State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

**TELE:** (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

12/31/02

**CERTIFIED MAIL**

**RE: Final Title V Chapter 3745-77 permit**

08-55-14-0417
Matsushita Display Devices Company of America
John Cavese
1400 West Market Street
Troy, OH 45373-9258

Dear John Cavese:

Enclosed is the Title V permit that allows you to operate the facility in the manner indicated in the permit. Because this permit may contain several conditions and restrictions, we urge you to read it carefully.

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but 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 of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 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 with the Environmental Review Appeals Commission within thirty (30) days after notice of the Director's 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. It is also requested by the Director that a copy of the appeal be served upon the Environmental Enforcement Section of the Office of the Attorney General. 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

If you have any questions, please contact RAPCA.

Very truly yours,

Michael W. Ahern

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

cc: RAPCA
File, DAPC PMU

State of Ohio Environmental Protection Agency

# FINAL TITLE V PERMIT

| Issue Date: **12/31/02** | Effective Date: **01/21/03** | Expiration Date: **01/21/08** |
|---|---|---|

This document constitutes issuance of a Title V permit for Facility ID: 08-55-14-0417 to:
Matsushita Display Devices Company of America
1400 West Market Street
Troy, OH 45373-9258

## Emissions Unit ID (Company ID)/Emissions Unit Activity Description

B001 (Boiler 1)
Boiler for space heating and hot water

B002 (Boiler 2)
Boiler for space heating and hot water

B003 (Boiler 3)
Boiler for space heating and hot water

B004 (Boiler 4)
Boiler for space heating and hot water

B005 (Boiler 5)
Boiler for space heating and hot water

B006 (Boiler 6)
Boiler for space heating and hot water

K001 (Lacquer Process (A-310,311,312) Line 1)
Screen Process: Lacquer Spraying, Equalizing and Drying - Line 1

K005 (Frit Mixing and Application (A-504) Line 1)
Frit Mixing and Application Process - Line 1

K011 (Lacquer Process (C-310,311,312) Line 3)
Screen Process: Lacquer Spraying, Equalizing and Drying - Line 3

K012 (Frit Mixing and Application (C-504) Line 3)
Funnel Process: Frit Coating/Drying - Line 3

K013 (Lacquer Process (D-105-1, D-106, D-107) PRT)
Bulb Process: Lacquer Spraying, Cone Washing, Drying - PRT Line

K014 (Frit Drying Tunnel (A-505) Line 1)
Funnel Process: Line 1 Drying Tunnel

K015 (Frit Oven (A-408) Line 1)
Funnel Process: Frit Oven - Line 1

K018 (Frit Drying Tunnel (C-505) Line 3)
Funnel Process: Frito Oven - Line 3

K019 (Lacquer Process (D-310,311,312) Line 4)
Lacquer spraying within permanent total enclosure

K020 (Frit Mixing and Application (D-504) Line 4)
Frit mixing and application area for Line 4

K021 (Frit Drying Tunnel (D-505) Line 4)
Frit drying tunnel (permanent total enclosure) vented to control unit

K022 (Bulb-Lacquer Coating, Cone Washing, & Drying - PRT #2)
PVA and PMA coatings are applied by inserting a nozzle inside the rotating bulb and spraying the interior face. The bulbs are then sent to the Cone Washing Station where the lacquer is washed from the bulbs with water. The bulbs are then sent to the Drying Stations where the bulbs are dried by electric lamps.

K023 (Bulb-Neck Cleaning - PRT #2)
Bulb placed over wash head, methanol sprayed to flush from inside of neck, excess drains into catch pan, and returns to the process storage container.

P002 (Mask Gas Blackening Process (A-108) Line 1)
Mask Process: Gas Blackening Oven - Line 1

P003 (Mask Gas Blackening Process (B-108) Line 2)
Mask Process: Gas Blackening Oven - Line 2

P019 (Pump Parts Washer Line 1/2 )

P020 (Lacquer Mixing Operation)
Lacquer mixing for Line 1, 2, 3, 4, and PRT

P021 (Mask Gas Blackening Process (C-108) Line 3)
Mask Process: Gas Blackening Oven - Line 3

P025 (PMSF Assembly (C-406) Line 3)
Bulb Process: Panel Mask Funnel Assembly - Line 3

P026 (Frit Sealing Oven (C-407) Line 3)
Bulb Process: Frit Sealing - Line 3

P027 (Pump Parts Washer (C-155) Line 3)
Pump Maintenance - Line 3

P029 (Bulb Conditioning (A-408) Line 1)
Bulb Process: Bulb Conditioning - Line 1

P030 (Bulb Conditioning (B-408) Line 2)
Bulb Process: Bulb Conditioning - Line 2

P031 (Bulb Conditioning (C-408) Line 3)
Bulb Process: Bulb Conditioning - Line 3

P032 (PMSF Assembly (A-406) Line 1)
Bulb Process: Panel Mask Funnel Assembly wipe down - Line 1

P034 (Panel Reclaim (A-314, B-314) Line 1/2)
Screen Process: Panel Reclaim wipe down - Lines 1 and 2

P035 (Panel Reclaim (C-314) Line 3)
Screen Process: Panel Reclaim wipe down - Line 3

P036 (Neck Cleaning (D-114) PRT)
Bulb Process: Neck Cleaning - PRT Line

P041 (Panel Reclaim (E201-1) Line 4)
Panel wipe with acetone

P042 (PMSF Assemlby (E-406) Line 4)
Assembly of bulb prior to frit sealing oven and edge wipe of panel with acetone

P043 (Frit Sealing Oven (Natural Gas Fired) (E-407) Line 4)
17.76 mmBTU/hr gas fired oven

P044 (Final Inspection (E-807) Line 4)
Panel wipe with acetone

You will be contacted approximately eighteen (18) months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency listed below. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, provided that a complete renewal application is submitted no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

Described below is the current Ohio EPA District Office or local air agency that is responsible for processing and administering your Title V permit:

RAPCA
117 South Main Street
Dayton, OH 45422-1280
(937) 225-4435

OHIO ENVIRONMENTAL PROTECTION AGENCY

Christopher Jones
Director

# PART I - GENERAL TERMS AND CONDITIONS

## *A. State and Federally Enforceable Section*

### 1. Monitoring and Related Record Keeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

i. The date, place (as defined in the permit), and time of sampling or measurements.
ii. The date(s) analyses were performed.
iii. The company or entity that performed the analyses.
iv. The analytical techniques or methods used.
v. The results of such analyses.
vi. The operating conditions existing at the time of sampling or measurement.
*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))*

b. 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 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.
*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))*

c. The permittee shall submit required reports in the following manner:

i. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

ii. **All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) with respect to emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:**

(a) Written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations ; (ii) the probable cause of such deviations; and (iii) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Part III of this Title V permit, the written 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. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. These written reports shall satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the submission of monitoring reports every six

months and the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations. See B.6 below if no deviations occurred during the quarter.

*(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) ,(ii) and (iii))*

(b) Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the deviation reporting requirements for this Title V permit, written reports that identify each malfunction that occurred during each calendar quarter shall be submitted, at a minimum, quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year, and shall cover the previous calendar quarters.

In identifying each deviation caused by a malfunction, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Also, if a deviation caused by a malfunction is identified in a written report submitted pursuant to paragraph (a) above, a separate report is not required for that malfunction pursuant to this paragraph. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing, at a minimum, on a quarterly basis.

Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation, operational restriction, and control device operating parameter limitation shall be reported in the same manner as described above for malfunctions. These written reports for malfunctions (and scheduled maintenance projects, if appropriate) shall satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations.

*(Authority for term: OAC rules 3745-77-07(A)(3)(c)(iii))*

iii. **For monitoring, record keeping, and reporting requirements:**

Written reports that identify any deviations from the federally enforceable monitoring, record keeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year, for the previous six calendar months. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. These semi-annual written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the reporting of any deviations related to the monitoring, record keeping, and reporting requirements. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no deviations occurred during that period.

*(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii))*

iv. Each written report shall be signed by a responsible official certifying that, "based on information and belief formed after reasonable inquiry, the statements and information in the

report (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."
*(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))*

**2. 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 unit(s) 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 OAC rule 3745-15-06, 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).
*(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iii))*

**3. Risk Management Plans**

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.
*(Authority for term: OAC rule 3745-77-07(A)(4))*

**4. Title IV Provisions**

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
*(Authority for term: OAC rule 3745-77-07(A)(5))*

**5. Severability Clause**

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
*(Authority for term: OAC rule 3745-77-07(A)(6))*

**6. General Requirements**

a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.

b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.10 below. The filing of a request by the permittee for a permit modification, revocation and

reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

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

e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized 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 request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

*(Authority for term: OAC rule 3745-77-07(A)(7))*

**7. 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.

*(Authority for term: OAC rule 3745-77-07(A)(8))*

**8. Marketable Permit Programs**

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

*(Authority for term: OAC rule 3745-77-07(A)(9))*

**9. Reasonably Anticipated Operating Scenarios**

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these general terms and conditions shall apply to all operating scenarios authorized in this permit.

*(Authority for term: OAC rule 3745-77-07(A)(10))*

**10. Reopening for Cause**

This Title V permit will be reopened prior to its expiration date under the following conditions:

a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b. This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c. The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d. The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

*(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))*

**11. Federal and State Enforceability**

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

*(Authority for term: OAC rule 3745-77-07(B))*

**12. Compliance Requirements**

a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.

iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
ii. Compliance certifications shall include the following:
(a) An identification of each term or condition of this permit that is the basis of the certification.
(b) The permittee's current compliance status.
(c) Whether compliance was continuous or intermittent.
(d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.
(e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

*(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))*

## 13. Permit Shield

a. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b. This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

*(Authority for term: OAC rule 3745-77-07(F))*

## 14. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification

under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).
*(Authority for term: OAC rules 3745-77-07(H)(1) and (2))*

**15. Emergencies**

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.
*(Authority for term: OAC rule 3745-77-07(G))*

**16. Off-Permit Changes**

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a. The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b. The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emission levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).

d. The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit to install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph

(I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(For purposes of clarification, the permittee can refer to Engineering Guide #63 that is available in the STARSHIP software package.)
*(Authority for term: OAC rule 3745-77-07(I))*

**17. Compliance Method Requirements**

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.
*(This term is provided for informational purposes only.)*

**18. Insignificant Activities**

Each insignificant activity that has one or more applicable requirements shall comply with those applicable requirements.
*(Authority for term: OAC rule 3745-77-07(A)(1))*

**19. Permit to Install Requirement**

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.
*(Authority for term: OAC rule 3745-77-07(A)(1))*

**20. 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.
*(Authority for term: OAC rule 3745-77-07(A)(1))*

**B. *State Only Enforceable Section***

**1. Reporting Requirements Related to Monitoring and Record Keeping Requirements**

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or record keeping 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 (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) 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. In identifying each deviation, the permittee

shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. 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.)

**2. 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.

**3. 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 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.

**4. 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).

**5. 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.

**6. Additional Reporting Requirements When There Are No Deviations of <u>Federally Enforceable</u> Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)**

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.

