weight % Water	6 Volume % Water	7 Volume % Non-volatiles (Solids)	8 Number of guns used when coating	9 Nozzle size of the guns	10 Describe the product (doors, screens, pipes, etc.) and the material (wood, plastic, metal, etc.) you are coating

A. If more than one type of unit is coated in the same paint booth with the same coating, this amount should be based on the production unit requiring the most gallons per hour of material. If different coatings are used, they must be listed separately. Gallons per hour = Column 8 X Column 9.

B. Attach a *Material Safety Data Sheet* (MSDS) and an *EPA VOC Data Sheet* for each material listed. DO NOT SEND THE ENTIRE MSDS. The required sections are: Product Identification, Hazardous Ingredients, and Physical characteristics Information.

C. Density, Weight % Volatiles, and Weight % Water come from MSDS.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form W-2

**Surface Coating and Accessory Solvents**

1. If more than four (4) booths, areas, or processes are being reported, make additional copies of Form W-2 as needed.
2. Identify booth, area, or process.
3. **Application Method:**  
Write in either dipping, spraying, flow coating, roll coating, brushing, wiping, or other description of coating application process.
4. **If sprayed, specify type:**  
If "spraying" (the response in the above row) write in either air atomization, airless, electrostatic disc, electrostatic airless, electrostatic air atomized, low pressure air atomization, low pressure high volume, airless air assist, or other as applicable. If "spraying" was not the response in the row above, write in "NA".
5. **Type of Overspray Controls:**  
Write in the type of particulate matter control device used. Common types are baffle plates, dry filters, and water curtains.
6. **Control Efficiency:**  
Write in the efficiency in controlling particulate emission claimed by the equipment manufacturer. Maximum expected particulate control efficiencies run in the range of 50% to 98% as a general rule. Please note that all these type of control devices do not control emission of volatile organic compounds.
7. **Type of Hydrocarbon Controls:**  
Write in the type of device or system used to control emission of volatile organic compounds. Common control technologies are carbon adsorbers, thermal incineration, and catalytic incineration.
8. **Control Efficiency below Type of Hydrocarbon Controls:**  
Write in the overall efficiency in controlling emissions of volatile organic compounds claimed by the equipment manufacturer. Common values for destruction efficiencies for adsorption and incineration systems are 50% to 90%. As overall control efficiency is the product of capture efficiency times destruction efficiency, for any claims of control efficiency in excess of 75%, please include descriptions of capture systems, including prints of drawings.

**The following are self-explanatory and absolutely necessary.**

9. Stack Height:
10. Stack Diameter:
11. Exhaust Flow Rate:
12. Exhaust Discharge Temperature:

**Note:**

Do not supply information for previously permitted equipment unless the previously permitted equipment is being used with the equipment being permitted - i.e. using a previously permitted thermal incinerator to control emissions from a new press.

- MSDS should contain the
1. Product Identification section
  2. Hazardous Ingredients section
  3. Physical Characteristics section

**Surface Coating and Accessory Solvents (Continued)**  
**Introduction**

Of all the Indiana Air Pollution Rules, 326 IAC 8 is the most complex and most often misunderstood. This guide is to ease the process of preparing the permit forms relevant to this rule.

This guide is only relevant for permit application forms for surface coating operations and printing operations. Other guides will be prepared for degreasing, petroleum operations, pharmaceutical operations, and plastic and rubber molding operations at a later date.

Surface coating, in general, refers to the application of organic substances to metal, plastic, rubber, wood, paper, or other substrates to enhance the performance of a product. This includes, but certainly is not limited to, such things as:

Paint	Lubricant Coatings
Rustproofing	Powder Coatings
Adhesives	Stains
Magnetic Coatings	Varnishes and Shellacs

Many types of surface coating require specific limitations on emissions of volatile organic compounds per unit volume of coating applied. For the rule that applies to your coating operation and its associated limit, consult 326 IAC 8 and 40 CFR 60.

