



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL CERTIFIED MAIL  
LUCAS COUNTY**

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 04-01197**

**DATE: 05/03/00**

Rieter Automotive North America Inc  
Steve Thomas  
645 N Lallendorf Rd  
Oregon, OH 43616

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, buy it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
236 East Town Street, Room 300  
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo, Manager  
Field Operations and Permit Section  
Division of Air Pollution Control

CC: USEPA  
Michael White, City of Oregon

TDES



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

**FINAL PERMIT TO INSTALL 04-01197**

Application Number: 04-01197  
APS Premise Number: 0448020035  
Permit Fee: **\$800**  
Name of Facility: Rieter Automotive North America Inc  
Person to Contact: Steve Thomas  
Address: 645 N Lallendorf Rd  
Oregon, OH 43616

Location of proposed air contaminant source(s) [emissions unit(s)]:

**645 N Lallendorf Rd  
Oregon, Ohio**

Description of proposed emissions unit(s):

**(4) Steam assisted molding presses.**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Rieter Automotive North America Inc  
PTI Application: 04-01197  
DATE: May 3, 2000

Facility ID: 0448020035

## Part I - GENERAL TERMS AND CONDITIONS

### A. Permit to Install General Terms and Conditions

#### 1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

#### 2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

#### 3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

#### 4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

**Rieter Automotive North America Inc**  
**PTI Application: 04-01197**  
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**Facility ID: 0448020035**

representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

**6. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

**7. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

**8. Termination of Permit to Install**

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

**9. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio

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Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities prove to be inadequate or cannot meet applicable standards.

**10. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

**11. Applicability**

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit to Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

**12. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

**13. Source Operation and Operating Permit Requirements After Completion of Construction**

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the emissions unit(s) covered by this permit.

**14. Construction Compliance Certification**

**Rieter Automotive North America Inc**  
**PTI Application: 04-01197**  
**DATE: May 3, 2000**

**Facility ID: 0448020035**

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

**15. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

**B. Permit to Install Summary of Allowable Emissions**

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

**SUMMARY (for informational purposes only)**  
**TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons Per Year</u>
PM	8.2
OC	8.0

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**PART II: SPECIAL TERMS AND CONDITIONS**

**A. Applicable Emissions Limitations and/or Control Requirements**

- 1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P025: 600 pounds per hour steam assisted molding press, SDA Plus Press #1 with 3 emissions points	OAC rule 3745-17-07(B)(1) OAC 3745-17-08(B)(3)
Scrubber stack	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)
Press emissions stack	OAC rule 3745-17-11(A)(2) OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)
Fugitive emissions	OAC rule 3745-17-11(A)(2) OAC rule 3745-31-05(A)(3)

Applicable Emissions  
Limitations/Control Measures

0.16 pound per hour and 0.69 ton per year of particulates;  
0.24 pound per hour and 1.1 tons per year of OC.

20% opacity as a six-minute average, unless otherwise specified by the rule

See 2.a

0.29 pound per hour and 1.3 tons per year of particulates;  
0.20 pound per hour and 0.85 ton per year OC.

20% opacity as a six-minute average, unless otherwise specified by the rule

See 2.a

0.07 ton per year particulates;  
0.05 ton per year OC.

20% opacity as a three-minute average

See 2.a

**2. Additional Terms and Conditions**

- 2.a** The emission limitation established by this applicable regulation is equivalent to or less stringent than the emission limitation established by OAC 3745-31-05.
- 2.b** Tool emissions shall be controlled by a venturi scrubber followed by a packed bed scrubber.

**B. Operational Restrictions****1. Scrubber No. 1 Operational Restrictions**

- a. The pressure drop across Scrubber #1 shall be continuously maintained at a value of not less than 0.7 inch of water at all times while the emissions unit is in operation.
- b. The Scrubber #1 water flow rate shall be continuously maintained at a value of not less than 900 gallons per minute at all times while the emissions unit is in operation.
- c. The pH of the Scrubber #1 liquor shall be maintained within the range of 3 to 6.
- d. The oxidation-reduction potential of the Scrubber #1 liquor shall be maintained within the range of 200 to 600 (unitless).

**2. Scrubber No. 2 Operational Restrictions**

The permittee has identified that Scrubber #2 may be used in lieu of Scrubber No. 1 in the future. The following operational restrictions apply if emissions are controlled by Scrubber No. 2 rather than Scrubber No. 1.

- a. The pressure drop across Scrubber #2 shall be continuously maintained at a value of not less than 1 inch of water at all times while the emissions unit is in operation.
- b. The Scrubber #2 water flow rate shall be continuously maintained at a value of not less than 900 gallons per minute at all times while the emissions unit is in operation.
- c. The pH of the Scrubber #2 liquor shall be maintained within the range of 3 to 6.
- d. The oxidation-reduction potential of the Scrubber #2 liquor shall be maintained within the range of 200 to 600 (unitless).

**C. Monitoring and/or Recordkeeping Requirements**

## 1. Scrubber Monitoring Requirements

- a. The permittee shall properly operate and maintain equipment to monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.
- b. The permittee shall properly operate and maintain equipment to continuously monitor the pH of the scrubber liquor and the oxidation-reduction potential of the scrubber liquor while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

## 2. Scrubber Recordkeeping Requirements

The permittee shall collect and record the following information each day:

- a. The pressure drop across the scrubber, in inches of water, once per shift.
- b. The scrubber water flow rate, in gallons per minute, once per shift.
- c. The pH of the scrubber liquor on an hourly basis.
- d. The oxidation-reduction potential of the scrubber liquor on an hourly basis.
- e. A log of the downtime for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## D. Reporting Requirements

### 1. Scrubber Reporting Requirements

- a. The permittee shall submit semi-annual deviation (excursion) reports that identify all periods of time during which the following parameters for Scrubber #1 or Scrubber #2 were not maintained at or above the required levels while the emissions unit is in operation:
  - i. the pressure drop across the scrubber;

- ii. the scrubber water flow rate;
  - iii. the pH of the scrubber liquor; and,
  - iv. the oxidation-reduction potential of the scrubber liquor.
- b. These semi-annual reports shall be submitted by February 1 and August 1 of each year and shall cover the previous six calendar months (July through December and January through June, respectively).