# Part II - Specific Facility Terms and Conditions

## A. State and Federally Enforcable Section

**None**

## B. State Only Enforceable Section

**1.** The following insignificant emission units are located at this facility:

K003 A402 Pin-Dag Coat
K004 B402 Pin-Dag Coat
K007 A806 Outer Dag Process
K008 B806 Outer Dag Process
K009 A807 Silicon Varnish Process
K010 B807 Silicon Varnish Process
L001 A107 Mask Frame Degreasing
L002 A112 Di Water Wash
L003 B112 Mask Frame Degreasing
L004 Rm 155 Machine Parts Wash
L005 Rm 606 Machine Parts Wash
P004 A202 Panel Wash/Dry
P005 B202 Panel Wash/Dry
P006 A205-3 Dag Developing
P007 B205-3 Dag Developing
P008 A404 Bismuth Spraying
P009 B405 Bismuth Spraying
P010 A405 Panel Mask Assembly
P011 B405 Panel Mask Assembly
P012 A502 Funnel Etching
P013 B502 Funnel Etching
P014 A801 Gun Seal Mill
P015 B801 Gun Seal Mill
P016 A803 Reinforcement
P017 B803 Reinforcement
P018 Rm 119 Phos Susp./Screen Mix
P022 HF Panel Washing (C302) Line #3
P023 HF Funnel Washing (C502) Line #3
T001 Particulate Lime Tank
T002 NaOH Tank
T003 H2O2 Tank
T004 HCl Tank
T005 FeCl3 Tank
T006 Liquid Nitrogen Tank
T007 Liquid Nitrogen Tank
T008 Oxygen Tank
T009 Hydrogen Tank
Z008 F-Test Line 1 Panel Wipe
Z009 F-Test Line 2 Panel Wipe
Z010 F-Test Line 3 Panel Wipe
Z011 Line 1/2 Mask Reclaim
Z012 Calcium Chloride Storage Tank
Z013 HCl Storage Tank
Z014 NaOH Storage Tank
Z015 200 gallon Diesel Fuel Tank
Z016 200 gallon Diesel Fuel Tank
Z018 ITC
Z019 Mask Reclaim Line 3
Z020 Line 3 Silicone Varnish
Z021 4th Pin Weld (A-113)
Z022 Inkjet Printer (B-202a) Line 2
Z023 4th Pin Weld (C-113) Line 3
Z024 Pin Weld (E-110) Line 4
Z025 HF Washing (E-202) Line 4
Z026 PVP Developing, DAG Spraying

Z026 PVP Developing, DAG Spraying

**B. State Only Enforceable Section**

Z027 Magnesium Hydroxide Spraying
Z028 Pin DAG Coating (E-401) Line 4
Z029 Bismuth Trioxide Spraying (E-405)
Z030 HF Washing (E-502) Line 4
Z031 Sealing (E-801) Line 4
Z032 Outer DAG Coating (E-805) Line 4
Z033 Silicon Varnish Coating (E-808)
Z034 PVP Mixing (E-116) Line 4
Z035 H2O2 Mixing (E-117) Line 4
Z036 DAG Mixing (E-118) Line 4
Z037 AVNS
Z038 Reneck Line 1
Z039 Reneck Line 2
Z040 Reneck Line 3
Z041 20v CRT Mask Press Line 2
Z042 27v CRT Mask Press Line 1
Z043 Invar Mask Press Line 3
Z044 32v/36v Mask Press Line 3
Z045 Invar Mask Press Line 3
Z046 Frame Wash Line 1
Z047 PRT Washing (D-101)
Z048 PRT Sealing (D-301)
Z049 PRT Outer DAG Coating (D-310)
Z050 Bulb Separation Separator
Z051 Bulb Separation Defritter
Z052 Bulb Separation Panel Buff
Z053 Bulb Separation Funnel Buff
Z054 Bulb Separation Mask Washing
Z055 Bismuth Spraying Line 3
Z056 Pin DAG Application Line 3
Z057 Magnesium Hydroxide Spraying Line
Z058 BM DAG Developing Line 3
Z059 Bulb Separation Panel Polisher
Z060 GBR Phosphor Mixing Line 3
Z061 Gun Sealing Line 3
Z062 Mask Wash Line 3
Z063 Frame Wash Line 3
Z064 Bulb Separation Neck Cut
Z065 Caustic Wash Line 3
Z066 Parts Washer Screen Maintenance
Z067 Parts Washer Maintenance Line 3
Z068 Magnesium Hydroxide Spraying
Z069 Magnesium Hydroxide Spraying
Z070 PVP Mixing Line 3
Z071 H2O2 Mixing Line 3
Z072 BM Mixing Line 3
Z073 PVP Mixing Line 1/2
Z074 BM Mixing Line 1/2
Z075 H2O2 Mixing Line 1/2

Each insignificant emissions unit at this facility must comply with all applicable State and federal regulations, as well as any emission limitations and/or control requirements contained within a permit to install for the emissions unit.

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Boiler 1 (B001)

**Activity Description:** Boiler for space heating and hot water

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| 21 mmBtu/hr, natural gas-fired boiler | OAC rule 3745-31-05 (A)(3)<br>PTI 08-1549 | 1.84 TPY particulate emissions (PE)<br><br>0.03 lb/mmBtu sulfur dioxide (SO2), 2.76 TPY SO2;<br><br>0.15 lb/mmBtu carbon monoxide (CO), 13.75 TPY CO;<br><br>0.12 lb/mmBtu nitrogen oxides (NOx), 10.78 TPY NOx;<br><br>0.016 lb/mmBtu organic compound (OC), 1.47 TPY OC<br><br>Visible PE shall not exceed 10% opacity, as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-10(B)(1), 3745-18-06(A), 3745-21-08(B) and 3745-23-06(B) and 40 CFR, Part 60, Subpart DC. |
| | OAC rule 3745-17-07(A) | The opacity limitation specified by this rule is less stringent than the opacity limitation established pursuant to OAC rule 3745-31-05 (A)(3). |
| | OAC rule 3745-17-10 (B)(1) | 0.020 lb PE/mmBtu of actual heat input |
| | 40 CFR, Part 60, Subpart Dc | Exempt, see A.II.1. |
| | OAC rule 3745-18-06(A) | See A.I.2.a. |
| | OAC rules 3745-21-08(B) and 3745-23-06(B) | See A.I.2.b. |

**2. Additional Terms and Conditions**

**2.a** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

**2.b** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 08-1549.

## II. Operational Restrictions

**1.** The permittee shall burn only natural gas as fuel in this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following monitoring and record keeping requirement is as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.III.2. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with this requirement constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

**2.** For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following reporting requirement is as stringent as or more stringent than the reporting requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

## V. Testing Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying testing requirements in the Permit to Install.

**2.** 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):

## V. Testing Requirements (continued)

**2.a** Emission Limitation:
0.020 lb PE/mmBtu of actual heat input

Applicable Compliance Method:
Compliance with the allowable PE limitation above shall be based upon a manufacturer-supplied emission factor of 0.01 lb/mmBtu of actual heat input.

If required, the permittee shall demonstrate compliance with the allowable PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

**2.b** Emission Limitation-
Visible PE shall not exceed 10% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

**2.c** Emission Limitations -
0.12 lb/mmBtu NOx
10.78 TPY NOx

Applicable Compliance Method-
Compliance with the allowable lb NOx/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.12 lb NOx/mmBtu. Additionally, compliance with the allowable lb NOx/mmBtu limitation above may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (100 lbs/NOx/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and then dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance with the allowable lb NOx/mmBtu limitation above in accordance with Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A.

Compliance with the annual NOx emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.d** Emission Limitations-
0.15 lb/mmBtu CO
13.75 TPY CO

Applicable Compliance Method-
Compliance with the allowable lb CO/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.15 lb CO/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (84 lbs CO/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A.

Compliance with the annual CO emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## V. Testing Requirements (continued)

**2.e** Emission Limitations-
0.016 lb/mmBtu OC
1.47 TPY OC

Applicable Compliance Method-
Compliance with the allowable lb OC/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.16 lb OC/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.021 lb/million cubic feet) by the emission factor for natural gas (5.5 lbs OC/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

Compliance with the annual OC emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.f** Emission Limitations-
0.03 lb/mmBtu SO2
2.76 TPY SO2

Applicable Compliance Method-
Compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.

If required, the permittee shall perform or require the supplier to perform an analysis of the natural gas for sulfur content in accordance with the appropriate ASTM method (such as, ASTM method D3031), or an equivalent method as approved by the Director, in order to demonstrate compliance with this emission limitation using the appropriate equation specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.1, Table 3.1-1 (10/96).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 6 of 40 CFR, Part 60, Appendix A.

Compliance with the annual SO2 emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Boiler 2 (B002)

**Activity Description:** Boiler for space heating and hot water

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| 21 mmBtu/hr, natural gas-fired boiler | OAC rule 3745-31-05 (A)(3)<br>PTI 08-1549 | 1.84 TPY particulate emissions (PE)<br><br>0.03 lb/mmBtu sulfur dioxide (SO2), 2.76 TPY SO2;<br><br>0.15 lb/mmBtu carbon monoxide (CO), 13.75 TPY CO;<br><br>0.12 lb/mmBtu nitrogen oxides (NOx), 10.78 TPY NOx;<br><br>0.016 lb/mmBtu organic compound (OC), 1.47 TPY OC<br><br>Visible PE shall not exceed 10% opacity, as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-10(B)(1), 3745-18-06(A), 3745-21-08(B) and 3745-23-06(B) and 40 CFR, Part 60, Subpart DC. |
| | OAC rule 3745-17-07(A) | The opacity limitation specified by this rule is less stringent than the opacity limitation established pursuant to OAC rule 3745-31-05 (A)(3). |
| | OAC rule 3745-17-10 (B)(1) | 0.020 lb PE/mmBtu of actual heat input |
| | 40 CFR, Part 60, Subpart Dc | Exempt, see A.II.1. |
| | OAC rule 3745-18-06(A) | See A.I.2.a. |
| | OAC rules 3745-21-08(B) and 3745-23-06(B) | See A.I.2.b. |

**2. Additional Terms and Conditions**

**2.a** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

**2.b** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 08-1549.

## II. Operational Restrictions

**1.** The permittee shall burn only natural gas as fuel in this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following monitoring and record keeping requirement is as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.III.2. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with this requirement constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

**2.** For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following reporting requirement is as stringent as or more stringent than the reporting requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

## V. Testing Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying testing requirements in the Permit to Install.

**2.** 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):

## V. Testing Requirements (continued)

**2.a** Emission Limitation:
0.020 lb PE/mmBtu of actual heat input

Applicable Compliance Method:
Compliance with the allowable PE limitation above shall be based upon a manufacturer-supplied emission factor of 0.01 lb/mmBtu of actual heat input.

If required, the permittee shall demonstrate compliance with the allowable PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

**2.b** Emission Limitation-
Visible PE shall not exceed 10% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

**2.c** Emission Limitations -
0.12 lb/mmBtu NOx
10.78 TPY NOx

Applicable Compliance Method-
Compliance with the allowable lb NOx/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.12 lb NOx/mmBtu. Additionally, compliance with the allowable lb NOx/mmBtu limitation above may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (100 lbs/NOx/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and then dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance with the allowable lb NOx/mmBtu limitation above in accordance with Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A.

Compliance with the annual NOx emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.d** Emission Limitations-
0.15 lb/mmBtu CO
13.75 TPY CO

Applicable Compliance Method-
Compliance with the allowable lb CO/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.15 lb CO/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (84 lbs CO/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A.

Compliance with the annual CO emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## V. Testing Requirements (continued)

**2.e** Emission Limitations-
0.016 lb/mmBtu OC
1.47 TPY OC

Applicable Compliance Method-
Compliance with the allowable lb OC/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.16 lb OC/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.021 lb/million cubic feet) by the emission factor for natural gas (5.5 lbs OC/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

Compliance with the annual OC emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.f** Emission Limitations-
0.03 lb/mmBtu SO2
2.76 TPY SO2

Applicable Compliance Method-
Compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.

If required, the permittee shall perform or require the supplier to perform an analysis of the natural gas for sulfur content in accordance with the appropriate ASTM method (such as, ASTM method D3031), or an equivalent method as approved by the Director, in order to demonstrate compliance with this emission limitation using the appropriate equation specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.1, Table 3.1-1 (10/96).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 6 of 40 CFR, Part 60, Appendix A.