Equipment covered by this rule includes application equipment such as spray booths, flow coaters, and dip tanks; and drying equipment such as air dryers, flash off areas, and curing ovens.

Specifically excluded from surface coating is the degreasing and other surface preparation operations that may be required. Other air pollution rules - beyond the scope of this guide - may apply.

**General Procedure:**

**Surface Coating:**

1. Unless you are applying a coating to wood furniture or components of non-upholstered furniture, it is necessary to complete the "VOC Data Sheets" for each coating applied. These forms determine the amount of volatile organic compounds (VOC) that will be emitted into the atmosphere per gallon of coating applied. There are two parts of these forms. One is the "as supplied" forms. This determines the VOC content of the coating as it is supplied by the coating manufacturer. As many users "thin" or dilute the coatings prior to application, the second part determines the VOC content of the coating as it is delivered to the coating applicator. With the exception of the wood furniture coating operations described above, all coating operations subject to 326 IAC 8-2 have VOC emission limits described in terms of pounds of VOC per gallon of coating less water delivered to the applicator.
2. In any case, a surface coating operation will require filling out Forms W-1 and W-2. These forms use some of the information used in completing the VOC data sheets. These forms allow us to estimate your overall VOC emissions.
3. Send in a copy of Material Safety Data Sheets for each coating, thinner, and cleanup solvent used in the coating operation. You need only send the sections that state the hazardous material contents of these materials.
- \*4. Indicate clearly what you are surface coating and the material utilized to produce the product.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form W-2

**Surface Coating and Accessory Solvents**

Process or Booth I.D. (1)				
Application method (2)				
If sprayed specify type (3)				
Type of overspray controls (4)				
Control efficiency				
Type of hydrocarbon controls (5)				
Control efficiency				
Stack height (feet above ground)				
Stack diameter (inches)				
Exhaust flow rate (acfm)				
Exhaust discharge temperature °F				

1. Use identifiers from Form F.
2. Method of application refers to dipping, spraying, rollcoating, brushing, flowcoating, or other.
3. Types of spray coating include: air atomization, airless, electrostatic disc, electrostatic airless, electrostatic air atomized, low pressure air atomization, low pressure-high volume, or other.
4. Overspray controls include: dry and wet filters, baffles, waterwash, or other.
5. Hydrocarbon controls include: catalytic or direct flame incineration, solvent recovery, carbon adsorption, or other.

**As Supplied**

**Step I.** "As Supplied" VOC Data Sheets

1. Your coating supplier should be able to supply a properly filled out VOC Data Sheet, as the U.S. EPA requires coating manufacturers to provide this data. If your supplier has provided you properly filled out VOC Data Sheets, skip ahead to Step II. If you have obtained your coating material from an intermediary that cannot supply a filled out VOC Data Sheet, you can fill out these sheets yourself.

2. From your Material Safety Data Sheet (MSDS), retrieve the following information:

a.) Coating Density in pounds per gallon

This will be called  $(D_c)_s$

b.) Weight Percentage of Volatiles - both organic and water

This will be called  $(W_v)_s$

c.) Weight Percentage of Water

This will be called  $(W_w)_s$

3. Calculate Weight Percentage of Organic Volatiles -  $(W_o)_s$  - using data obtained in step number 2. with the following equation:

$$(W_o)_s = (W_v)_s - (W_w)_s$$

4. Calculate Volume Percentage of Water -  $(V_w)_s$  - Using the following equation and data obtained in above steps:

$$(V_w)_s = \frac{(W_w)_s (D_c)_s}{D_w} \quad \text{where } D_w \text{ is density of water} = 8.33 \text{ lb/gal}$$

5. Calculate VOC Content "As Supplied" -  $(VOC)_s$  - using data obtained above and the following equation:

$$(VOC)_s = \frac{(W_o)_s (D_c)_s}{100 \% - (V_w)_s}$$

6. If the coating "As Supplied" does not contain any water, then  $(V_w)_s = 0$ , therefore:

$$(VOC)_s = (W_o)_s (D_c)_s$$

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- AIR POLLUTION CONTROL DIVISION -