#### E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
  - a. Emission Limitation:  
  
20% opacity as a six-minute average (Scrubber stack and press emissions stack)  
  
Applicable Compliance Method:  
  
if required, the permittee shall demonstrate compliance through visible emissions readings performed in accordance with OAC rule 3745-17-03(B)(1).
  - b. Emission Limitation:  
  
20% opacity as a three-minute average (fugitive emissions)  
  
Applicable Compliance Method:  
  
if required, the permittee shall demonstrate compliance through visible emissions readings performed in accordance with OAC rule 3745-17-03(B)(3).
  - c. Emission Limitation:  
  
0.16 pound per hour of particulates. (Scrubber stack)  
  
Applicable Compliance Method:  
  
compliance shall be demonstrated through the monitoring and recordkeeping requirements

of Section C. If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with OAC rule 3745-17-03(B)(10).

d. Emission Limitation:

0.69 ton per year of particulates (Scrubber stack)

Applicable Compliance Method:

Compliance with the 0.16 lb/hr limit constitutes compliance with the ton/yr limit.

e. Emission Limitation:

0.29 pound per hour of particulates. (Press emissions stack)

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through stack testing performed in accordance with OAC rule 3745-17-03(B)(10).

f. Emission Limitation:

1.3 tons per year of particulates (Press emissions stack)

Applicable Compliance Method:

Compliance with the 0.29 lb/hr limit constitutes compliance with the ton/yr limit.

g. Emission Limitation:

0.07 tons per year of particulates (Fugitive emissions)

Applicable Compliance Method:

Compliance with the visible emissions limitation of 20% opacity as a 3-minute average constitutes compliance with the ton/yr limit.

h. Emission Limitation:

0.24 pound per hour of organic compounds (OC) (Scrubber stack)

Applicable Compliance Method:

compliance shall be demonstrated through the monitoring and recordkeeping requirements of Section C. If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with the methods and procedures of OAC rule 3745-21-10(C).

i. Emission Limitation:

1.1 tons per year of OC (Scrubber stack)

Applicable Compliance Method

Compliance with the 0.24 lb/hr limit constitutes compliance with the ton/yr limit.

j. Emission Limitation:

0.20 pound per hour of organic compounds (OC) (Press emissions stack)

Applicable Compliance Method:

If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with the methods and procedures of OAC rule 3745-21-10(C).

k. Emission Limitation:

0.85 tons per year of OC (Press emissions stack)

Applicable Compliance Method

Compliance with the 0.20 lb/hr limit constitutes compliance with the ton/yr limit.

l. Emission Limitation:

0.05 ton per year of OC (fugitive)

Applicable Compliance Method

If required, the permittee shall determine a fugitive emission factor by conducting

**Rieter Automotive North America Inc****PTI Application: 04 01107****DATE****Facility ID: 0448020035**Emissions Unit ID: **P025**

performance testing according to Method 204 of 40 CFR Part 60, Appendix A.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
  - a. The emission testing shall be conducted within 180 days of equipment start-up, but no later than 60 days after achieving the maximum rate of production.
  - b. The emission testing shall be conducted to determine the uncontrolled rate of OC emissions from this emissions unit's press emissions stack and tool exhaust.
  - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Method 25 or 25 A of 40 CFR 60 Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## **F. Miscellaneous Requirements**

**Rieter****PTI A****DATE: May 3, 2000**Emissions Unit ID: **P025**

1. This permit allows the use of materials (typically coatings and cleanup materials) specified by the permittee in the permit to install application for this emissions unit. To fulfill the best available technology requirements of (OAC) rule 3745-31-05 and to ensure compliance with OAC rule 3745-15-07 (Air Pollution Nuisances Prohibited), the emission limitation(s) specified in this permit was (were) established using the Ohio EPA's "Air Toxic Policy" and is (are) based on both the materials used and the design parameters of the emissions unit's exhaust system, as specified in the application. The Ohio EPA's "Air Toxic Policy" was applied for each pollutant using the SCREEN 3.0 model and comparing the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for each pollutant:

Pollutant:	ammonia
TLV (ug/m3):	17,000
Maximum Hourly Emission Rate (lbs/hr):	0.35
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3):	23
MAGLC (ug/m3):	410

2. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by the OAC rule 3745-31-01. The permittee is hereby advised that the following changes to the process may be determined to be a "modification":
  - a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;
  - b. changes to the emissions unit or its exhaust parameters (e.g., increased emission rate [not including an increase in an "allowable" emission limitation specified in the terms and conditions of this permit], reduced exhaust gas flow rate, and decreased stack height);
  - c. changes in the composition of the materials used, or use of new materials, that would result in the emission of an air contaminant not previously permitted; and

- d. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV.
3. The Ohio EPA will not consider any of the above-mentioned as a "modification" requiring a permit to install, if the following conditions are met:
  - a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
  - b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and
  - c. prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.
4. For any change to the emissions unit or its method of operation that either would require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01, the permittee shall obtain a final permit to install prior to the change.
5. The permittee shall collect and record the following information for each change where the air toxic modeling was required pursuant to the Air Toxic Policy:
  - a. background data that describes the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.); and
  - b. a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.
6. The air contaminants emitted by this emissions unit shall not cause a public nuisance, in violation of OAC rule 3745-15-07. If it is determined by the Ohio EPA that odor from this emissions unit is causing a public nuisance, then the permittee shall implement measures to reduce odor to an acceptable level.

Rieter  
PTI A  
DATE: May 3, 2000

Emissions Unit ID: P026

**PART II: SPECIAL TERMS AND CONDITIONS [Continued]**

**A. Applicable Emissions Limitations and/or Control Requirements**

- 1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P026: 600 pounds per hour steam assisted molding press, SDA Plus Press #2 with 3 emissions points		OAC rule 3745-17-07(B)(1)
Scrubber stack	OAC rule 3745-31-05(A)(3)	OAC 3745-17-08(B)(3)
Press emissions stack	OAC rule 3745-17-07(A)(1)	
	OAC rule 3745-17-11(A)(2)	
	OAC rule 3745-31-05(A)(3)	
	OAC rule 3745-17-07(A)(1)	
Fugitive emissions	OAC rule 3745-17-11(A)(2)	
	OAC rule 3745-31-05(A)(3)	

**Rieter**

**PTI A**

**DATE: May 3, 2000**

Emissions Unit ID: **P026**

Applicable Emissions  
Limitations/Control Measures

0.16 pound per hour and 0.69 ton per year of particulates;  
0.24 pound per hour and 1.1 tons per year of OC.

20% opacity as a six-minute average, unless otherwise specified by the rule

See 2.a

0.29 pound per hour and 1.3 tons per year of particulates;  
0.20 pound per hour and 0.85 ton per year OC.

20% opacity as a six-minute average, unless otherwise specified by the rule

See 2.a

0.07 ton per year particulates;  
0.05 ton per year OC.

20% opacity as a three-minute average

See 2.a

**2. Additional Terms and Conditions**

- 2.a The emission limitation established by this applicable regulation is equivalent to or less stringent than the emission limitation established by OAC 3745-31-05.
- 2.b Tool emissions shall be controlled by a venturi scrubber followed by a packed bed scrubber.