Compliance with the annual SO2 emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Boiler 3 (B003)

**Activity Description:** Boiler for space heating and hot water

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| 21 mmBtu/hr, natural gas-fired boiler | OAC rule 3745-31-05 (A)(3)<br>PTI 08-1549 | 1.84 TPY particulate emissions (PE)<br><br>0.03 lb/mmBtu sulfur dioxide (SO2), 2.76 TPY SO2;<br><br>0.15 lb/mmBtu carbon monoxide (CO), 13.75 TPY CO;<br><br>0.12 lb/mmBtu nitrogen oxides (NOx), 10.78 TPY NOx;<br><br>0.016 lb/mmBtu organic compound (OC), 1.47 TPY OC<br><br>Visible PE shall not exceed 10% opacity, as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-10(B)(1), 3745-18-06(A), 3745-21-08(B) and 3745-23-06(B) and 40 CFR, Part 60, Subpart DC. |
| | OAC rule 3745-17-07(A) | The opacity limitation specified by this rule is less stringent than the opacity limitation established pursuant to OAC rule 3745-31-05 (A)(3). |
| | OAC rule 3745-17-10 (B)(1) | 0.020 lb PE/mmBtu of actual heat input |
| | 40 CFR, Part 60, Subpart Dc | Exempt, see A.II.1. |
| | OAC rule 3745-18-06(A) | See A.I.2.a. |
| | OAC rules 3745-21-08(B) and 3745-23-06(B) | See A.I.2.b. |

**2. Additional Terms and Conditions**

**2.a** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

**2.b** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 08-1549.

## II. Operational Restrictions

**1.** The permittee shall burn only natural gas as fuel in this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following monitoring and record keeping requirement is as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.III.2. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with this requirement constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

**2.** For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following reporting requirement is as stringent as or more stringent than the reporting requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

## V. Testing Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying testing requirements in the Permit to Install.

**2.** 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):

## V. Testing Requirements (continued)

**2.a** Emission Limitation:
0.020 lb PE/mmBtu of actual heat input

Applicable Compliance Method:
Compliance with the allowable PE limitation above shall be based upon a manufacturer-supplied emission factor of 0.01 lb/mmBtu of actual heat input.

If required, the permittee shall demonstrate compliance with the allowable PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

**2.b** Emission Limitation-
Visible PE shall not exceed 10% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

**2.c** Emission Limitations -
0.12 lb/mmBtu NOx
10.78 TPY NOx

Applicable Compliance Method-
Compliance with the allowable lb NOx/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.12 lb NOx/mmBtu. Additionally, compliance with the allowable lb NOx/mmBtu limitation above may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (100 lbs/NOx/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and then dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance with the allowable lb NOx/mmBtu limitation above in accordance with Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A.

Compliance with the annual NOx emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.d** Emission Limitations-
0.15 lb/mmBtu CO
13.75 TPY CO

Applicable Compliance Method-
Compliance with the allowable lb CO/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.15 lb CO/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (84 lbs CO/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A.

Compliance with the annual CO emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## V. Testing Requirements (continued)

**2.e** Emission Limitations-
0.016 lb/mmBtu OC
1.47 TPY OC

Applicable Compliance Method-
Compliance with the allowable lb OC/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.16 lb OC/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.021 lb/million cubic feet) by the emission factor for natural gas (5.5 lbs OC/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

Compliance with the annual OC emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.f** Emission Limitations-
0.03 lb/mmBtu SO2
2.76 TPY SO2

Applicable Compliance Method-
Compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.

If required, the permittee shall perform or require the supplier to perform an analysis of the natural gas for sulfur content in accordance with the appropriate ASTM method (such as, ASTM method D3031), or an equivalent method as approved by the Director, in order to demonstrate compliance with this emission limitation using the appropriate equation specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.1, Table 3.1-1 (10/96).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 6 of 40 CFR, Part 60, Appendix A.

Compliance with the annual SO2 emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Boiler 4 (B004)

**Activity Description:** Boiler for space heating and hot water

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| 21 mmBtu/hr, natural gas-fired boiler | OAC rule 3745-31-05 (A)(3)<br>PTI 08-3377 | 1.84 TPY particulate emissions (PE)<br><br>0.03 lb/mmBtu sulfur dioxide (SO2), 2.76 TPY SO2;<br><br>0.15 lb/mmBtu carbon monoxide (CO), 13.75 TPY CO;<br><br>0.12 lb/mmBtu nitrogen oxides (NOx), 10.78 TPY NOx;<br><br>0.016 lb/mmBtu organic compound (OC), 1.47 TPY OC<br><br>Visible PE shall not exceed 10% opacity, as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-10(B)(1), 3745-18-06(A), 3745-21-08(B) and 3745-23-06(B) and 40 CFR, Part 60, Subpart DC. |
| | OAC rule 3745-17-07(A) | The opacity limitation specified by this rule is less stringent than the opacity limitation established pursuant to OAC rule 3745-31-05 (A)(3). |
| | OAC rule 3745-17-10 (B)(1) | 0.020 lb PE/mmBtu of actual heat input |
| | 40 CFR, Part 60, Subpart Dc | Exempt, see A.II.1. |
| | OAC rule 3745-18-06(A) | See A.I.2.a. |
| | OAC rules 3745-21-08(B) and 3745-23-06(B) | See A.I.2.b. |

**2. Additional Terms and Conditions**

**2.a** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

**2.b** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 08-1549.

## II. Operational Restrictions

**1.** The permittee shall burn only natural gas as fuel in this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following monitoring and record keeping requirement is as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.III.2. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with this requirement constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

**2.** For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following reporting requirement is as stringent as or more stringent than the reporting requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

## V. Testing Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying testing requirements in the Permit to Install.

**2.** 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):

## V. Testing Requirements (continued)

**2.a** Emission Limitation:
0.020 lb PE/mmBtu of actual heat input

Applicable Compliance Method:
Compliance with the allowable PE limitation above shall be based upon a manufacturer-supplied emission factor of 0.01 lb/mmBtu of actual heat input.

If required, the permittee shall demonstrate compliance with the allowable PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

**2.b** Emission Limitation-
Visible PE shall not exceed 10% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

**2.c** Emission Limitations -
0.12 lb/mmBtu NOx
10.78 TPY NOx

Applicable Compliance Method-
Compliance with the allowable lb NOx/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.12 lb NOx/mmBtu. Additionally, compliance with the allowable lb NOx/mmBtu limitation above may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (100 lbs/NOx/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and then dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance with the allowable lb NOx/mmBtu limitation above in accordance with Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A.

Compliance with the annual NOx emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.d** Emission Limitations-
0.15 lb/mmBtu CO
13.75 TPY CO

Applicable Compliance Method-
Compliance with the allowable lb CO/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.15 lb CO/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (84 lbs CO/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A.

Compliance with the annual CO emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## V. Testing Requirements (continued)

**2.e** Emission Limitations-
0.016 lb/mmBtu OC
1.47 TPY OC

Applicable Compliance Method-
Compliance with the allowable lb OC/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.16 lb OC/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.021 lb/million cubic feet) by the emission factor for natural gas (5.5 lbs OC/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

Compliance with the annual OC emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.f** Emission Limitations-
0.03 lb/mmBtu SO2
2.76 TPY SO2

Applicable Compliance Method-
Compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.

If required, the permittee shall perform or require the supplier to perform an analysis of the natural gas for sulfur content in accordance with the appropriate ASTM method (such as, ASTM method D3031), or an equivalent method as approved by the Director, in order to demonstrate compliance with this emission limitation using the appropriate equation specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.1, Table 3.1-1 (10/96).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 6 of 40 CFR, Part 60, Appendix A.

Compliance with the annual SO2 emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Boiler 5 (B005)

**Activity Description:** Boiler for space heating and hot water

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| 21 mmBtu/hr, natural gas-fired boiler | OAC rule 3745-31-05 (A)(3)<br>PTI 08-3618 | 1.84 TPY particulate emissions (PE)<br><br>0.03 lb/mmBtu sulfur dioxide (SO2), 2.76 TPY SO2;<br><br>0.15 lb/mmBtu carbon monoxide (CO), 13.75 TPY CO;<br><br>0.12 lb/mmBtu nitrogen oxides (NOx), 10.78 TPY NOx;<br><br>0.016 lb/mmBtu organic compound (OC), 1.47 TPY OC<br><br>Visible PE shall not exceed 10% opacity, as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-10(B)(1), 3745-18-06(A), 3745-21-08(B) and 3745-23-06(B) and 40 CFR, Part 60, Subpart DC. |
| | OAC rule 3745-17-07(A) | The opacity limitation specified by this rule is less stringent than the opacity limitation established pursuant to OAC rule 3745-31-05 (A)(3). |
| | OAC rule 3745-17-10 (B)(1) | 0.020 lb PE/mmBtu of actual heat input |
| | 40 CFR, Part 60, Subpart Dc | Exempt, see A.II.1. |
| | OAC rule 3745-18-06(A) | See A.I.2.a. |
| | OAC rules 3745-21-08(B) and 3745-23-06(B) | See A.I.2.b. |

**2. Additional Terms and Conditions**

**2.a** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

**2.b** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 08-1549.

## II. Operational Restrictions

**1.** The permittee shall burn only natural gas as fuel in this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following monitoring and record keeping requirement is as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.III.2. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with this requirement constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

**2.** For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following reporting requirement is as stringent as or more stringent than the reporting requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

## V. Testing Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying testing requirements in the Permit to Install.

**2.** 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):

## V. Testing Requirements (continued)

**2.a** Emission Limitation:
0.020 lb PE/mmBtu of actual heat input

Applicable Compliance Method:
Compliance with the allowable PE limitation above shall be based upon a manufacturer-supplied emission factor of 0.01 lb/mmBtu of actual heat input.

If required, the permittee shall demonstrate compliance with the allowable PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

**2.b** Emission Limitation-
Visible PE shall not exceed 10% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

**2.c** Emission Limitations -
0.12 lb/mmBtu NOx
10.78 TPY NOx

Applicable Compliance Method-
Compliance with the allowable lb NOx/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.12 lb NOx/mmBtu. Additionally, compliance with the allowable lb NOx/mmBtu limitation above may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (100 lbs/NOx/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and then dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance with the allowable lb NOx/mmBtu limitation above in accordance with Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A.

Compliance with the annual NOx emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.d** Emission Limitations-
0.15 lb/mmBtu CO
13.75 TPY CO

Applicable Compliance Method-
Compliance with the allowable lb CO/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.15 lb CO/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (84 lbs CO/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A.

Compliance with the annual CO emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## V. Testing Requirements (continued)

**2.e** Emission Limitations-
0.016 lb/mmBtu OC
1.47 TPY OC

Applicable Compliance Method-
Compliance with the allowable lb OC/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.16 lb OC/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.021 lb/million cubic feet) by the emission factor for natural gas (5.5 lbs OC/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

Compliance with the annual OC emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.f** Emission Limitations-
0.03 lb/mmBtu SO2
2.76 TPY SO2

Applicable Compliance Method-
Compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.

If required, the permittee shall perform or require the supplier to perform an analysis of the natural gas for sulfur content in accordance with the appropriate ASTM method (such as, ASTM method D3031), or an equivalent method as approved by the Director, in order to demonstrate compliance with this emission limitation using the appropriate equation specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.1, Table 3.1-1 (10/96).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 6 of 40 CFR, Part 60, Appendix A.

Compliance with the annual SO2 emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Boiler 6 (B006)

**Activity Description:** Boiler for space heating and hot water

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| 21 mmBtu/hr, natural gas-fired boiler | OAC rule 3745-31-05 (A)(3)<br>PTI 08-4133 | 1.84 TPY particulate emissions (PE)<br><br>0.03 lb/mmBtu sulfur dioxide (SO2), 2.76 TPY SO2;<br><br>0.15 lb/mmBtu carbon monoxide (CO), 13.75 TPY CO;<br><br>0.12 lb/mmBtu nitrogen oxides (NOx), 10.78 TPY NOx;<br><br>0.016 lb/mmBtu organic compound (OC), 1.47 TPY OC<br><br>Visible PE shall not exceed 10% opacity, as a six-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-10(B)(1), 3745-18-06(A), 3745-21-08(B) and 3745-23-06(B) and 40 CFR, Part 60, Subpart DC. |
| | OAC rule 3745-17-07(A) | The opacity limitation specified by this rule is less stringent than the opacity limitation established pursuant to OAC rule 3745-31-05 (A)(3). |
| | OAC rule 3745-17-10 (B)(1) | 0.020 lb PE/mmBtu of actual heat input |
| | 40 CFR, Part 60, Subpart Dc | Exempt, see A.II.1. |
| | OAC rule 3745-18-06(A) | See A.I.2.a. |
| | OAC rules 3745-21-08(B) and 3745-23-06(B) | See A.I.2.b. |

**2. Additional Terms and Conditions**

**2.a** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

**2.b** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 08-1549.

## II. Operational Restrictions

**1.** The permittee shall burn only natural gas as fuel in this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following monitoring and record keeping requirement is as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.III.2. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with this requirement constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

**2.** For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following reporting requirement is as stringent as or more stringent than the reporting requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

## V. Testing Requirements

**1.** Pursuant to OAC Rule 3745-77-07 (A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 08-1549, issued on March 15, 1989 and modified on September 27, 1989: A.IV.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirement of this operating permit, so that compliance with this requirement constitutes compliance with the underlying testing requirements in the Permit to Install.