Form W-3

**VOC DATA SHEET**

PROPERTIES OF THE MATERIAL "AS SUPPLIED" BY THE MANUFACTURER

Coating Manufacturer:
Coating Identification:
Batch Identification:
Supplied to:

Properties of the coating "as supplied" to the customer:

Coating Density $(D_c)_s^1$ :		lb/gal, or		Kg/l
Test Method:		ASTM D1475		Other <sup>2</sup>

Total Volatiles $(W_v)_s$ :	Weight Percent			
Test Method:		ASTM D2369		Other <sup>2</sup>

Water Content:	Weight Percent $(W_w)_s$ :			
Test Method:	ASTM D3792		ASTM D4017	Other <sup>2</sup>
	Volume Percent $(V_v)_s$ :			
Test Method:	Calculated			Other <sup>2</sup>

Organic Volatiles:	Weight Percent $(W_o)_s$	
Non-volatiles content:	Volume Percent $(V_n)_s$	

VOC content $(VOC)_s$ :		lb/gal coating less water, or
		kg/l coating less water
		lb/gal solids, or
		kg/l solids

Description of "Other":

<sup>1</sup> The subscript "s" denotes that each value is for the coating "as supplied" by the manufacturer.

<sup>2</sup> Provide an explanation for "other" methods used, use back of form if necessary.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form W-4

**As Applied**

**Step II. "As Applied" VOC Data Sheet**

1. If you do not "thin" or dilute the coating prior to application, then the VOC content "As Applied" is the same as the VOC content "As Supplied". Simply fill out "as applied" VOC Data Sheet as:

$$(VOC)_a = (VOC)_s$$

2. If you do "thin" or dilute your coating, the amount of VOC that is emitted may change, so the VOC content must be adjusted accordingly. The following additional data is needed:

Weighted Average Density of Dilution Solvent in lb/gal - ( $D_d$ )

$$(D_d) = \sum [(D_i) (\%_i/100)]$$

If a coating is diluted with a multiple component "thinner", the density of the dilution solvent is the weighted average density of the component solvents. For example, if a coating were to be diluted with a mixture with three components - 10% solvent A with a density of 6.5 lb/gal, 40% solvent B with a density of 8.33 lb/gal, and 50% solvent C with a density of 7.0 lb/gal; the weighted average density - ( $D_d$ ) - would be calculated as follows:

Solvent	Weight Percentage	Density lb/gal	Product lb/gal
A	10% X	6.50 =	0.650
B	40% X	8.33 =	3.332
C	<u>50%</u> X	7.00 =	<u>+3.500</u>
	100%		
Mixture Weighted Average - ( $D_d$ )			7.482 lb/gal

Include water and non-photochemically reactive solvents in this calculation.

3. Calculate dilution ratio -  $R_d$ . This is simply the volume ratio of photochemically reactive organic dilution solvent to the "as supplied" coating.

$$R_d = \frac{\text{Volume of Photochemically Reactive Dilution Solvent}}{\text{Volume of "as supplied coating"}}$$

Where:

Volume of Photochemically Reactive Dilution Solvent =  
(volume of dilution solvent) [1-(volume % water) - (volume % of non-photochemically reactive organics)]

For example, assume that a gallon of "as supplied" coating is thinned with 3 gallons of a mixture that consists of 7 quarts xylene, 2 quarts of 1,1,1 trichloroethane, and 3 quarts water. Therefore:

Volume of Photochemically Reactive Dilution Solvent =

$$(3 \text{ gal}) [1-(2 \text{ qt}/12 \text{ qt})-(3 \text{ qt}/12 \text{ qt})] = 1.75 \text{ gallons therefore:}$$

$$R_d = \frac{1.75 \text{ gallons Photochemically Reactive Dilution Solvent}}{1.00 \text{ gallon "as supplied" coating}} = R_d = 1.75 \text{ for this example}$$

Note: 1,1,1 trichloroethane is not photochemically reactive see attached table of non-photochemically reactive organics.