## B. Operational Restrictions

### 1. Scrubber No. 1 Operational Restrictions

- a. The pressure drop across Scrubber #1 shall be continuously maintained at a value of not less than 0.7 inch of water at all times while the emissions unit is in operation.
- b. The Scrubber #1 water flow rate shall be continuously maintained at a value of not less than 900 gallons per minute at all times while the emissions unit is in operation.
- c. The pH of the Scrubber #1 liquor shall be maintained within the range of 3 to 6.
- d. The oxidation-reduction potential of the Scrubber #1 liquor shall be maintained within the range of 200 to 600 (unitless).

### 2. Scrubber No. 2 Operational Restrictions

The permittee has identified that Scrubber #2 may be used in lieu of Scrubber No. 1 in the future. The following operational restrictions apply if emissions are controlled by Scrubber No. 2 rather than Scrubber No. 1.

- a. The pressure drop across Scrubber #2 shall be continuously maintained at a value of not less than 1 inch of water at all times while the emissions unit is in operation.
- b. The Scrubber #2 water flow rate shall be continuously maintained at a value of not less than 900 gallons per minute at all times while the emissions unit is in operation.
- c. The pH of the Scrubber #2 liquor shall be maintained within the range of 3 to 6.
- d. The oxidation-reduction potential of the Scrubber #2 liquor shall be maintained within the range of 200 to 600 (unitless).

## C. Monitoring and/or Recordkeeping Requirements

### 1. Scrubber Monitoring Requirements

- a. The permittee shall properly operate and maintain equipment to monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.
- b. The permittee shall properly operate and maintain equipment to continuously monitor the pH of the scrubber liquor and the oxidation-reduction potential of the scrubber liquor while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

## 2. Scrubber Recordkeeping Requirements

The permittee shall collect and record the following information each day:

- a. The pressure drop across the scrubber, in inches of water, once per shift.
- b. The scrubber water flow rate, in gallons per minute, once per shift.
- c. The pH of the scrubber liquor on an hourly basis.
- d. The oxidation-reduction potential of the scrubber liquor on an hourly basis.
- e. A log of the downtime for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## D. Reporting Requirements

### 1. Scrubber Reporting Requirements

- a. The permittee shall submit semi-annual deviation (excursion) reports that identify all periods of time during which the following parameters for Scrubber #1 or Scrubber #2 were not maintained at or above the required levels while the emissions unit is in operation:
  - i. the pressure drop across the scrubber;
  - ii. the scrubber water flow rate;

- iii. the pH of the scrubber liquor; and,
  - iv. the oxidation-reduction potential of the scrubber liquor.
- b. These semi-annual reports shall be submitted by February 1 and August 1 of each year and shall cover the previous six calendar months (July through December and January through June, respectively).

## E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
  - a. Emission Limitation:  
  
20% opacity as a six-minute average (Scrubber stack and press emissions stack)  
  
Applicable Compliance Method:  
  
if required, the permittee shall demonstrate compliance through visible emissions readings performed in accordance with OAC rule 3745-17-03(B)(1).
  - b. Emission Limitation:  
  
20% opacity as a three-minute average (fugitive emissions)  
  
Applicable Compliance Method:  
  
if required, the permittee shall demonstrate compliance through visible emissions readings performed in accordance with OAC rule 3745-17-03(B)(3).
  - c. Emission Limitation:  
  
0.16 pound per hour of particulates. (Scrubber stack)  
  
Applicable Compliance Method:  
  
compliance shall be demonstrated through the monitoring and recordkeeping requirements of Section C. If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with OAC rule 3745-17-03(B)(10).
  - d. Emission Limitation:  
  
0.69 ton per year of particulates (Scrubber stack)  
  
Applicable Compliance Method:  
  
Compliance with the 0.16 lb/hr limit constitutes compliance with the ton/yr limit.

- e. Emission Limitation:
- 0.29 pound per hour of particulates. (Press emissions stack)
- Applicable Compliance Method:
- If required, the permittee shall demonstrate compliance through stack testing performed in accordance with OAC rule 3745-17-03(B)(10).
- f. Emission Limitation:
- 1.3 tons per year of particulates (Press emissions stack)
- Applicable Compliance Method:
- Compliance with the 0.29 lb/hr limit constitutes compliance with the ton/yr limit.
- g. Emission Limitation:
- 0.07 ton per year of particulates (Fugitive emissions)
- Applicable Compliance Method:
- Compliance with the visible emissions limitation of 20% opacity as a 3-minute average constitutes compliance with the ton/yr limit.
- h. Emission Limitation:
- 0.24 pound per hour of organic compounds (OC) (Scrubber stack)
- Applicable Compliance Method:
- compliance shall be demonstrated through the monitoring and recordkeeping requirements of Section C. If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with the methods and procedures of OAC rule 3745-21-10(C).
- i. Emission Limitation:
- 1.1 tons per year of OC (Scrubber stack)

Applicable Compliance Method

Compliance with the 0.24 lb/hr limit constitutes compliance with the ton/yr limit.

j. Emission Limitation:

0.20 pound per hour of organic compounds (OC) (Press emissions stack)

Applicable Compliance Method:

If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with the methods and procedures of OAC rule 3745-21-10(C).

k. Emission Limitation:

0.85 ton per year of OC (Press emissions stack)

Applicable Compliance Method

Compliance with the 0.20 lb/hr limit constitutes compliance with the ton/yr limit.

l. Emission Limitation:

0.05 ton per year of OC (fugitive)

Applicable Compliance Method

If required, the permittee shall determine a fugitive emission factor by conducting performance testing according to Method 204 of 40 CFR Part 60, Appendix A.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 180 days of equipment start-up, but no later than 60 days after achieving the maximum rate of production.
- b. The emission testing shall be conducted to determine the uncontrolled rate of OC emissions from this emissions unit's press emissions stack and tool exhaust.

**Rieter****PTI A****DATE: May 3, 2000**Emissions Unit ID: **P026**

- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Method 25 or 25 A of 40 CFR 60 Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## **F. Miscellaneous Requirements**

1. This permit allows the use of materials (typically coatings and cleanup materials) specified by the permittee in the permit to install application for this emissions unit. To fulfill the best available technology requirements of (OAC) rule 3745-31-05 and to ensure compliance with OAC rule 3745-15-07 (Air Pollution Nuisances Prohibited), the emission limitation(s) specified in this permit was (were) established using the Ohio EPA's "Air Toxic Policy" and is (are) based on both the materials used and the design parameters of the emissions unit's exhaust system, as specified in the application. The Ohio EPA's "Air Toxic Policy" was applied for each pollutant using the SCREEN 3.0 model and comparing the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes

the results of the modeling for each pollutant:

Pollutant:	ammonia
TLV (ug/m3):	17,000
Maximum Hourly Emission Rate (lbs/hr):	0.35
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3):	23
MAGLC (ug/m3):	410

2. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by the OAC rule 3745-31-01. The permittee is hereby advised that the following changes to the process may be determined to be a "modification":
  - a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;
  - b. changes to the emissions unit or its exhaust parameters (e.g., increased emission rate [not including an increase in an "allowable" emission limitation specified in the terms and conditions of this permit], reduced exhaust gas flow rate, and decreased stack height);
  - c. changes in the composition of the materials used, or use of new materials, that would result in the emission of an air contaminant not previously permitted; and
  - d. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV.
  