**2.** 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):

## V. Testing Requirements (continued)

**2.a** Emission Limitation:
0.020 lb PE/mmBtu of actual heat input

Applicable Compliance Method:
Compliance with the allowable PE limitation above shall be based upon a manufacturer-supplied emission factor of 0.01 lb/mmBtu of actual heat input.

If required, the permittee shall demonstrate compliance with the allowable PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

**2.b** Emission Limitation-
Visible PE shall not exceed 10% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

**2.c** Emission Limitations -
0.12 lb/mmBtu NOx
10.78 TPY NOx

Applicable Compliance Method-
Compliance with the allowable lb NOx/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.12 lb NOx/mmBtu. Additionally, compliance with the allowable lb NOx/mmBtu limitation above may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (100 lbs/NOx/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and then dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance with the allowable lb NOx/mmBtu limitation above in accordance with Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A.

Compliance with the annual NOx emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.d** Emission Limitations-
0.15 lb/mmBtu CO
13.75 TPY CO

Applicable Compliance Method-
Compliance with the allowable lb CO/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.15 lb CO/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.21 lb/million cubic feet) by the emission factor for natural gas (84 lbs CO/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A.

Compliance with the annual CO emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## V. Testing Requirements (continued)

**2.e** Emission Limitations-
0.016 lb/mmBtu OC
1.47 TPY OC

Applicable Compliance Method-
Compliance with the allowable lb OC/mmBtu limitation above shall be based upon the manufacturer-supplied emission factor of 0.16 lb OC/mmBtu. Additionally, compliance with this limitation may be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (0.021 lb/million cubic feet) by the emission factor for natural gas (5.5 lbs OC/million cubic feet), from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (revised 7/98), and dividing by the maximum hourly heat input capacity of the emissions unit (21 mmBtu/hr).

If required, the permittee shall demonstrate compliance in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

Compliance with the annual OC emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

**2.f** Emission Limitations-
0.03 lb/mmBtu SO2
2.76 TPY SO2

Applicable Compliance Method-
Compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.

If required, the permittee shall perform or require the supplier to perform an analysis of the natural gas for sulfur content in accordance with the appropriate ASTM method (such as, ASTM method D3031), or an equivalent method as approved by the Director, in order to demonstrate compliance with this emission limitation using the appropriate equation specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.1, Table 3.1-1 (10/96).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 through 4 and 6 of 40 CFR, Part 60, Appendix A.

Compliance with the annual SO2 emission limitation shall be ensured as long as compliance with the lb/mmBtu limitation is maintained (the annual limitation was determined by multiplying the lb/mmBtu limitation by the maximum heat input to the emissions unit (mmBtu/hr) and by 8760, and then dividing by 2000).

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Lacquer Process (A-310,311,312) Line 1 (K001)

**Activity Description:** Screen Process: Lacquer Spraying, Equalizing and Drying - Line 1

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Lacquer Spray Line #1, including, spraying (A310), conveying (A311), and drying mill (A312), with a combination emission control system, including, a fume concentrator and catalytic incinerator | OAC rule 3745-31-05(A)(3)<br>PTI #08-3404 | 1.3 lbs/hr organic compounds (OC), excluding cleanup;<br><br>43.5 lbs OC/day and 7.61 tons/yr OC, including cleanup<br><br>See A.I.2.a. |
| | OAC rule 3745-21-07(G)(2) | The emission limitations/control requirements of this rule are less stringent than the emission limitations/control requirements established pursuant to OAC rule 3745-31-05 (A) (3). |
| | OAC rule 3745-21-07(G)(6) | The control requirement of this rule is equivalent to the control requirement established pursuant to OAC rule 3745-31-05(A). |

**2. Additional Terms and Conditions**

**2.a** The OC emissions from this emissions unit shall be controlled through the application of a permanent total enclosure (PTE) around the entire process, including spraying, conveying, and drying mill, with a 100 percent capture efficiency and a removal/destruction efficiency of at least 90%, by weight, for OC. The control system consists of a fume concentrator and catalytic incinerator. The fume concentrator/catalytic incinerator control system shall operate at a minimum destruction efficiency of 90%, by weight.

(The OC emission control system is common to emissions units K001, K022 and P020.)

**2.b** The 1.3 lbs/hr OC emission limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

## II. Operational Restrictions

**1.** The coating line shall be equipped with a permanent total enclosure (PTE)* which shall be installed and operated in accordance with 40 CFR Part 51, Appendix M, Method 204. The PTE shall meet the following criteria:

a. any "Natural Draft Opening" (NDO) shall be at least 4 equivalent diameters from each organic compound emission point;

b. the total area of all NDOs shall not exceed 5 percent of the surface area of the enclosure's four walls, floor and ceiling;

c. the average facial velocity (FV) of air through all NDOs shall be at least 3,600 m/hr (200 fpm) which corresponds to a pressure differential of 0.007 inch of water, and the direction of air through all NDOs shall be into the enclosure;

d. all access doors and windows whose area are not included in paragraph b. are not included in the calculation in paragraph c. and shall be closed during routine operation; and

e. all OC emissions must be captured and contained for discharge through the OC control device.

By satisfying the criteria above for establishing permanent total enclosure, the total organic capture efficiency shall be assumed to be 100%.

* Definitions for PTE and NDO:

Permanent Total Enclosure (PTE) - A permanently installed enclosure that completely surrounds a source of emissions such that all OC emissions are captured and contained for a discharge through a control device.

Natural Draft Opening (NDO) - Any permanent opening in the enclosure that remains open during operation of the facility and is not connected to a duct to which a fan is installed.

**2.** For the fume concentrator/catalytic incinerator control system:

a. The average temperature of the desorption air stream prior to the fume concentrator wheel, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. The number of revolutions per hour (RPH) of the fume concentrator shall be continuously maintained, when the emissions unit is in operation, at a value within +/-1 RPH of the value established during the most recent emission test that demonstrated compliance.

c. The average temperature of the exhaust gases immediately before the catalyst bed [the temperature of the concentrated OC laden air stream exiting the OC concentrator wheel], for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature of the exhaust gases immediately after the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**3.** The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than 0.007 inch of water, as a 3-hour average, whenever the emissions unit is in operation.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall operate and maintain continuous temperature monitors and recorders that measure and record the temperature of the desorption air stream prior to the OC fume concentrator.

Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the average temperature for each of the 8 3-hour blocks during the day. The permittee shall also maintain a log or record of the downtime for the capture (collection) system, control devices and monitoring equipment when the associated emissions unit was in operation.

**2.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the catalytic incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately after the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**3.** The permittee shall maintain and operate monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the permanent total enclosure. The monitoring and recording devices shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall maintain records of all 3-hour blocks of time during which the permanent total enclosure was not maintained at or above the minimum pressure differential of 0.007 inch of water, as a 3-hour average.

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall collect and record the following information each day for this emissions unit:

a. The company identification of each lacquer and cleanup material employed;

b. The amount of each lacquer and cleanup material employed, in pounds.

c. The OC content of each lacquer and cleanup material employed, in percent by weight.

d. The total potential OC emission rate for all the lacquer materials, in pounds, i.e., summation of (a x b) for all lacquer materials.

e. The amount of the lacquer materials disposed of as waste, in pounds.

f. The OC content of the waste lacquer materials, in percent by weight.

g. The amount of OC in the waste lacquer materials, in pounds, i.e., (d x e).

h. The amount of the lacquer materials reclaimed, in pounds.

i. The OC content of the lacquer materials reclaimed, in percent , by weight.

j. The amount of OC in the lacquer materials reclaimed, i.e., (g x h).

k. The amount of OC emissions from all the cleanup materials employed (summation of (b x c) for all cleanup materials), in pounds.

l. The total, controlled OC emission rate, i.e., [(g) + (j)] subtracted from [(d) + (k)]. The result shall then be multiplied by the average overall control efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance.

**5.** The permittee shall perform daily checks, when the emissions unit is in operation, to record the concentrator RPH.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify the following information for this emissions unit:

a. All 3-hour blocks of time during which the average temperature of the desorption air stream prior to the OC concentrator wheel did not comply with the temperature limitation specified in Section A.II. of these terms and conditions.

b. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately before the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

c. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately after the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

d. Each day during which the total OC emissions exceeded 43.5 pounds, including cleanup, and the actual OC emissions for each such day.

## IV. Reporting Requirements (continued)

**2.** The permittee shall submit quarterly deviation (excursion) reports that include the following information for the fume concentrator wheel:

a. An identification of each day during which the RPH was greater than +/- 1 RPH from the value established at the most recent performance test which demonstrated compliance.

b. The corrective actions taken to reestablish the concentrator revolution speed.

**3.** The permittee shall submit quarterly pressure differential deviation (excursion) reports that identify all 3-hour blocks of time during which the permanent total enclosure was not maintained at the minimum pressure differential of 0.007 inch of water, as a 3-hour average.

**4.** If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**5.** The permittee shall submit annual reports to the Director (the local air agency) that specify the total annual OC emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

## V. 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):

**1.a** Emission Limitation-
1.3 lbs/hr OC, excluding cleanup

Applicable Compliance Method-
The hourly OC limitation was established as follows:

i. multiply the maximum hourly lacquer material usage rate of 3.0 gallons by the maximum OC content of the lacquer materials of 95.8%, by volume;

ii. multiply the result from 1.a.i by density of toluene (7.26 lbs/gallon); and

iii. multiply the result from 1.a.ii by a factor of 1 minus the overall control efficiency of 90%, by weight.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
43.5 lbs/day OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.5 of this permit.

**1.c** Emission Limitation-
7.61 tons/yr OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.5 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

## V. Testing Requirements (continued)

**1.d** Emission Limitation-
minimum overall fume concentrator/catalytic incinerator control efficiency of 90% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirement above in accordance with the methods and procedures outlined in Section A.V.2 of this permit.

**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 12 months of issuance of this permit and within 6 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs, and shall include determinations of the capture efficiency and the fume concentrator/catalytic incinerator control efficiency.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency shall be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the fume concentrator and catalytic incinerator system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the fume concentrator, and in the exhaust stack.

d. The test(s) shall be conducted while emissions units K001, K022, and P020 are operating at or near their maximum capacities, unless otherwise specified or approved by the local air agency.

**3.** 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.

**4.** The permittee shall employ USEPA Method 24 or formulation data to determine the OC contents of all the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Frit Mixing and Application (A-504) Line 1 (K005)

**Activity Description:** Frit Mixing and Application Process - Line 1

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Mixing and Applicator, with Fume Concentrator and Catalytic Incinerator; Line #1 | OAC rule 3745-31-05 (A)(3)<br>PTI 08-4020 | The requirements of this rule also include compliance with OAC rules 3745-21-07(G), 3745-17-07 (A), and 3745-17-11.<br><br>5.3 lbs/day organic compounds (OC), from frit application<br><br>40 lbs/day OC, from cleanup<br><br>8.27 TPY OC, from frit and cleanup materials usage |
| | OAC rule 3745-17-07(A) | Visible particulate emissions (PE) shall not exceed 20 percent opacity, as a 6-minute average, except as provided by rule. |
| | OAC rule 3745-17-11 | 0.551 lb/hr PE |
| | OAC rule 3745-21-07(G) | See A.II.1. |

**2. Additional Terms and Conditions**

**2.a** The 0.551 lb/hr PE limit was developed to reflect the potential to emit for the emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with this limit.