4. Determine Density of coating "as applied" - ( $D_c$ )<sub>a</sub> - using method described in ASTM<sup>1</sup> D1475-85 in pounds per gallon.

5. Calculate volatile organic content of coating "as applied" - ( $W_o$ )<sub>a</sub> - using data obtained in previous steps and the following equation:

$$(W_o)_a = \frac{[(D_c)_s (W_o)_s/100] + [(R_d) (D_d)] \times 100}{(D_c)_s + [(R_d) (D_d)]}$$

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- AIR POLLUTION CONTROL DIVISION -

Form W-4

As Applied (Continued)

- Determine Weight Percent Water of "as applied" coating -  $(W_w)_a$  - using method ASTM D3792-86 or ASTM D4017-88. These tests should be performed by a suitably equipped laboratory. If no water is present in the dilution solvent, obviously  $(W_w)_a = (W_w)_s$ , and these tests need not be performed.
- Calculate Volume Percent Water in coating "as applied" -  $(V_w)_a$  - using data obtained in the above steps and the following equation:

$$(V_w)_a = \frac{(W_w)_a (D_c)_a}{D_w} \quad \text{where } D_w \text{ is density of water, } D_w = 8.33 \text{ lb/gal}$$

- Calculate VOC content of "as applied" coating -  $(VOC)_a$  - using data obtained in the above steps and the following equation:

$$(VOC)_a = \frac{(W_o)_a (D_c)_a}{100\% - (V_w)_a}$$

Alternately, the following equation may be used:

$$(VOC)_a = \frac{[(VOC)_s (100\% - (V_w)_s)/100] + [(R_d) (D_d)]}{1 + R_d - [(V_w)_s/100]}$$

**Step III.** Solids Content of Coating by Volume

- From the Material Safety Data Sheet (MSDS) or other information or other information from the coating supplier, ascertain the solids content by volume of the coating "as supplied". This figure is referred to as  $(V_n)_s$ . Enter this figure onto the "as supplied" VOC Data Sheet. If the coating is not "thinned" or diluted prior to application, then  $(V_n)_s = (V_n)_a$ . If such is the case, enter onto the "as applied" VOC Data Sheet, and go on to Step IV.
- If the coating is "thinned" or diluted prior to application, calculate the Volume Percentage of Solids "as applied" using data obtained in the above steps and the following equation:

$$(V_n)_a = \frac{(V_n)_s}{1 + R_d}$$

**Step IV.** VOC Content per Unit Volume Solids

- Calculate VOC Content per Unit Volume of Solids -  $(VOC)_{as}$  - using data developed using steps described above and the following equation:

$$(VOC)_{as} = \frac{[(VOC)_s (100\% - (V_w)_s)/100 + (R_d) (D_d)]}{(V_n)_s/100\%}$$

or alternately:

$$(VOC)_{as} = \frac{(W_o)_a (D_c)_a}{(V_n)_a}$$

Enter this figure on the "as applied" VOC Data Sheet.

<sup>1</sup>EPA's  
Reference Method 24 (40 C.F.R. Part 60, App. A), contains the ASTM methods referenced in these instructions.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form W-4

**VOC DATA SHEET**

PROPERTIES OF THE COATING "**AS APPLIED**" TO THE SUBSTRATE

Material Manufacturer:
Material Identification:
Batch Identification:
User:
User's Coating Identification (the company's personal identification):

Properties of the coating "**as applied**" by the user:

Coating Density $(D_c)_a^1$ :		lb/gal, or		kg/l
Test Method:		ASTM D1475		Other <sup>2</sup>