3. The Ohio EPA will not consider any of the above-mentioned as a "modification" requiring a permit to install, if the following conditions are met:
  - a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
  - b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and

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Emissions Unit ID: P026

- c. prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.
4. For any change to the emissions unit or its method of operation that either would require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01, the permittee shall obtain a final permit to install prior to the change.
5. The permittee shall collect and record the following information for each change where the air toxic modeling was required pursuant to the Air Toxic Policy:
  - a. background data that describes the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.); and
  - b. a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.
6. The air contaminants emitted by this emissions unit shall not cause a public nuisance, in violation of OAC rule 3745-15-07. If it is determined by the Ohio EPA that odor from this emissions unit is causing a public nuisance, then the permittee shall implement measures to reduce odor to an acceptable level.

Rieter

PTI A

DATE: May 3, 2000

Emissions Unit ID: P027

**PART II: SPECIAL TERMS AND CONDITIONS [Continued]**

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P027: 600 pounds per hour steam assisted molding press, SDA Plus Press #3 with 3 emissions points	OAC rule 3745-17-07(B)(1) OAC 3745-17-08(B)(3)
Scrubber stack	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-11(A)(2)
Press emissions stack	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07(A)(1)
	OAC rule 3745-17-11(A)(2)
Fugitive emissions	OAC rule 3745-31-05(A)(3)

**Rieter**

**PTI A**

**DATE: May 3, 2000**

Emissions Unit ID: **P027**

Applicable Emissions  
Limitations/Control Measures

0.16 pound per hour and 0.69 ton per year of particulates;  
0.24 pound per hour and 1.1 tons per year of OC.

20% opacity as a six-minute average, unless otherwise specified by the rule

See 2.a

0.29 pound per hour and 1.3 tons per year of particulates;  
0.20 pound per hour and 0.85 ton per year OC.

20% opacity as a six-minute average, unless otherwise specified by the rule

See 2.a

0.07 ton per year particulates;  
0.05 ton per year OC.

20% opacity as a three-minute average

See 2.a

**2. Additional Terms and Conditions**

- 2.a The emission limitation established by this applicable regulation is equivalent to or less stringent than the emission limitation established by OAC 3745-31-05.
- 2.b Tool emissions shall be controlled by a venturi scrubber followed by a packed bed scrubber.

## B. Operational Restrictions

### 1. Scrubber No. 1 Operational Restrictions

- a. The pressure drop across Scrubber #1 shall be continuously maintained at a value of not less than 0.7 inch of water at all times while the emissions unit is in operation.
- b. The Scrubber #1 water flow rate shall be continuously maintained at a value of not less than 900 gallons per minute at all times while the emissions unit is in operation.
- c. The pH of the Scrubber #1 liquor shall be maintained within the range of 3 to 6.
- d. The oxidation-reduction potential of the Scrubber #1 liquor shall be maintained within the range of 200 to 600 (unitless).

### 2. Scrubber No. 2 Operational Restrictions

The permittee has identified that Scrubber #2 may be used in lieu of Scrubber No. 1 in the future. The following operational restrictions apply if emissions are controlled by Scrubber No. 2 rather than Scrubber No. 1.

- a. The pressure drop across Scrubber #2 shall be continuously maintained at a value of not less than 1 inch of water at all times while the emissions unit is in operation.
- b. The Scrubber #2 water flow rate shall be continuously maintained at a value of not less than 900 gallons per minute at all times while the emissions unit is in operation.
- c. The pH of the Scrubber #2 liquor shall be maintained within the range of 3 to 6.
- d. The oxidation-reduction potential of the Scrubber #2 liquor shall be maintained within the range of 200 to 600 (unitless).

## C. Monitoring and/or Recordkeeping Requirements

### 1. Scrubber Monitoring Requirements

- a. The permittee shall properly operate and maintain equipment to monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.
- b. The permittee shall properly operate and maintain equipment to continuously monitor the pH of the scrubber liquor and the oxidation-reduction potential of the scrubber liquor while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

## 2. Scrubber Recordkeeping Requirements

The permittee shall collect and record the following information each day:

- a. The pressure drop across the scrubber, in inches of water, once per shift.
- b. The scrubber water flow rate, in gallons per minute, once per shift.
- c. The pH of the scrubber liquor on an hourly basis.
- d. The oxidation-reduction potential of the scrubber liquor on an hourly basis.
- e. A log of the downtime for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## D. Reporting Requirements

### 1. Scrubber Reporting Requirements

- a. The permittee shall submit semi-annual deviation (excursion) reports that identify all periods of time during which the following parameters for Scrubber #1 or Scrubber #2 were not maintained at or above the required levels while the emissions unit is in operation:
  - i. the pressure drop across the scrubber;
  - ii. the scrubber water flow rate;

- iii. the pH of the scrubber liquor; and,
  - iv. the oxidation-reduction potential of the scrubber liquor.
- b. These semi-annual reports shall be submitted by February 1 and August 1 of each year and shall cover the previous six calendar months (July through December and January through June, respectively).

**Rieter****PTI A****DATE: May 3, 2000**Emissions Unit ID: **P027****E. Testing Requirements**

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:

20% opacity as a six-minute average (Scrubber stack and press emissions stack)

Applicable Compliance Method:

if required, the permittee shall demonstrate compliance through visible emissions readings performed in accordance with OAC rule 3745-17-03(B)(1).

- b. Emission Limitation:

20% opacity as a three-minute average (fugitive emissions)

Applicable Compliance Method:

if required, the permittee shall demonstrate compliance through visible emissions readings performed in accordance with OAC rule 3745-17-03(B)(3).

- c. Emission Limitation:

0.16 pound per hour of particulates. (Scrubber stack)

Applicable Compliance Method:

compliance shall be demonstrated through the monitoring and recordkeeping requirements of Section C. If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with OAC rule 3745-17-03(B)(10).

- d. Emission Limitation:

0.69 ton per year of particulates (Scrubber stack)

Applicable Compliance Method:

Compliance with the 0.16 lb/hr limit constitutes compliance with the ton/yr limit.