**2.b** The OC emissions control system is common to emissions units K005 and K014.

### II. Operational Restrictions

**1.** The use of any photochemically reactive material in this emissions unit, as defined in OAC rule 3745-21-01 (C)(5), is prohibited.

**2.** The permittee shall employ a vacuum filtration system during frit mixing to control all the PE from this emissions unit.

## II. Operational Restrictions (continued)

**3.** The average temperature of the desorption air stream prior to the fume concentrator wheel, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**4.** The number of revolutions per hour (RPH) of the fume concentrator shall be continuously maintained, when the emissions unit is in operation, at a value within +/-1 RPH of the value established during the most recent emissions test that demonstrated compliance.

**5.** The average temperature of the exhaust gases immediately before the catalyst bed [the temperature of the concentrated OC laden air stream exiting the OC concentrator wheel], for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature of the exhaust gases immediately after the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information each day for this emissions unit:

a. The number of pounds of each frit vehicle mixed and employed.

b. The number of pounds of each frit vehicle accounted for as waste.

c. The OC content of each frit vehicle, in percent by weight.

d. The number of pounds of each cleanup material employed.

e. The OC content of each cleanup material, in percent by weight.

f. The total OC emission rate for all the frit vehicles {summation of [(a - b) x c x 0.06*]** for all frit}, in pounds.

g. The total OC emission rate for all the cleanup materials [summation of (d x e) for all cleanup materials], in pounds.

h. The total OC emission rate for all the frit vehicles and cleanup materials employed (f + g), in pounds.

g. Documentation on whether or not each frit mixed and applied or cleanup material employed is a photochemically reactive material.

* 6% of the OCs are emitted in this emissions unit.

** This equation was defined in the Administrative Findings and Orders issued on March 23, 1999.

**2.** The permittee shall maintain a log of all the time periods during which the vacuum filtration system was not functioning, when the emissions unit was in operation (during frit mixing).

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the catalytic incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately after the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**4.** The permittee shall operate and maintain continuous temperature monitors and recorders that measure and record the temperature of the desorption air stream prior to the OC fume concentrator.

Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the average temperature for each of the 8 3-hour blocks during the day. The permittee shall also maintain a log or record of the downtime for the capture (collection) system, control devices and monitoring equipment when the associated emissions unit was in operation.

**5.** The permittee shall perform daily checks, when the emissions unit is in operation, to record the concentrator RPH.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that include an identification of each day during which the total OC emissions from the frit mixing and application exceeded 5.3 pounds per day, and the actual OC emission for each such day, and each day during which the total OC emissions from the cleanup materials usage exceeded 40 pounds per day, and the actual organic compound emissions for each such day.

The permittee shall submit the quarterly deviation (excursion) reports, in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**2.** The permittee shall submit quarterly summaries that include a log of all the time periods during which the vacuum filtration system was not functioning, when the emissions unit was in operation (during frit mixing).

**3.** The permittee shall notify the Director (the appropriate local air agency) of each day during which any photochemically reactive material was employed in this emissions unit. The notification shall be submitted in writing within 45 days after the deviation occurs.

## IV. Reporting Requirements (continued)

**4.** The permittee shall submit quarterly deviation (excursion) reports, when the emissions unit was in operation, that identify the following:

a. All 3-hour blocks of time during which the average temperature of the desorption air stream prior to the OC concentrator wheel did not comply with the temperature limitation specified in Section A.II. of these terms and conditions.

b. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately before the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

c. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately after the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

**5.** The permittee shall submit quarterly deviation (excursion) reports that include the following information for the fume concentrator wheel:

a. An identification of each day during which the RPH was greater than +/- 1 RPH from the value established at the most recent performance test which demonstrated compliance.

b. The corrective actions taken to reestablish the concentrator revolution speed.

**6.** If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

## V. Testing Requirements

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

**1.a** Emission Limitations-
5.3 lbs/day OC, from frit mixing and application
40 lbs/day OC, from cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping required in section A.III.1 of this permit.

**1.b** Emission Limitation-
8.27 TPY, including cleanup

Applicable Compliance Method-
Compliance with the limitation above shall be based upon the record keeping specified in Section A.III.1 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

**1.c** Emission Limitation-
Visible PE shall not exceed 20 percent opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method-
If required, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03 (B)(1).

## V. Testing Requirements (continued)

**1.d** Emission Limitation-
0.551 lb/hr PE

Applicable Compliance Method-
If required, compliance with the PE limitation above shall be based upon stack testing conducted in accordance with OAC rule 3745-17-03(B)(10).

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC contents of the frit and cleanup materials.

**3.** 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 24 months of permit issuance.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs, and shall include determinations of the capture efficiency, and the fume concentrator/catalytic incinerator control efficiency.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the carbon adsorption and catalytic incineration system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the concentrator, and in the exhaust stack.

d. The test(s) shall be conducted while emissions units K005 and K014 are operating at or near their maximum capacities, unless otherwise specified or approved by the 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.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Mixing and Applicator with Fume Concentrator and Catalytic Incinerator; Line #1 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: amyl acetate

TLV (ug/m3):532,000

Maximum Hourly Emission Rate (lbs/hr): 0.46

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 186.50

MAGLC (ug/m3): 5320

## III. Monitoring and/or Record Keeping Requirements (continued)

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is(are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**2.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that a changed emissions unit will still satisfy the "Air Toxic Policy":

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Lacquer Process (C-310,311,312) Line 3 (K011)

**Activity Description:** Screen Process: Lacquer Spraying, Equalizing and Drying - Line 3

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| K011 - Screen Process: Lacquer Spraying, Equalizing, and Drying - Line 3 Permanently Enclosed and Vented to a Fume Concentrator and Catalytic Incinerator | OAC rule 3745-31-05 (A)(3) PTI 08-3786 | 2.6 lbs/hr OC, excluding cleanup<br><br>83.3 lbs/day OC, including cleanup<br><br>15.29 TPY OC, including cleanup<br><br>See A.I.2.a. |
| | OAC rule 3745-21-07(G)(2) | The emission limtations/control requirements of this rule are less stringent than the emission limtations/control requirements established pursuant to OAC rule 3745-31-05 (A) (3). |
| | OAC rule 3745-21-07(G)(6) | The control requirement of this rule is equivalent to the control requirement established pursuant to OAC rule 3745-31-05(A). |

**2. Additional Terms and Conditions**

**2.a** The OC emissions from this emissions unit shall be controlled through the application of a permanent total enclosure (PTE) with a 100 percent capture efficiency and a removal/destruction efficiency of at least 90%, by weight, for OC.

(The OC emissions control system is common to emissions units K011, K012 and K018.)

**2.b** The hourly emission limitation was established for purposes of the PTI to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.

## II. Operational Restrictions

**1.** The permanent total enclosure (PTE)* serving this emissions unit shall be installed and operated in accordance with 40 CFR Part 51, Appendix M, Method 204, whenever the emissions unit is in operation. The PTE shall meet the following criteria:

a. any "Natural Draft Opening" (NDO)* shall be at least 4 equivalent diameters from each OC emission point;

b. the total area of all NDOs shall not exceed 5% of the surface area of the enclosure's four walls, floor and ceiling;

c. the average facial velocity (FV) of air through all NDOs shall be at least 3,600 m/hr (200 fpm) which corresponds to a pressure differential of 0.007 inches of water. The direction of air through all NDOs shall be into the enclosure;

d. all access doors and windows whose areas are not included in paragraph (b) and are not included in the calculation in paragraph (c) shall be closed during routine operation; and

e. all OC emissions must be captured and contained for discharge through the OC control device.

By satisfying the criteria above for establishing permanent total enclosure, the total organic capture efficiency shall be assumed to be 100%.

* Definitions for PTE and NDO:

Permanent Total Enclosure (PTE) - a permanently installed enclosure that completely surrounds a source of emissions such that all OC emissions are captured and contained for discharge through a control device.

Natural Draft Opening (NDO) - any permanent opening in the enclosure that remains open during operation of the facility and is not connected to a duct to which a fan is installed.

**2.** The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than 0.007 inch of water, as a 3-hour average, whenever the emissions unit is in operation.

**3.** The average temperature of the desorption air stream prior to the fume concentrator wheel, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**4.** The number of revolutions per hour (RPH) of the fume concentrator shall be continuously maintained, when the emissions unit is in operation, at a value within +/-1 RPH of the value established during the most recent emissions test that demonstrated compliance.

**5.** The average temperature of the exhaust gases immediately before the catalyst bed [the temperature of the concentrated OC laden air stream exiting the OC concentrator wheel], for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature of the exhaust gases immediately after the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the catalytic incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately after the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**2.** The permittee shall maintain and operate monitoring devices and a recorder that simultaneously measure and record the pressure inside and outside the permanent total enclosure. The monitoring and recording devices shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall maintain records of all 3-hour blocks of time during which the permanent total enclosure was not maintained at or above the minimum pressure differential of 0.007 inch of water, as a 3-hour average.

**3.** The permittee shall operate and maintain continuous temperature monitors and recorders that measure and record the temperature of the desorption air stream prior to the OC fume concentrator.

Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the average temperature for each of the 8 3-hour blocks during the day. The permittee shall also maintain a log or record of the downtime for the capture (collection) system, control devices and monitoring equipment when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall collect and record the following information each day for this emissions unit:

a. The company identification of each lacquer and cleanup material employed;

b. The amount of each lacquer and cleanup material employed, in pounds.

c. The OC content of each lacquer and cleanup material employed, in percent by weight.

d. The total potential OC emission rate for all the lacquer materials, in pounds, i.e., summation of (a x b) for all lacquer materials.

e. The amount of the lacquer materials disposed of as waste, in pounds.

f. The OC content of the waste lacquer materials, in percent by weight.

g. The amount of OC in the waste lacquer materials, in pounds, i.e., (d x e).

h. The amount of the lacquer materials reclaimed, in pounds.

i. The OC content of the lacquer materials reclaimed, in percent , by weight.

j. The amount of OC in the lacquer materials reclaimed, i.e., (g x h).

k. The amount of OC emissions from all the cleanup materials employed (summation of (b x c) for all cleanup materials), in pounds.

l. The total, controlled OC emission rate, i.e., [(g) + (j)] subtracted from [(d) + (k)]. The result shall then be multiplied by the average overall control efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance.

**5.** The permittee shall perform daily checks, when the emissions unit is in operation, to record the concentrator RPH.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports, when the emissions unit was in operation, that identify the following:

a. All 3-hour blocks of time during which the average temperature of the desorption air stream prior to the OC concentrator wheel did not comply with the temperature limitation specified in Section A.II. of these terms and conditions.

b. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately before the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

c. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately after the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

d. Each day during which the total OC emissions exceeded 83.3 pounds, including cleanup, and the actual OC emissions for each such day.

**2.** The permittee shall submit quarterly pressure differential deviation (excursion) reports that identify all 3-hour blocks of time during which the permanent total enclosure was not maintained at the minimum pressure differential of 0.007 inch of water, as a 3-hour average.

## IV. Reporting Requirements (continued)

**3.** The permittee shall submit quarterly deviation (excursion) reports that include the following information for the fume concentrator wheel:

a. An identification of each day during which the RPH was greater than +/- 1 RPH from the value established at the most recent performance test which demonstrated compliance.

b. The corrective actions taken to reestablish the concentrator revolution speed.

**4.** If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**5.** The permittee shall submit annual reports to the Director (the local air agency) that specify the total annual OC emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in Section A.I.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
2.6 lbs/hr OC, excluding cleanup

Applicable Compliance Method-
The hourly OC limitation was established as follows:

i. multiply the maximum hourly lacquer material usage rate of 3.8 gallons by the maximum OC content of the lacquer materials of 95%, by volume;

ii. multiply the result from 1.a.i by density of toluene (7.26 lbs/gallon); and

iii. multiply the result from 1.a.ii by a factor of 1 minus the overall control efficiency as determined during the most recent emission testing that demonstrated the emissions unit was in compliance (until further testing is conducted, use 97.5% destruction efficiency, based on the results of the emission testing conducted on March 27, 1997).