Total Volatiles $(W_v)_a$ :	Weight Percent			
Test Method:		ASTM D2369		Other <sup>2</sup>

Water Content:	Weight Percent $(W_w)_a$ :			
Test Method:	ASTM D3792		ASTM D4017	Other <sup>2</sup>
	Volume Percent $(V_v)_a$ :			
Test Method:	Calculated			Other <sup>2</sup>

Weighted Average Density of the dilution solvent $(D_d)^3$		lb/gal
Test Method:	ASTM1475	Handbook Formulation

Dilution Solvent Ratio $(R_d)$ :		gal diluent/(gal coating) <sub>s</sub> <sup>4</sup> , or
		liter diluent/(liter coating) <sub>s</sub> <sup>4</sup>

Organic Volatiles Content <sup>5</sup> $(W_o)_a$ :		Weight Percent
Non-Volatiles Content $(V_n)_a$ :		Volume Percent

VOC Content $(VOC)_a$ :		lb/gal of coating less water, or
		kg/l of coating less water
		lb/gal solids, or
		kg/l solids

1. The subscript "a" denotes each value is for the coating "as applied" to the substrate.
2. Explain the "other" method on back.
3. The subscript "d" denotes values that are for the dilution solvent.
4. The subscript "s" denotes values that are for the coating "as supplied" by the manufacture.
5. This terminology is used to be consistent with Method 24. It refers to all photochemically reactive organic compounds emitted from the coating including reactive by-products of the cure reaction, exactly the same matter as indicated in Paragraph H.

**Woodworking and Plastics Machining**

1. **Materials Machined:**

Indicate all materials being machined. For plastics, indicate the polymer (i.e. ABS, PUC, Kevlar).

2. **List machining equipment:**

List all equipment used with description of machine capacity (i.e. 10 inch table saw, SHP planer, etc.). Use additional sheets if necessary.

3. **Grain loading from the pneumatic conveyor outlet:**

Fill in the necessary information

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form X

**Woodworking and Plastics Machining**

1. **Materials machined in pounds per hour:**

Materials machined	Raw material being fed (lbs/hr)	Amount of Particulate Matter (estimated) (lbs/hr)

2. **List of machine equipment:**


3. **Grain loading per actual standard cubic foot of outlet air from the  
pneumatic conveyor outlet:**

Baghouse	
Cyclone	

Fill out Form Q-1 (particulate control equipment) even though it is considered part of the process.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form Z

On-Site Soil Remediation

1. **Site:**

**Total organic contamination:**

Indicate the estimated total amount of organic contaminants expected to be removed.

**Estimated remediation time:**

Indicate the time interval that the remediation is expected to operate expressed in days.

**Air pollution emission controls:**

Check the box that describes the device(s) you propose to use to avoid conversion of soil contamination to air pollution.

2. **Air stripping of groundwater:**

**Water flow:**

Indicate the maximum rated water flow rate of the stripper in gallons per minute.

**Pump voltage:**

Indicate the nominal pump motor voltage.

**Pump current:**

Indicate the rated running current of the pump motor in amperes.

**Air flow:**

Indicate the maximum air flow rate of the stripper in actual cubic feet per minute.

**Fan voltage:**

Indicate the nominal fan motor voltage.

**Fan current:**

Indicate the rated running current of the fan motor in amperes.

Note: If internal combustion is used to drive the pump and/or fan instead of electric motors, attach a sheet stating fuel used, and maximum heat input rate in Btu per hour of engines used.

**Table:**

**Chemical name:**

Indicate the chemical name and CAS number of each groundwater contaminant identified in the test well.

**Concentration:**

Indicate the concentration of each contaminant identified in the test well in H<sub>2</sub>O parts per million.

On-Site Soil Remediation (Continued)

3. **Air sparging or bioremediation:**

**Air flow:**

Indicate the maximum air flow rate through the system in actual cubic feet per minute.

**Blower voltage:**

Indicate the normal power motor voltage.