- e. Emission Limitation:
- 0.29 pound per hour of particulates. (Press emissions stack)
- Applicable Compliance Method:
- If required, the permittee shall demonstrate compliance through stack testing performed in accordance with OAC rule 3745-17-03(B)(10).
- f. Emission Limitation:
- 1.3 tons per year of particulates (Press emissions stack)
- Applicable Compliance Method:
- Compliance with the 0.29 lb/hr limit constitutes compliance with the ton/yr limit.
- g. Emission Limitation:
- 0.07 ton per year of particulates (Fugitive emissions)
- Applicable Compliance Method:
- Compliance with the visible emissions limitation of 20% opacity as a 3-minute average constitutes compliance with the ton/yr limit.
- h. Emission Limitation:
- 0.24 pound per hour of organic compounds (OC) (Scrubber stack)
- Applicable Compliance Method:
- compliance shall be demonstrated through the monitoring and recordkeeping requirements of Section C. If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with the methods and procedures of OAC rule 3745-21-10(C).
- i. Emission Limitation:
- 1.1 tons per year of OC (Scrubber stack)

Applicable Compliance Method

Compliance with the 0.24 lb/hr limit constitutes compliance with the ton/yr limit.

j. Emission Limitation:

0.20 pound per hour of organic compounds (OC) (Press emissions stack)

Applicable Compliance Method:

If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with the methods and procedures of OAC rule 3745-21-10(C).

k. Emission Limitation:

0.85 ton per year of OC (Press emissions stack)

Applicable Compliance Method

Compliance with the 0.20 lb/hr limit constitutes compliance with the ton/yr limit.

l. Emission Limitation:

0.05 ton per year of OC (fugitive)

Applicable Compliance Method

If required, the permittee shall determine a fugitive emission factor by conducting performance testing according to Method 204 of 40 CFR Part 60, Appendix A.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 180 days of equipment start-up, but no later than 60 days after achieving the maximum rate of production.
- b. The emission testing shall be conducted to determine the uncontrolled rate of OC emissions from this emissions unit's press emissions stack and tool exhaust.

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- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Method 25 or 25 A of 40 CFR 60 Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## **F. Miscellaneous Requirements**

1. This permit allows the use of materials (typically coatings and cleanup materials) specified by the permittee in the permit to install application for this emissions unit. To fulfill the best available technology requirements of (OAC) rule 3745-31-05 and to ensure compliance with OAC rule 3745-15-07 (Air Pollution Nuisances Prohibited), the emission limitation(s) specified in this permit was (were) established using the Ohio EPA's "Air Toxic Policy" and is (are) based on both the materials used and the design parameters of the emissions unit's exhaust system, as specified in the application. The Ohio EPA's "Air Toxic Policy" was applied for each pollutant using the SCREEN 3.0 model and comparing the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes

the results of the modeling for each pollutant:

Pollutant:	ammonia
TLV (ug/m3):	17,000
Maximum Hourly Emission Rate (lbs/hr):	0.35
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3):	23
MAGLC (ug/m3):	410

2. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by the OAC rule 3745-31-01. The permittee is hereby advised that the following changes to the process may be determined to be a "modification":
  - a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;
  - b. changes to the emissions unit or its exhaust parameters (e.g., increased emission rate [not including an increase in an "allowable" emission limitation specified in the terms and conditions of this permit], reduced exhaust gas flow rate, and decreased stack height);
  - c. changes in the composition of the materials used, or use of new materials, that would result in the emission of an air contaminant not previously permitted; and
  - d. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV.
  
3. The Ohio EPA will not consider any of the above-mentioned as a "modification" requiring a permit to install, if the following conditions are met:
  - a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
  - b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and

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- c. prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.
4. For any change to the emissions unit or its method of operation that either would require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01, the permittee shall obtain a final permit to install prior to the change.
5. The permittee shall collect and record the following information for each change where the air toxic modeling was required pursuant to the Air Toxic Policy:
  - a. background data that describes the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.); and
  - b. a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.
6. The air contaminants emitted by this emissions unit shall not cause a public nuisance, in violation of OAC rule 3745-15-07. If it is determined by the Ohio EPA that odor from this emissions unit is causing a public nuisance, then the permittee shall implement measures to reduce odor to an acceptable level.

**PART II: SPECIAL TERMS AND CONDITIONS [Continued]**

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P028: 600 pounds per hour steam assisted molding press, SDA Plus Press #4 with 3 emissions points	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-07(B)(1) OAC 3745-17-08(B)(3)
Scrubber stack	OAC rule 3745-17-07(A)(1)	
	OAC rule 3745-17-11(A)(2)	
Press emissions stack	OAC rule 3745-31-05(A)(3)	
	OAC rule 3745-17-07(A)(1)	
	OAC rule 3745-17-11(A)(2)	
Fugitive emissions	OAC rule 3745-31-05(A)(3)	

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**DATE: May 3, 2000**

Emissions Unit ID: **P028**

Applicable Emissions  
Limitations/Control Measures

0.16 pound per hour and 0.69 ton per year of particulates;  
0.24 pound per hour and 1.1 tons per year of OC.

20% opacity as a six-minute average, unless otherwise specified by the rule

See 2.a

0.29 pound per hour and 1.3 tons per year of particulates;  
0.20 pound per hour and 0.85 ton per year OC.

20% opacity as a six-minute average, unless otherwise specified by the rule

See 2.a

0.07 ton per year particulates;  
0.05 ton per year OC.

20% opacity as a three-minute average

See 2.a

**2. Additional Terms and Conditions**

- 2.a** The emission limitation established by this applicable regulation is equivalent to or less stringent than the emission limitation established by OAC 3745-31-05.
- 2.b** Tool emissions shall be controlled by a venturi scrubber followed by a packed bed scrubber.

**B. Operational Restrictions****1. Scrubber No. 1 Operational Restrictions**

- a. The pressure drop across Scrubber #1 shall be continuously maintained at a value of not less than 0.7 inch of water at all times while the emissions unit is in operation.
- b. The Scrubber #1 water flow rate shall be continuously maintained at a value of not less than 900 gallons per minute at all times while the emissions unit is in operation.
- c. The pH of the Scrubber #1 liquor shall be maintained within the range of 3 to 6.
- d. The oxidation-reduction potential of the Scrubber #1 liquor shall be maintained within the range of 200 to 600 (unitless).

**2. Scrubber No. 2 Operational Restrictions**

The permittee has identified that Scrubber #2 may be used in lieu of Scrubber No. 1 in the future. The following operational restrictions apply if emissions are controlled by Scrubber No. 2 rather than Scrubber No. 1.