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
83.3 lbs/day OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.4 of this permit.

**1.c** Emission Limtiation-
15.29 TPY OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.4 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

## V. Testing Requirements (continued)

**1.d** Emission Limitation-
minimum overall fume concentrator/catalytic incinerator control efficiency of 90% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the methods and procedures outlined in Section A.V.2 of this permit.

**2.** Formulation data or USEPA Method 24 shall be used to determine the organic compound contents of the coatings and cleanup materials.

**3.** 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 12 months of permit issuance and within 6 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs, and shall include determinations of the capture efficiency, and the fume concentrator/catalytic incinerator control efficiency.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the carbon adsorption and catalytic incineration system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the concentrator, and in the exhaust stack.

d. The test(s) shall be conducted while emissions units K011, K012 and K018 are operating at or near their maximum capacities, unless otherwise specified or approved by the 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.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Frit Mixing and Application (C-504) Line 3 (K012)

**Activity Description:** Funnel Process: Frit Coating/Drying - Line 3

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Mixing and Applicator, with Fume Cocnentrator and Catalytic Incinerator; Line #3; C-504 | OAC rule 3745-31-05 (A)(3)<br>PTI 08-4103 | The requirements of this rule also include compliance with OAC rules 3745-21-07(G), 3745-17-07 (A), and 3745-17-11.<br><br>50.8 lbs/day organic compounds (OC), from frit application<br><br>40 lbs/day OC, from cleanup<br><br>16.6 TPY OC, from frit and cleanup materials usage |
| | OAC rule 3745-17-07(A) | Visible particulate emissions (PE) shall not exceed 20 percent opacity, as a 6-minute average, except as provided by rule. |
| | OAC rule 3745-17-11 | 0.551 lb/hr PE |
| | OAC rule 3745-21-07(G) | See A.II.1. |

**2. Additional Terms and Conditions**

**2.a** The 0.551 lb/hr PE limit was developed to reflect the potential to emit for the emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with this limit.

**2.b** The OC emissions from this emissions unit shall be controlled through the application of a fume concentrator/catalytic incinerator control system with a minimum removal/destruction efficiency of at lest 90% by weight, for OC.

(The OC emissions control system is common to emissions units K011, K012 and K018.)

### II. Operational Restrictions

**1.** The use of any photochemically reactive material in this emissions unit, as defined in OAC rule 3745-21-01 (C)(5), is prohibited.

## II. Operational Restrictions (continued)

**2.** The permittee shall employ a vacuum filtration system during frit mixing to control all the PE from this emissions unit.

**3.** The average temperature of the desorption air stream prior to the fume concentrator wheel, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**4.** The number of revolutions per hour (RPH) of the fume concentrator shall be continuously maintained, when the emissions unit is in operation, at a value within +/-1 RPH of the value established during the most recent emissions test that demonstrated compliance.

**5.** The average temperature of the exhaust gases immediately before the catalyst bed [the temperature of the concentrated OC laden air stream exiting the OC concentrator wheel], for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature of the exhaust gases immediately after the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information each day for this emissions unit:

a. The number of pounds of each frit vehicle mixed and applied.

b. The number of pounds of each frit vehicle accounted for as waste.

c. The OC content of each frit vehicle employed, in percent by weight.

d. The total OC emission rate for all the frit vehicles mixed and applied, in pounds, i.e., summation of X* for all the frit vehicles mixed and applied.

e. The number of pounds of each cleanup material employed.

f. The OC content of each cleanup material employed, in percent by weight.

g. The total OC emission rate for all the cleanup materials employed [summation of (e x f) for all cleanup materials], in pounds.

h. The total OC emission rate for all the frit vehicles mixed and applied, and cleanup materials, in pounds, i.e., (d + g).

i. Documentation on whether or not each frit vehicle mixed and applied or cleanup material employed is a photochemically reactive material.

* X = y x b x 0.31**

where:

y = lbs of each frit vehicle mixed - lbs of each frit vehicle accounted for as waste

b = OC content of each frit vehicle, in percent by weight

X = lbs OC emissions/day, from frit vehicle mixing and application

** portion of OCs emitted during mixing and application of frit vehicle

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permittee shall maintain a log of all the time periods during which the vacuum filtration system was not functioning, when the emissions unit was in operation (during frit mixing).

**3.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the catalytic incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately after the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**4.** The permittee shall operate and maintain continuous temperature monitors and recorders that measure and record the temperature of the desorption air stream prior to the OC fume concentrator.

Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the average temperature for each of the 8 3-hour blocks during the day. The permittee shall also maintain a log or record of the downtime for the capture (collection) system, control devices and monitoring equipment when the associated emissions unit was in operation.

**5.** The permittee shall perform daily checks, when the emissions unit is in operation, to record the concentrator RPH.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that include an identification of each day during which the total OC emissions from the frit mixing and application exceeded 50.8 pounds per day, and the actual OC emission for each such day, and each day during which the total OC emissions from the cleanup materials usage exceeded 40 pounds per day, and the actual organic compound emissions for each such day.

The permittee shall submit the quarterly deviation (excursion) reports, in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**2.** The permittee shall submit quarterly summaries that include a log of all the time periods during which the vacuum filtration system was not functioning, when the emissions unit was in operation (during frit mixing).

**3.** The permittee shall notify the Director (the appropriate local air agency) of each day during which any photochemically reactive material was employed in this emissions unit. The notification shall be submitted in writing within 45 days after the deviation occurs.

## IV. Reporting Requirements (continued)

**4.** The permittee shall submit quarterly deviation (excursion) reports, when the emissions unit was in operation, that identify the following:

a. All 3-hour blocks of time during which the average temperature of the desorption air stream prior to the OC concentrator wheel did not comply with the temperature limitation specified in Section A.II. of these terms and conditions.

b. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately before the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

c. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately after the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

**5.** The permittee shall submit quarterly deviation (excursion) reports that include the following information for the fume concentrator wheel:

a. An identification of each day during which the RPH was greater than +/- 1 RPH from the value established at the most recent performance test which demonstrated compliance.

b. The corrective actions taken to reestablish the concentrator revolution speed.

**6.** If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

## V. Testing Requirements

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

**1.a** Emission Limitations-
50.8 lbs/day OC, from frit mixing and application
40 lbs/day OC, from cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping required in section A.III.1 of this permit.

**1.b** Emission Limitation-
16.6 TPY, including cleanup

Applicable Compliance Method-
Compliance with the limitation above shall be based upon the record keeping specified in Section A.III.1 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

**1.c** Emission Limitation-
Visible PE shall not exceed 20 percent opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method-
If required, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03 (B)(1).

## V. Testing Requirements (continued)

**1.d** Emission Limitation-
0.551 lb/hr PE

Applicable Compliance Method-
If required, compliance with the PE limitation above shall be based upon stack testing conducted in accordance with OAC rule 3745-17-03 (B)(10).

**2.** Formulation data or USEPA Method 24 shall be used to determine the organic compound contents of the frit and cleanup materials.

**3.** 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 12 months of permit issuance and within 6 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs, and shall include determinations of the capture efficiency, and the fume concentrator/catalytic incinerator control efficiency.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the carbon adsorption and catalytic incineration system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the concentrator, and in the exhaust stack.

d. The test(s) shall be conducted while emissions units K011, K012 and K018 are operating at or near their maximum capacities, unless otherwise specified or approved by the 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.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Mixing and Applicator, with Fume Cocentrator and Catalytic Incinerator; Line #3; C-504 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: amyl acetate

TLV (ug/m3):532,000

Maximum Hourly Emission Rate (lbs/hr): 4.66

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 375.8

MAGLC (ug/m3): 12,670

## III. Monitoring and/or Record Keeping Requirements (continued)

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is(are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**2.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that a changed emissions unit will still satisfy the "Air Toxic Policy":

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Lacquer Process (D-105-1, D-106, D-107) PRT (K013)

**Activity Description:** Bulb Process: Lacquer Spraying, Cone Washing, Drying - PRT Line

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| K013 - Bulb Process: Lacquer Spraying, Cone Washing, Drying - PRT Line Permanently Enclosed vented to a Fume Concentrator and Catalytic Incinerator | OAC rule 3745-31-05 (A)(3) PTI 08-3786 | 1.0 lb/hr OC, excluding cleanup<br><br>28 lbs/day OC, including cleanup<br><br>5.11 TPY OC, including cleanup<br><br>See A.I.2.a. |
| | OAC rule 3745-21-07(G)(2) | The emission limtations/control requirements of this rule are less stringent than the emission limtations/control requirements established pursuant to OAC rule 3745-31-05 (A)(3). |
| | OAC rule 3745-21-07(G)(6) | The control requirement of this rule is equivalent to the control requirement established pursuant to OAC rule 3745-31-05(A). |

**2. Additional Terms and Conditions**

**2.a** The OC emissions from this emissions unit shall be controlled through the application of a permanent total enclosure (PTE) with a 100 percent capture efficiency and a removal/destruction efficiency of at least 90%, by weight, for OC.

**2.b** The hourly emission limitation was established for purposes of the PTI to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.

## II. Operational Restrictions

**1.** The permanent total enclosure (PTE)* serving this emissions unit shall be installed and operated in accordance with 40 CFR Part 51, Appendix M, Method 204, whenever the emissions unit is in operation. The PTE shall meet the following criteria:

a. any "Natural Draft Opening" (NDO)* shall be at least 4 equivalent diameters from each OC emission point;

b. the total area of all NDOs shall not exceed 5% of the surface area of the enclosure's four walls, floor and ceiling;

c. the average facial velocity (FV) of air through all NDOs shall be at least 3,600 m/hr (200 fpm) which corresponds to a pressure differential of 0.007 inches of water. The direction of air through all NDOs shall be into the enclosure;

d. all access doors and windows whose areas are not included in paragraph (b) and are not included in the calculation in paragraph (c) shall be closed during routine operation; and

e. all OC emissions must be captured and contained for discharge through the OC control device.

By satisfying the criteria above for establishing permanent total enclosure, the total organic capture efficiency shall be assumed to be 100%.

* Definitions for PTE and NDO:

Permanent Total Enclosure (PTE) - a permanently installed enclosure that completely surrounds a source of emissions such that all OC emissions are captured and contained for discharge through a control device.

Natural Draft Opening (NDO) - any permanent opening in the enclosure that remains open during operation of the facility and is not connected to a duct to which a fan is installed.

**2.** The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than 0.007 inch of water, as a 3-hour average, whenever the emissions unit is in operation.

**3.** The average temperature of the desorption air stream prior to the fume concentrator wheel, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**4.** The number of revolutions per hour (RPH) of the fume concentrator shall be continuously maintained, when the emissions unit is in operation, at a value within +/-1 RPH of the value established during the most recent emissions test that demonstrated compliance.

**5.** The average temperature of the exhaust gases immediately before the catalyst bed [the temperature of the concentrated OC laden air stream exiting the OC concentrator wheel], for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature of the exhaust gases immediately after the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the catalytic incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately after the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**2.** The permittee shall maintain and operate monitoring devices and a recorder that simultaneously measure and record the pressure inside and outside the permanent total enclosure. The monitoring and recording devices shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall maintain records of all 3-hour blocks of time during which the permanent total enclosure was not maintained at or above the minimum pressure differential of 0.007 inch of water, as a 3-hour average.

**3.** The permittee shall operate and maintain continuous temperature monitors and recorders that measure and record the temperature of the desorption air stream prior to the OC fume concentrator.

Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the average temperature for each of the 8 3-hour blocks during the day. The permittee shall also maintain a log or record of the downtime for the capture (collection) system, control devices and monitoring equipment when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall collect and record the following information each day for this emissions unit:

a. The company identification of each lacquer and cleanup material employed;

b. The amount of each lacquer and cleanup material employed, in pounds.

c. The OC content of each lacquer and cleanup material employed, in percent by weight.

d. The total potential OC emission rate for all the lacquer materials, in pounds, i.e., summation of (a x b) for all lacquer materials.

e. The amount of the lacquer materials disposed of as waste, in pounds.

f. The OC content of the waste lacquer materials, in percent by weight.

g. The amount of OC in the waste lacquer materials, in pounds, i.e., (d x e).

h. The amount of the lacquer materials reclaimed, in pounds.

i. The OC content of the lacquer materials reclaimed, in percent , by weight.

j. The amount of OC in the lacquer materials reclaimed, i.e., (g x h).

k. The amount of OC emissions from all the cleanup materials employed (summation of (b x c) for all cleanup materials), in pounds.

l. The total, controlled OC emission rate, i.e., [(g) + (j)] subtracted from [(d) + (k)]. The result shall then be multiplied by the average overall control efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance.

**5.** The permittee shall perform daily checks, when the emissions unit is in operation, to record the concentrator RPH.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports, when the emissions unit was in operation, that identify the following:

a. All 3-hour blocks of time during which the average temperature of the desorption air stream prior to the OC concentrator wheel did not comply with the temperature limitation specified in Section A.II. of these terms and conditions.

b. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately before the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

c. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately after the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

d. Each day during which the total OC emissions exceeded 83.3 pounds, including cleanup, and the actual OC emissions for each such day.

**2.** The permittee shall submit quarterly pressure differential deviation (excursion) reports that identify all 3-hour blocks of time during which the permanent total enclosure was not maintained at the minimum pressure differential of 0.007 inch of water, as a 3-hour average.

## IV. Reporting Requirements (continued)

**3.** The permittee shall submit quarterly deviation (excursion) reports that include the following information for the fume concentrator wheel:

a. An identification of each day during which the RPH was greater than +/- 1 RPH from the value established at the most recent performance test which demonstrated compliance.

b. The corrective actions taken to reestablish the concentrator revolution speed.

**4.** If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**5.** The permittee shall submit annual reports to the Director (the local air agency) that specify the total annual OC emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in Section A.I.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.0 lb/hr OC, excluding cleanup

Applicable Compliance Method-
The hourly OC limitataion was established as follows:

i. multiply the maximum hourly lacquer material usage rate of 1.1 gallons by the maximum OC content of the lacquer materials of 97%, by volume;

ii. multiply the result from 1.a.i by density of toluene (7.26 lbs/gallon); and

iii. multiply the result from 1.a.ii by a factor of 1 minus the overall control efficiency as determined during the most recent emission testing that demonstrated the emissions unit was in compliance (until further testing is conducted, use 96.88% destruction efficiency, based on the results of the emission testing conducted on June 4, 1998).

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
28 lbs/day OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.4 of this permit.

**1.c** Emission Limtiation-
5.11 TPY OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.4 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

## V. Testing Requirements (continued)

**1.d** Emission Limitation-
minimum overall fume concentrator/catalytic incinerator control efficiency of 90% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the methods and procedures outlined in Section A.V.2 of this permit.

**2.** Formulation data or USEPA Method 24 shall be used to determine the organic compound contents of the coatings and cleanup materials.

d. The test(s) shall be conducted while emissions unit K013 is operating at or near their maximum capacity, unless otherwise specified or approved by the 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.

**3.** 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 24 months of permit issuance.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs, and shall include determinations of the capture efficiency, and the fume concentrator/catalytic incinerator control efficiency.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the carbon adsorption and catalytic incineration system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the concentrator, and in the exhaust stack.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Frit Drying Tunnel (A-505) Line 1 (K014)

**Activity Description:** Funnel Process: Line 1 Drying Tunnel

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Drying Tunnel, with Fume Concentrator and Catalytic Incinerator; Line #1 | OAC 3745-31-05(A)(3)<br>PTI 08-4020 | 32.63 lbs/day organic compounds (OC)<br><br>5.95 TPY OC<br><br>The requirements of this rule also include compliance with OAC rule 3745-21-07(G). |
| | OAC rule 3745-21-07(G) | See A.II.1. |

**2. Additional Terms and Conditions**

**2.a** The OC emissions control system is common to emissions units K005 and K014.)

### II. Operational Restrictions

**1.** The use of any photochemically reactive material in this emissions unit, as defined in OAC rule 3745-21-01 (C)(5), is prohibited.

**2.** The average temperature of the exhaust gases immediately before the catalyst bed [the temperature of the concentrated OC laden air stream exiting the OC concentrator wheel], for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature of the exhaust gases immediately after the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**3.** The average temperature of the desorption air stream prior to the fume concentrator wheel, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

**4.** The number of revolutions per hour (RPH) of the fume concentrator shall be continuously maintained, when the emissions unit is in operation, at a value within +/- RPH of the value established during the most recent emissions test that demonstrated compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information each day for this emissions unit:

a. The number of pounds of each frit vehicle mixed and applied.

b. The number of pounds of each frit vehicle accounted for as waste.

c. The OC content of each frit vehicle employed, in percent by weight.

d. The total OC emission rate, in pounds, i.e., summation of X* for all frit vehicles mixed and applied.

e. The number of pounds of each cleanup material employed.

f. The OC content of each cleanup material employed, in percent by weight.

g. The total OC emission rate for all the cleanup materials employed [summation of (e x f) for all cleanup materials], in pounds.

h. The total OC emission rate, including cleanup, in pounds, i.e., (d + g).

i. Documentation on whether or not each frit vehicle mixed and applied or cleanup material employed is a photochemically reactive material.

* X = [(1 - a) x 0.5 x (y x b) + (1 - 0.5) x (y x b) - 0.12 x (y x b) - 0.06 x (y x b)]**

where:

a = the percent overall control efficiency of the fume concentrator/catalytic incinerator, as determined during the most recent emission testing that demonstrated the emissions unit is in compliance

y = lbs of each frit vehicle mixed - lbs of each frit vehicle accounted for as waste

b = OC content of each frit vehicle, in percent by weight

0.5 = capture efficiency is assumed to be 50%

0.12yb = the portion of OCs emitted in the oven

0.06yb = the portion of OCs emitted in the frit mixing operation

X = lbs OC/day

** This equation was defined in the Administrative Findings and Orders issued on March 23, 1999.

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the catalytic incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately after the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**3.** The permittee shall perform daily checks, when the emissions unit is in operation, to record the concentrator RPH.

**4.** The permittee shall operate and maintain continuous temperature monitors and recorders that measure and record the temperature of the desorption air stream prior to the OC fume concentrator.

Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the average temperature for each of the 8 3-hour blocks during the day. The permittee shall also maintain a log or record of the downtime for the capture (collection) system, control devices and monitoring equipment when the associated emissions unit was in operation.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports, when the emissions unit was in operation, that identify the following:

a. All 3-hour blocks of time during which the average temperature of the desorption air stream prior to the OC concentrator wheel did not comply with the temperature limitation specified in Section A.II. of these terms and conditions.

b. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately before the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

c. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately after the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

d. Each day during which the total OC emissions exceeded 32.63 pounds, including cleanup, and the actual OC emissions for each such day.

## IV. Reporting Requirements (continued)

**2.** The permittee shall submit quarterly deviation (excursion) reports that include the following information for the fume concentrator wheel:

a. An identification of each day during which the RPH was greater than +/- 1 RPH from the value established at the most recent performance test which demonstrated compliance.

b. The corrective actions taken to reestablish the concentrator revolution speed.

**3.** If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**4.** The permittee shall submit annual reports to the Director (the local air agency) that specify the total annual OC emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

## V. Testing Requirements

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

**1.a** Emission Limitation-
32.63 lbs/day OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

**1.b** Emission Limitation-
5.95 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

**1.c** Emission Limitation-
minimum overall fume concentrator/catalytic incinerator control efficiency of 90% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the methods and procedures outlined in Section A.V.2 of this permit.

## V. Testing Requirements (continued)

**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 24 months of permit issuance.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs, and shall include determinations of the capture efficiency, and the fume concentrator/catalytic incinerator control efficiency.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the carbon adsorption and catalytic incineration system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the concentrator, and in the exhaust stack.

d. The test(s) shall be conducted while emissions units K005 and K014 are operating at or near their maximum capacities, unless otherwise specified or approved by the 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.

**3.** Formulation data or USEPA Method 24 shall be used to determine the organic compound content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Drying Tunnel with Fume Concentrator and Catalytic Incinerator; Line #1 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: amyl acetate

TLV (ug/m3): 532,000

Maximum Hourly Emission Rate (lbs/hr): 1.36

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 27.86

MAGLC (ug/m3): 12,670

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the Air Toxic Policy is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the Air Toxic Policy will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and,

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the Air Toxic Policy will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is(are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**3.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that a changed emissions unit will still satisfy the Air Toxic Policy:

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the Air Toxic Policy; and,

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Frit Oven (A-408) Line 1 (K015)

**Activity Description:** Funnel Process: Frit Oven - Line 1

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Oven Line #1; Stack #14 | OAC rule 3745-31-05(A)(3)<br>PTI 08-4020 | The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(G)(1).<br><br>2.74 TPY organic compounds (OC)<br><br>3.51 lbs/hr particulate emissions (PE)<br><br>15.37 TPY PE<br><br>Visible PE shall not exceed 5 percent opacity, as a 6-minute average. |
| | OAC rule 3745-21-07 (G)(1) | 3.0 lbs/hr OC and 15.0 lbs/day OC |
| | OAC rule 3745-17-07 (A)<br>OAC rule 3745-17-11(B) | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**2.a** The 3.51 lbs/hr and 15.37 TPY PE limitations were developed to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with these limits.

### II. Operational Restrictions

**None**

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information each day for this emissions unit:

a. The number of pounds of each frit vehicle mixed and employed.

b. The number of pounds of each frit vehicle accounted for as waste.

c. The OC content of each frit vehicles, in percent by weight.

d. The number of pounds of each cleanup material employed.

e. The OC content of each cleanup material, in percent by weight.

f. The total OC emission rate for all the frit vehicles employed {summation of [(a - b) x c x 0.12]** for all frit vehicles}, in pounds.

g. The total OC emission rate for all the cleanup materials [summation of (d x e) for all cleanup materials], in pounds.

h. The total OC emission rate for all the frit vehicles and cleanup materials employed (f + g), in pounds.

i. The total number of hours this emissions unit was in operation

j. The average hourly OC emission rate, i.e., (h)/(i), in pounds per hour (average).

** This equation was defined in the Administrative Findings and Orders issued on March 23, 1999.

0.12 = the portion, in percent by weight, of OCs emitted in the oven

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly organic compound emissions exceeded 3 pounds per hour, and the actual average hourly organic compound emissions for each such day.

b. An identification of each day during which the organic compound emissions exceeded 15 pounds per day, and the actual organic compound emissions for each such day.

**2.** The permittee shall submit the quarterly deviation (excursion) reports in accordance with paragraph A.1. of the General Terms and Conditions of this permit.

## V. Testing Requirements

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

**1.a** Emission Limitation-
3.0 lbs/hr OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

## V. Testing Requirements (continued)

**1.b** Emission Limitation-
15.0 lbs/day OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

**1.c** Emission Limitation-
2.74 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

**1.d** Emission Limitation-
3.51 lbs/hr PE

Applicable Compliance Method-
Compliance with the PE limitation above may be determined by multiplying the maximum process weight rate of 11,740 lbs/hr by a company-derived emission factor of 2.99 x 10-4 lb PE/lb of material.

If required, compliance with the PE limitation above shall be based upon the results of stack testing conducted in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.

**1.e** Emission Limitation-
15.37 TPY PE

Applicable Compliance Method-
Provided compliance is shown with the hourly PE limitation of 3.51 lbs/hr, compliance shall also be shown with the annual limitation above (the annual limitation was established by multiplying the hourly limitation by 8760, and then dividing by 2000 lbs/ton).