**Blower current:**

Indicate the rated running current of the blower motor in amperes.

**Table:**

**Chemical name:**

Indicate the chemical name and CAS number of each soil contaminant expected.

**Concentration:**

Indicate the concentration of each contaminant expected in the exhaust air stream in parts per million.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form Z

**On-Site Soil Remediation**

**1. Site:**

Total organic contamination (lbs)	
Estimated remediation time (days)	

**Air pollution emission controls:** (check one)

Absorber		Flare		Afterburner		None	
----------	--	-------	--	-------------	--	------	--

**2. Air stripping of water:**

Water flow (GPM)	
Pump voltage (volt.)	
Pump current (amps)	

Air flow (acfm)	
Fan voltage (volts.)	
Fan current (amps)	

Chemical name	Concentration in H <sub>2</sub> O (PPM)

**3. Air sparging or bioremediation: Not applicable**

Air flow (acfm)	
Blower voltage (volts)	
Blower current (amps)	

Chemical name	Concentration (PPM)

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form BB-1-2

**Pneumatic Blasting**

1. **Identification of blasting equipment:**

Indicate the name or number that identifies this equipment in the plant.  
If multiple pieces of blast equipment are used, they must be documented separately.

2. **For each different blast media used in the blast equipment, supply the following data:**

**Media:**

Indicate the media used (i.e. sand, walnut shells, steel shot, etc.).

**Media Density:**

List the density in pounds per cubic foot of each media identified.

**Nozzle I.D.:**

Indicate the internal diameter of the blast nozzle in inches. If several nozzles are used, indicate the largest one used.

**Nozzle Pressure:**

Indicate the nozzle pressure in pounds per square inch (gauge). If a range of pressures used, indicate the highest pressure.

3. **Particulate control device type:**

Indicate the type of particulate control/media recycling unit used (i.e. baghouse, cyclone etc.).

**Particulate control device identification:**

Indicate the number or identification by which the device is known in the plant. This identification must correspond to the identification used on Form Q.

**Particulate control device grain loading:**

The particulate loading of the output and input gas stream in grains per dry standard cubic foot (gr/dscf) or pounds per dry standard cubic foot (lbs/dscf), etc.

4. **Is the blasting open or enclosed?**

Please indicate open or enclosed.

**Mechanical Blasting Form BB-2**

1. A wheelabrator is an example of mechanical blasting.
2. Please provide the pounds per hour of blasting material used.
3. For further information please read the instructions above that are applicable.

Revised 8/19/94

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form BB-1

**Pneumatic Blasting**

1.

Identification of blasting equipment	
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2.

Media	Media density (lb/ft <sup>3</sup> )	Nozzle Internal diameter (inches)	Nozzle Pressure (psig)

3.

Particulate control device type	Particulate control device ID	At the inlet and outlet provide the particulate control device's grain loading (gr/dscf) or (lb/dscf) *

4.

Is the blasting open or enclosed?	
-----------------------------------	--

\* Please indicate units used.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form BB-2

**Mechanical Blasting**

1.

Identification of blasting equipment	
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2.

Media	Media density (lb/ft <sup>3</sup> )	Blast rate (lbs/hr)

3.

Particulate control device type	Particulate control device ID	At the inlet and outlet provide the particulate control device's grain loading (gr/dscf) or (lb/dscf) *

4.

Is the blasting open or enclosed?	
-----------------------------------	--

\* Please indicate units used.

**Welding and Oxygen Cutting of Metal**

1. **Process Identification:**

Check the process which is used at the facility in the application. Check both processes if both are present.

2. **Welding:**

A. **Submerged Arc:**

a. *Number of welding stations*

Fill in the number of submerged arc welding stations included in this application. Do not include any other type of welding or stations that have been previously permitted.

b. *Type of electrode used*

Fill in the classification of the weld wire, or alternately, the diameter and composition of the wire. Include the percentage of manganese, nickel, chromium, cadmium, and cobalt in the wire.

c. *Maximum Hourly Electrode Consumption per Station*

Fill in the maximum weight of wire that can be consumed in an hour by the welding stations. If the welding stations have varying capacities, copy this form and fill out the capacity of each station.