- a. The pressure drop across Scrubber #2 shall be continuously maintained at a value of not less than 1 inch of water at all times while the emissions unit is in operation.
- b. The Scrubber #2 water flow rate shall be continuously maintained at a value of not less than 900 gallons per minute at all times while the emissions unit is in operation.
- c. The pH of the Scrubber #2 liquor shall be maintained within the range of 3 to 6.
- d. The oxidation-reduction potential of the Scrubber #2 liquor shall be maintained within the range of 200 to 600 (unitless).

**C. Monitoring and/or Recordkeeping Requirements**

1. Scrubber Monitoring Requirements

- a. The permittee shall properly operate and maintain equipment to monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.
- b. The permittee shall properly operate and maintain equipment to continuously monitor the pH of the scrubber liquor and the oxidation-reduction potential of the scrubber liquor while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

2. Scrubber Recordkeeping Requirements

The permittee shall collect and record the following information each day:

- a. The pressure drop across the scrubber, in inches of water, once per shift.
- b. The scrubber water flow rate, in gallons per minute, once per shift.
- c. The pH of the scrubber liquor on an hourly basis.
- d. The oxidation-reduction potential of the scrubber liquor on an hourly basis.
- e. A log of the downtime for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**D. Reporting Requirements**

1. Scrubber Reporting Requirements

- a. The permittee shall submit semi-annual deviation (excursion) reports that identify all periods of time during which the following parameters for Scrubber #1 or Scrubber #2 were not maintained at or above the required levels while the emissions unit is in operation:
  - i. the pressure drop across the scrubber;

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**DATE**

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**Emissions Unit ID: P028**

- ii. the scrubber water flow rate;
  - iii. the pH of the scrubber liquor; and,
  - iv. the oxidation-reduction potential of the scrubber liquor.
- b. These semi-annual reports shall be submitted by February 1 and August 1 of each year and shall cover the previous six calendar months (July through December and January through June, respectively).

**Rieter****PTI A****DATE: May 3, 2000**Emissions Unit ID: **P028****E. Testing Requirements**

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:

20% opacity as a six-minute average (Scrubber stack and press emissions stack)

Applicable Compliance Method:

if required, the permittee shall demonstrate compliance through visible emissions readings performed in accordance with OAC rule 3745-17-03(B)(1).

- b. Emission Limitation:

20% opacity as a three-minute average (fugitive emissions)

Applicable Compliance Method:

if required, the permittee shall demonstrate compliance through visible emissions readings performed in accordance with OAC rule 3745-17-03(B)(3).

- c. Emission Limitation:

0.16 pound per hour of particulates. (Scrubber stack)

Applicable Compliance Method:

compliance shall be demonstrated through the monitoring and recordkeeping requirements of Section C. If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with OAC rule 3745-17-03(B)(10).

- d. Emission Limitation:

0.69 ton per year of particulates (Scrubber stack)

Applicable Compliance Method:

Compliance with the 0.16 lb/hr limit constitutes compliance with the ton/yr limit.

- e. Emission Limitation:
- 0.29 pound per hour of particulates. (Press emissions stack)
- Applicable Compliance Method:
- If required, the permittee shall demonstrate compliance through stack testing performed in accordance with OAC rule 3745-17-03(B)(10).
- f. Emission Limitation:
- 1.3 tons per year of particulates (Press emissions stack)
- Applicable Compliance Method:
- Compliance with the 0.29 lb/hr limit constitutes compliance with the ton/yr limit.
- g. Emission Limitation:
- 0.07 ton per year of particulates (Fugitive emissions)
- Applicable Compliance Method:
- Compliance with the visible emissions limitation of 20% opacity as a 3-minute average constitutes compliance with the ton/yr limit.
- h. Emission Limitation:
- 0.24 pound per hour of organic compounds (OC) (Scrubber stack)
- Applicable Compliance Method:
- compliance shall be demonstrated through the monitoring and recordkeeping requirements of Section C. If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with the methods and procedures of OAC rule 3745-21-10(C).
- i. Emission Limitation:

1.1 tons per year of OC (Scrubber stack)

Applicable Compliance Method

Compliance with the 0.24 lb/hr limit constitutes compliance with the ton/yr limit.

j. Emission Limitation:

0.20 pound per hour of organic compounds (OC) (Press emissions stack)

Applicable Compliance Method:

If required, the permittee shall also demonstrate compliance through stack testing performed in accordance with the methods and procedures of OAC rule 3745-21-10(C).

k. Emission Limitation:

0.85 ton per year of OC (Press emissions stack)

Applicable Compliance Method

Compliance with the 0.20 lb/hr limit constitutes compliance with the ton/yr limit.

l. Emission Limitation:

0.05 ton per year of OC (fugitive)

Applicable Compliance Method

If required, the permittee shall determine a fugitive emission factor by conducting performance testing according to Method 204 of 40 CFR Part 60, Appendix A.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 180 days of equipment start-up, but no later than 60 days after achieving the maximum rate of production.

b. The emission testing shall be conducted to determine the uncontrolled rate of OC emissions from this emissions unit's press emissions stack and tool exhaust.

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- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Method 25 or 25 A of 40 CFR 60 Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## **F. Miscellaneous Requirements**

1. This permit allows the use of materials (typically coatings and cleanup materials) specified by the permittee in the permit to install application for this emissions unit. To fulfill the best available technology requirements of (OAC) rule 3745-31-05 and to ensure compliance with OAC rule 3745-15-07 (Air Pollution Nuisances Prohibited), the emission limitation(s) specified in this permit was (were) established using the Ohio EPA's "Air Toxic Policy" and is (are) based on both the materials used and the design parameters of the emissions unit's exhaust system, as specified in the application. The Ohio EPA's "Air Toxic Policy" was applied for each pollutant using the SCREEN 3.0 model and comparing the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes

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the results of the modeling for each pollutant:

Pollutant:	ammonia
TLV (ug/m3):	17,000
Maximum Hourly Emission Rate (lbs/hr):	0.35
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3):	23
MAGLC (ug/m3):	410

2. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by the OAC rule 3745-31-01. The permittee is hereby advised that the following changes to the process may be determined to be a "modification":
  - a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;
  - b. changes to the emissions unit or its exhaust parameters (e.g., increased emission rate [not including an increase in an "allowable" emission limitation specified in the terms and conditions of this permit], reduced exhaust gas flow rate, and decreased stack height);
  - c. changes in the composition of the materials used, or use of new materials, that would result in the emission of an air contaminant not previously permitted; and
  - d. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV.
  