B. **Metal Inert Gas (MIG):**

a. *Number of welding stations*

Fill in the number of MIG welding stations included in this application. Do not include any other type of welding or stations that have been previously permitted.

b. *Type of electrode used*

Fill in the classification of the weld wire, or alternately, the diameter and composition of the wire. Include the percentage of manganese, nickel, chromium, cadmium, and cobalt in the wire.

c. *Maximum Hourly Electrode Consumption per Station*

Fill in the maximum weight of wire that can be consumed in an hour by the welding stations. If the welding stations have varying capacities, copy this form and fill out the capacity of each station.

C. **Stick Welding:**

a. *Number of welding stations*

Fill in the number of stick welding stations included in this application. Do not include any other type of welding or stations that have been previously permitted.

b. *Type of electrode used*

Fill in the classification of the electrodes for example, E6010.

c. *Number of electrodes*

Fill in the number of electrodes per hour at the maximum rate.

d. *Weight of electrodes*

Fill in the heaviest electrodes being utilized.

**Welding and Oxygen Cutting of Metal (Continued)**

**D. Tungsten Inert Gas (TIG):**

- a. *Number of welding stations*  
Fill in the number of TIG welding stations included in this application. Do not include any other type of welding or stations that have been previously permitted.
- b. *Maximum Hourly Amount of metal melted per Station*  
Fill in the maximum base metal melted per station expressed in pounds per hour. This can be calculated by multiplying width of bead by penetration by line speed by density of metal.

**E. Oxyacetylene Welding:**

- a. *Number of welding stations*  
Fill in the number of oxyacetylene welding stations included in this application. Do not include any other type of welding or stations that have been previously permitted.
- b. *Maximum Hourly Amount of metal melted per Station*  
Fill in the maximum deposition metal melted per station expressed in pounds per hour. This can be calculated by multiplying the width of bead by penetration by the line speed by the density of metal.

**3. Cutting:**

- A. *Check type of flame-cutting:*  
Check the type or types used at the facility referenced in the application. Do not include any previously permitted, registered, or exempted burning equipment. If multiple types are utilized check as necessary. If a process other than oxyacetylene or oxymethane is used for flame-cutting, please describe the process.
- B. *State Maximum Metal Thickness Cut: inches*  
Self-explanatory. It is very important to state the maximum thickness cut as this will be specified on the permit, registration, or exemption letter that is issued as a result of this application.
- C. *State Maximum Metal Cutting Rate: inches per minute*  
Self-explanatory. It is very important to state the maximum cutting rate as this will be specified on the permit, registration, or exemption letter that is issued as a result of this application.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form CC

**Welding and Oxygen Cutting of Metal**

**1. Process Identification:**

Welding		Flame-cutting	
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**2. Welding:**

Welding	Number of welding stations	Type of wire used	Maximum hourly consumption of wire per station
Submerged arc			
Metal Inert Gas (MIG)			

Welding	Number of welding stations	Type of electrode used	Number of electrodes per hr	Weight of electrode
Stick				

Welding	Number of welding stations	Maximum hourly metal consumed per station
Tungsten Inert Gas (TIG)		
Oxyacetylene		

**3. Cutting:**

Check Type of Flame-Cutting:

Oxyacetylene	Oxymethane	Other (state type)

Maximum metal thickness cut (inches)	Maximum metal cutting rate (inches/minute)

**Reinforced Plastics and Composites**

**A. Product Information**

1. **Products Produced** - Write a detailed description of the products produced, such as recreational vehicles, truck cabs, boats, shower stalls, bathtubs, spas, and counter tops.
2. **Component** - Write a brief description of the components of the product produced.

**B. Parameters Used To Determine Emissions**

3. **Material** - Indicated the identification name of the raw material used. Attach a copy of the MSDS.
4. **Process** - Indicate the fabrication process used, such as: hand layup, spray layup, continuous lamination, pultrusion, filament winding, marble casting, and closed-die molding.
5. **Density (pounds/gallons)** - Indicate the density of the resin of the material used.
6. **Weight % Monomer** - Indicate the weight percentage of the monomer of the resin. The contents of the catalyst or hardener are assumed to be polymerized in the plastic.
7. **Usage (gallons/unit)** - Indicate the amount of resin used to fabricate one unit. Please fill a line for each material resin or gel coat for each component.
8. **Production Rate (unit/hour)** - Indicated the maximum hourly rate which the reinforced plastic and composites units can be manufactured. It is important to indicate the maximum production rate as this will be stipulated in the permit.
9. **Cleanup Solvent (pound/unit)** - Indicate the amount of cleanup solvent used. If multiple units are produced between cleanups, determine the average amount used. This also includes the solvent used to remove the release agent that sticks to the unit.

**C. Parameters Used To Determine Flash Off Factors**

Item Nos. 10 to 16 are needed to determine the flash off factors of the fiberglass operation. If these items are not filled out, the following flash off factors will be used in the emissions calculations as default:

- |    |                            |         |
|----|----------------------------|---------|
| a) | resin non-spray layup (ns) | = 15.4% |
| b) | resin spray layup (s)      | = 25.9% |
| c) | gel coat (gc)              | = 52.1% |

10. **Application Type** - The three (3) most common application types are:
  - a) resin non-spray layup (ns),
  - b) resin spray layup (s), and
  - c) gel coat (gc).

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form DD Instructions  
Page 2 of 2

11. **Thickness of Part (inches)** - Indicate the thickness of the applied coating. For resin chop, this thickness excludes the thickness of fibers.
12. **Weight % of VOC Content** - Indicate the volatile compound content of the coating specified on the coatings MSDS sheet.
13. **Gel Time (minutes)** - Indicated the amount of time it takes for the applied coating to set or solidify.
14. **Resin Flow Rate (pounds/minute)** - Indicate the delivery rate of the resin coating through the spray gun. This is required for spray layup of resin only.
15. **Gel Coat Flow Rate (pounds/minute)** - Indicate the delivery rate of the gel coat through the spray gun. This is required for spray layup of gel coat only.
16. **Air Flow Velocity (feet/minute)** - Indicate the velocity of the air flowing parallel to and just above the mold surface as measured directly or calculated based on the cross sectional area of the spray booth perpendicular to the direction of air flow across the mold and the air exhaust rate of the booth.
17. **Number of Copies** - Please fill out copies of Form DD as needed and indicate how many pages of Form DD is submitted.

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
- AIR POLLUTION CONTROL DIVISION -

Form DD

State Form 46978 (Revised 3/4/98)

**Reinforced Plastics and Composites**

**A. Product Information**

1 Products Produced	2 Component

**B. Parameters Used To Determine Emissions**

3 Material	4 Process	5 Density	6 Weight % Monomer	7 Usage (gal/unit)	8 Production Rate (unit/hr)	9 Cleanup Solvent (lb/unit)

**C. Parameters Used To Determine Flash Off Factors**

10 Application Type	11 Thickness of Part (inches)	12 Weight % VOC Content (Styrene)	13 Gel Time (min)	14 Resin Flow Rate (lbs/min)	15 Gel Coat Flow Rate (lbs/min)	16 Air Flow Velocity (ft/min)
Resin Non-Spray Layup (ns)				NA	NA	
Resin Spray Layup (s)					NA	
Gel Coat (gc)				NA		
17 Number of Form DD Submitted:	Need Help? Please call 317/233-2882 and ask for the Permit Reviewer of the Day.					

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- AIR POLLUTION CONTROL DIVISION -