3. The Ohio EPA will not consider any of the above-mentioned as a "modification" requiring a permit to install, if the following conditions are met:
  - a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
  - b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and

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- c. prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.
4. For any change to the emissions unit or its method of operation that either would require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01, the permittee shall obtain a final permit to install prior to the change.
5. The permittee shall collect and record the following information for each change where the air toxic modeling was required pursuant to the Air Toxic Policy:
  - a. background data that describes the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.); and
  - b. a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.
6. The air contaminants emitted by this emissions unit shall not cause a public nuisance, in violation of OAC rule 3745-15-07. If it is determined by the Ohio EPA that odor from this emissions unit is causing a public nuisance, then the permittee shall implement measures to reduce odor to an acceptable level.

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 PTI SUMMARY/SAMPLE CALCULATIONS

#### Description

This permit to install is for four 600 pound per hour steam-assisted molding presses used to create sound dampening and insulating panels for the automotive industry. These panels are created by mixing and heat curing a powdered polymer in a stabilized matrix (e.g., cotton batting). These presses have two emissions points, "press" and "tool", which lead to 3 emissions point types from the facility (scrubber stack (1), press emissions stack (4) and fugitive). The molding press uses steam and pressure to mold the part. While the press is in a closed position, emissions are vented from the "tool" to a wet scrubber. After the part is heated and compressed, the press is lifted and emissions are given off and are referred to as "press" emissions. 95% of the press emissions are vented uncontrolled to the press emissions stack and 5% of the press emissions are emitted as fugitives. BAT for these presses is controlling the "tool" emissions with a wet scrubber and no control of the "press" emissions.

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## Applicable regulations

OAC rule 3745-17-07(A)(1) 20% opacity as a 6-minute average (stack)  
 OAC rule 3745-17-07(B)(1) 20% opacity as a 3-minute average (fugitives)  
 OAC 3745-17-08(B)(3) 0.030 grains per dscf or no visible emissions  
 OAC rule 3745-17-11(A)(2) 1.83 pounds particulates per hour  
 OAC 3745-31-05(A)(3) BAT

## BAT

Based on the cost evaluation and the results of previous stack testing of a similar press, Rieter has proposed control of the "tool" emissions with a wet scrubber and no control for the press emissions.

## Permit allowable emissions (each press)

OC Rieter submitted emission factors derived from stack test data from a similar press located at their facility in Lowell, IN.

Press Emissions	3.41E-04 lb/lb of product
Tool Emissions	6.25E-04 lb/lb of product

The Scrubber will control the tool emissions with a 35% control efficiency. (The efficiency of controlling the pollutants with odors is much higher: 89% for phenol, 60% for formaldehyde and 84% for ammonia). 95% of the press emissions will be vented to the press emissions stack and 5% of the press emissions will be fugitive.

Scrubber Stack:	0.24 lb/hr and 1.1 ton/yr
Press Emissions Stack:	0.20 lb/hr and 0.85 ton/yr
Fugitive	0.05 ton/yr

Total (4 Presses)	8.0 tons/yr
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The initial performance testing requirement will only be done to demonstrate that the emission factors submitted by Rieter are correct. The scrubber has been tested previously and has demonstrated that it can achieve the 35% control efficiency for OC as reported by Rieter.

PM Rieter has submitted the following emission factors from a similar press.

Press Emissions	5.12E-04 lb/lb product
Tool Emissions	3.41E-04 lb/lb product

The Scrubber will control the particulate emissions with a 23% control efficiency. 95% of the

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press emissions will be vented to the press emissions stack and 5% of the press emissions will be fugitive.

Scrubber Stack:	0.16 lb/hr and 0.69 ton/yr
Press Emissions Stack:	0.29 lb/hr and 1.3 tons/yr
Fugitive	0.07 ton/yr
 Total (4 Presses)	 8.0 tons/yr

Opacity 20% as a 6-minute average for stack emissions and 20% opacity as a 3-minute average for fugitive emissions.

#### Actual emissions

Rieter has indicated that the actual production rate will approach the permit allowable rate. Therefore actual emissions will be estimated as being equal to the allowable emissions listed above.

#### Air Toxics

Ammonia, phenol and formaldehyde will be emitted from these emissions units, however, only ammonia will be emitted at a rate greater than 1 ton per year as a total from all 4 emissions units. Rieter estimates an emission of 1.5 tons of ammonia per year (0.38 TPY per press) or 0.04 gram per second. Ammonia has a TWA of 25 ppm and a STEL/C of 35 ppm (from ACGIH 1998). At a molecular weight of 17.03 this equates to a TLV of 17,000  $\mu\text{g}/\text{m}^3$  and an allowable MAGLC of 410  $\mu\text{g}/\text{m}^3$ . Modeling indicates a maximum ground level concentration of 23  $\mu\text{g}/\text{m}^3$  per press, or 33  $\mu\text{g}/\text{m}^3$  total for when all press emissions are modeled together.

#### Fees

4 processes at 0 to 1,000 pounds per hour = 4(\$200) = \$800

#### Emission Calculations

Two Emission Points from the molding presses ("press" & "tool") lead to 3 emission points from the facility. The "tool" emissions are controlled by the scrubber and exit the scrubber stack.

95% of the "press" emissions exit the press emission stack while 5% of the "press" emissions are fugitive.

	Tool	Press	Press Stack 0.95(Press)	Fugitive 0.05(Press)	Scrubber Removed	Scrubber Stack
lb/hr						
PM	0.205	0.307	0.29165	0.01535	0.047	0.158
OC	0.375	0.205	0.19475	0.01025	0.131	0.244
Phenol	0.119	0	0	0	0.106	0.013
Formald	0.119	0	0	0	0.072	0.047

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	0.222	0.051	0.04845	0.00255	0.186	0.036	0.087
	Tool	Press	Press Stack	Fugitive	Scrubber Removed	Scrubber Stack	TOTAL
ton/yr			0.95(Press)	0.05(Press)			
PM	0.896	1.344	1.2768	0.0672	0.206	0.69	2.034
OC	1.642	0.896	0.8512	0.0448	0.575	1.067	1.963
Phenol	0.523	0	0	0	0.466	0.057	0.057
Formald	0.523	0	0	0	0.314	0.209	0.209
Ammonia	0.971	0.224	0.2128	0.0112	0.816	0.155	0.379

Modeling  
Input

	lb/hr	g/s	
Ammonia	0.087	0.01097	per press
	0.348	0.0439	total of 4 presses

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11/23/99

22:41:34

\*\*\* SCREEN3 MODEL RUN \*\*\*

\*\*\* VERSION DATED 96043 \*\*\*

Rieter Automotive 04-1197 (1 SDA+ Press), Ammonia

## SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT  
 EMISSION RATE (G/S) = .110000E-01  
 STACK HEIGHT (M) = 15.8488  
 STK INSIDE DIAM (M) = .2728  
 STK EXIT VELOCITY (M/S)= 4.0372  
 STK GAS EXIT TEMP (K) = 310.9282  
 AMBIENT AIR TEMP (K) = 293.0000  
 RECEPTOR HEIGHT (M) = .0000  
 URBAN/RURAL OPTION = RURAL  
 BUILDING HEIGHT (M) = 13.4105  
 MIN HORIZ BLDG DIM (M) = 106.6748  
 MAX HORIZ BLDG DIM (M) = 106.6748

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.  
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM  
 VOLUME FLOW RATE = 500.00000 (ACFM)

BUOY. FLUX = .042 M\*\*4/S\*\*3; MOM. FLUX = .286 M\*\*4/S\*\*2.

\*\*\* FULL METEOROLOGY \*\*\*

\*\*\*\*\*

\*\*\* SCREEN AUTOMATED DISTANCES \*\*\*

\*\*\*\*\*

\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES \*\*\*

DIST (M)	CONC (UG/M**3)	U10M STAB (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	SIGMA DWASH
1.	.0000	0	.0	.0	.00	.00	.00	NA
100.	19.96	6	1.0	1.3	10000.0	16.32	4.07	10.89 SS
200.	12.64	6	1.0	1.3	10000.0	16.32	7.73	13.73 SS
300.	8.868	6	1.0	1.3	10000.0	16.32	11.23	14.56 SS
400.	6.878	6	1.0	1.3	10000.0	16.32	14.64	15.41 SS
500.	5.623	6	1.0	1.3	10000.0	16.32	17.97	16.23 SS

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600.	4.749	6	1.0	1.3	10000.0	16.32	21.24	17.03	SS
700.	4.101	6	1.0	1.3	10000.0	16.32	24.46	17.80	SS
800.	3.600	6	1.0	1.3	10000.0	16.32	27.63	18.56	SS
900.	3.201	6	1.0	1.3	10000.0	16.32	30.78	19.30	SS
1000.	2.874	6	1.0	1.3	10000.0	16.32	33.88	20.02	SS
1100.	2.602	6	1.0	1.3	10000.0	16.32	36.96	20.73	SS
1200.	2.372	6	1.0	1.3	10000.0	16.32	40.01	21.42	SS
1300.	2.208	6	1.0	1.3	10000.0	16.32	43.04	21.37	SS
1400.	2.038	6	1.0	1.3	10000.0	16.32	46.05	21.99	SS
1500.	1.891	6	1.0	1.3	10000.0	16.32	49.03	22.57	SS
1600.	1.762	6	1.0	1.3	10000.0	16.32	51.99	23.13	SS
1700.	1.648	6	1.0	1.3	10000.0	16.32	54.94	23.68	SS
1800.	1.545	6	1.0	1.3	10000.0	16.32	57.87	24.22	SS
1900.	1.454	6	1.0	1.3	10000.0	16.32	60.78	24.75	SS
2000.	1.371	6	1.0	1.3	10000.0	16.32	63.68	25.27	SS
2100.	1.296	6	1.0	1.3	10000.0	16.32	66.56	25.79	SS
2200.	1.228	6	1.0	1.3	10000.0	16.32	69.42	26.29	SS
2300.	1.166	6	1.0	1.3	10000.0	16.32	72.28	26.79	SS
2400.	1.130	6	1.0	1.3	10000.0	16.32	75.12	26.48	SS
2500.	1.077	6	1.0	1.3	10000.0	16.32	77.95	26.97	SS
2600.	1.029	6	1.0	1.3	10000.0	16.32	80.76	27.39	SS
2700.	.9849	6	1.0	1.3	10000.0	16.32	83.57	27.79	SS
2800.	.9440	6	1.0	1.3	10000.0	16.32	86.36	28.20	SS
2900.	.9061	6	1.0	1.3	10000.0	16.32	89.15	28.59	SS
3000.	.8707	6	1.0	1.3	10000.0	16.32	91.92	28.98	SS
3500.	.7253	6	1.0	1.3	10000.0	16.32	105.65	30.83	SS
4000.	.6177	6	1.0	1.3	10000.0	16.32	119.17	32.57	SS
4500.	.5352	6	1.0	1.3	10000.0	16.32	132.50	34.20	SS
5000.	.4702	6	1.0	1.3	10000.0	16.32	145.67	35.75	SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

41. 22.78 6 1.0 1.3 10000.0 16.00 1.82 7.73 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)

DWASH=NO MEANS NO BUILDING DOWNWASH USED

DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED

DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED

DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X&lt;3\*LB

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\*\*\* SCREEN DISCRETE DISTANCES \*\*\*

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\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES \*\*\*

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DIST (M)	CONC (UG/M**3)	U10M STAB	USTK (M/S)	MIX (M/S)	HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
125.	18.26	6	1.0	1.3	10000.0	16.32	5.00	12.26	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)  
 DWASH=NO MEANS NO BUILDING DOWNWASH USED  
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED  
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED  
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3\*LB

\*\*\*\*\*  
 \*\*\* REGULATORY (Default) \*\*\*  
 PERFORMING CAVITY CALCULATIONS  
 WITH ORIGINAL SCREEN CAVITY MODEL  
 (BRODE, 1988)  
 \*\*\*\*\*

\*\*\* CAVITY CALCULATION - 1 \*\*\*      \*\*\* CAVITY CALCULATION - 2 \*\*\*  
 CONC (UG/M\*\*3) = .0000      CONC (UG/M\*\*3) = .0000  
 CRIT WS @10M (M/S) = 99.99      CRIT WS @10M (M/S) = 99.99  
 CRIT WS @ HS (M/S) = 99.99      CRIT WS @ HS (M/S) = 99.99  
 DILUTION WS (M/S) = 99.99      DILUTION WS (M/S) = 99.99  
 CAVITY HT (M) = 13.41      CAVITY HT (M) = 13.41  
 CAVITY LENGTH (M) = 62.46      CAVITY LENGTH (M) = 62.46  
 ALONGWIND DIM (M) = 106.67      ALONGWIND DIM (M) = 106.67

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

\*\*\*\*\*  
 END OF CAVITY CALCULATIONS  
 \*\*\*\*\*

\*\*\* INVERSION BREAK-UP FUMIGATION CALC. \*\*\*  
 CONC (UG/M\*\*3) = .0000  
 DIST TO MAX (M) = 99.21

DIST TO MAX IS < 2000. M. CONC SET = 0.0

\*\*\*\*\*  
 \*\*\* SUMMARY OF SCREEN MODEL RESULTS \*\*\*  
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**PTI A**

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Emissions Unit ID: **P028**

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
-----	-----	-----	-----
SIMPLE TERRAIN	22.78	41.	0.

\*\*\*\*\*  
\*\* REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS \*\*  
\*\*\*\*\*

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**Rieter**

**PTI A**

**DATE: May 3, 2000**

Emissions Unit ID: **P025**