**1.f** Emission Limitation-
Visible PE shall not exceed 5 percent opacity, as a 6-minute average.

Applicable Compliance Method-
If required, compliance shall be determined by visible emission evaluations performed in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Oven Line #1; Stack #14 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results for the "worst case" pollutant(s):

Pollutant: amyl acetate

TLV (ug/m3): 532,000

Maximum Hourly Emission Rate (lbs/hr): 3.0

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 774.1

MAGLC (ug/m3): 12,670

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**3.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Frit Drying Tunnel (C-505) Line 3 (K018)

**Activity Description:** Funnel Process: Frito Oven - Line 3

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Drying Tunnel, with Fume Concentrator and Catalytic Incinerator; Line #2 | OAC 3745-31-05(A)(3)<br>PTI 08-4103 | 8.4 lbs/day organic compounds (OC)<br><br>1.5 TPY OC<br><br>The requirements of this rule also include compliance with OAC rule 3745-21-07(G). |
| | OAC rule 3745-21-07(G) | See A.II.1. |

**2. Additional Terms and Conditions**

**2.a** The OC emissions from this emissions unit shall be controlled through the application of a fume concentrator/catalytic incinerator control system a minimum removal/destruction efficiency of at least 90%, by weight, for OC.

(The OC emissions control system is common to emissions units K011, K012 and K018.)

### II. Operational Restrictions

**1.** The use of any photochemically reactive material in this emissions unit, as defined in OAC rule 3745-21-01 (C)(5), is prohibited.

**2.** The average temperature of the exhaust gases immediately before the catalyst bed [the temperature of the concentrated OC laden air stream exiting the OC concentrator wheel], for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature of the exhaust gases immediately after the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**3.** The average temperature of the desorption air stream prior to the fume concentrator, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

## II. Operational Restrictions (continued)

**4.** The number of revolutions per hour (RPH) of the fume concentrator shall be continuously maintained, when the emissions unit is in operation, at a value within +/- RPH of the value established during the most recent emissions test that demonstrated compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information each day for this emissions unit:

a. The number of pounds of each frit vehicle mixed and applied.

b. The number of pounds of each frit vehicle accounted for as waste.

c. The OC content of each frit vehicle employed, in percent by weight.

d. The total OC emission rate for all the frit vehicles mixed and applied, in pounds, i.e., summation of X* for all frit vehicle mixed and applied.

e. The number of pounds of each cleanup material employed.

f. The OC content of each cleanup material employed, in percent by weight.

g. The total OC emission rate for all the cleanup materials employed [summation of (e x f) for all cleanup materials], in pounds.

h. The total OC emission rate for all the frit vehicles mixed/applied and cleanup materials, in pounds, i.e., (d + g).

i. Documentation on whether or not each frit vehicle mixed and applied or cleanup material employed is a photochemically reactive material.

* X = [(1 - a) x 0.65 x (y x b) + (1 - 0.65) x (y x b) - 0.31 x (y x b) - 0.04 x (y x b)]

where:

a = the percent overall control efficiency of the fume concentrator/catalytic incinerator, as determined during the most recent emission testing that demonstrated the emissions unit is in compliance

y = lbs of each frit vehicle mixed - lbs of each frit vehicle accounted for as waste

b = OC content of each frit vehicle, in percent by weight

X = lbs OC/day

0.65 = capture efficiency is assumed to be 65%

0.31yb = portion of OCs emitted in the mixing/application of the frit

0.04 = portion of OCs emitted in the oven

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the catalytic incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately after the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**3.** The permittee shall perform daily checks, when the emissions unit is in operation, to record the concentrator RPH.

**4.** The permittee shall operate and maintain continuous temperature monitors and recorders that measure and record the temperature of the desorption air stream prior to the OC fume concentrator.

Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the average temperature for each of the 8 3-hour blocks during the day. The permittee shall also maintain a log or record of the downtime for the capture (collection) system, control devices and monitoring equipment when the associated emissions unit was in operation.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports, when the emissions unit was in operation, that identify the following:

a. All 3-hour blocks of time during which the average temperature of the desorption air stream prior to the OC concentrator wheel did not comply with the temperature limitation specified in Section A.II. of these terms and conditions.

b. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately before the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

c. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately after the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

d. Each day during which the total OC emissions exceeded 8.4 pounds, including cleanup, and the actual OC emissions for each such day.

## IV. Reporting Requirements (continued)

**2.** The permittee shall submit quarterly deviation (excursion) reports that include the following information for the fume concentrator wheel:

a. An identification of each day during which the RPH was greater than +/- 1 RPH from the value established at the most recent performance test which demonstrated compliance.

b. The corrective actions taken to reestablish the concentrator revolution speed.

**3.** If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**4.** The permittee shall submit annual reports to the Director (the local air agency) that specify the total annual OC emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

## V. Testing Requirements

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

**1.a** Emission Limitation-
8.4 lbs/day OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit.

**1.b** Emission Limitation-
1.5 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.1 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

**1.c** Emission Limitation-
minimum overall fume concentrator/catalytic incinerator control efficiency of 90% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the methods and procedures outlined in Section A.V.2 of this permit.

## V. Testing Requirements (continued)

**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 12 months of permit issuance and within 6 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs, and shall include determinations of the capture efficiency, and the fume concentrator/catalytic incinerator control efficiency.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the carbon adsorption and catalytic incineration system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the concentrator, and in the exhaust stack.

d. The test(s) shall be conducted while emissions units K011, K012 and K018 are operating at or near their maximum capacities, unless otherwise specified or approved by the 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.

**3.** Formulation data or USEPA Method 24 shall be used to determine the organic compound content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Drying Tunnel with Fume Concentrator and Catalytic Incinerator; Line #3 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: amyl acetate

TLV (ug/m3): 532,000

Maximum Hourly Emission Rate (lbs/hr): 1.36

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 27.86

MAGLC (ug/m3): 12,670

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the Air Toxic Policy is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the Air Toxic Policy will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and,

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the Air Toxic Policy will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is(are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**3.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that a changed emissions unit will still satisfy the Air Toxic Policy:

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the Air Toxic Policy; and,

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Lacquer Process (D-310,311,312) Line 4 (K019)

**Activity Description:** Lacquer spraying within permanent total enclosure

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Screen Process: Lacquer Spraying, Edge Cleaning and Drying; E-310, E-311, E-312 -Permanently Enclosed and vented to a Fluidized Bed Fume Concentrator and Thermal Incinerator | OAC rule 3745-31-05 (A)(3) PTI 08-4133 | 2.25 lbs/hr OC, including cleanup<br><br>54.05 lbs/day OC, including cleanup<br><br>9.86 TPY OC, including cleanup<br><br>See A.I.2.a. |
| | OAC rule 3745-21-07(G)(2) | The emission limtations/control requirements of this rule are less stringent than the emission limtations/control requirements established pursuant to OAC rule 3745-31-05 (A)(3). |
| | OAC rule 3745-21-07(G)(6) | The control requirement of this rule is equivalent to the control requirement established pursuant to OAC rule 3745-31-05(A). |

**2. Additional Terms and Conditions**

**2.a** The OC emissions from this emissions unit shall be controlled through the application of a permanent total enclosure (PTE) with a 100 percent capture efficiency and a fluidized bed fume concentrator and thermal incinerator system with a removal/destruction efficiency of at least 90%, by weight, for OC.

(The OC emission control system is common to emissions units K019, K020 and K021.)

**2.b** The hourly emission limitation was established for purposes of the PTI to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.

### II. Operational Restrictions

**1.** The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than the minimum pressure differential (inches of water) established during the most recent emissions test that demonstrated the emissions unit was in compliance, whenever this emissions unit is in operation.

## II. Operational Restrictions (continued)

**2.** The permanent total enclosure (PTE)* serving this emissions unit shall be installed and operated in accordance with 40 CFR Part 51, Appendix M, Method 204, whenever the emissions unit is in operation. The PTE shall meet the following criteria:

a. any "Natural Draft Opening" (NDO)* shall be at least 4 equivalent diameters from each OC emission point;

b. the total area of all NDOs shall not exceed 5% of the surface area of the enclosure's four walls, floor and ceiling;

c. the average facial velocity (FV) of air through all NDOs shall be at least 3,600 m/hr (200 fpm) which corresponds to a pressure differential of 0.007 inches of water. The direction of air through all NDOs shall be into the enclosure;

d. all access doors and windows whose areas are not included in paragraph (b) and are not included in the calculation in paragraph (c) shall be closed during routine operation; and

e. all OC emissions must be captured and contained for discharge through the OC control device.

By satisfying the criteria above for establishing permanent total enclosure, the total organic capture efficiency shall be assumed to be 100%.

* Definitions for PTE and NDO:

Permanent Total Enclosure (PTE) - a permanently installed enclosure that completely surrounds a source of emissions such that all OC emissions are captured and contained for discharge through a control device.

Natural Draft Opening (NDO) - any permanent opening in the enclosure that remains open during operation of the facility and is not connected to a duct to which a fan is installed.

**3.** The average temperature of the desorption air stream prior to the fluidized bed fume concentrator wheel, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**4.** The average temperature of the combustion chamber within the thermal incinerator, for any 3-hour period while the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**5.** The average pressure differential across the adsorption chamber in the fluidized bed concentrator, for any 3-hour block of time, shall not be more than 20% below the average pressure differential that was observed during the most recent emission test that demonstrated the emissions unit was in compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall operate and maintain continuous monitors and recorder(s) which measure and record(s) the appropriate parameters at the following location, when the emissions unit is in operation:

a. All 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

c. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the desorption air stream prior to the OC fuidized bed fume concentrator was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

d. All 3-hour blocks of time (when the emissions unit was in operation) during which the average pressure differential across the adsorption chamber in the fluidized bed concentrator was more than 20% below the average pressure differential that was observed during the most recent emission test that demonstrated the emissions unit was in compliance.

**2.** The permittee shall maintain and operate monitoring devices and a recorder that simultaneously measure and record the pressure inside and outside the permanent total enclosure. The monitoring and recording devices shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall maintain records of all 3-hour blocks of time during which the permanent total enclosure was not maintained at or above the minimum pressure differential specified in section A.II.2.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information each day for this emissions unit:

a. The company identification of each lacquer and cleanup material employed;

b. The amount of each lacquer and cleanup material employed, in pounds.

c. The OC content of each lacquer and cleanup material employed, in percent by weight.

d. The total potential OC emission rate for all the lacquer materials, in pounds, i.e., summation of (a x b) for all lacquer materials.

e. The amount of the lacquer materials disposed of as waste, in pounds.

f. The OC content of the waste lacquer materials, in percent by weight.

g. The amount of OC in the waste lacquer materials, in pounds, i.e., (d x e).

h. The amount of the lacquer materials reclaimed, in pounds.

i. The OC content of the lacquer materials reclaimed, in percent , by weight.

j. The amount of OC in the lacquer materials reclaimed, i.e., (g x h).

k. The amount of OC emissions from all the cleanup materials employed (summation of (b x c) for all cleanup materials), in pounds.

l. The total, controlled OC emission rate, i.e., [(g) + (j)] subtracted from [(d) + (k)]. The result shall then be multiplied by the average overall control efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports, when the emissions unit was in operation, that identify the following:

a. All 3-hour blocks of time during which the average temperature of the desorption air stream prior to the OC fluidized bed fume concentrator did not comply with the temperature limitation specified in Section A.II. of these terms and conditions.

b. All 3-hour blocks of time during which the average temperature of the combustion chamber within the thermal incinerator was more than 50 degrees Fahrenheit below the average temperature that was observed during the most recent emission test that demonstrated the emissions unit was in compliance.

c. Each day during which the total OC emissions exceeded 54.05 pounds, including cleanup, and the actual OC emissions for each such day.

d. All 3-hour blocks of time during which the average pressure differential across the adsorption chamber in the fluidized bed concentrator, was more than 20% below the average pressure differential, that was observed during the most recent emission test that demonstrated the emissions unit was in compliance.

**2.** The permittee shall submit quarterly pressure differential deviation (excursion) reports that identify all 3-hour blocks of time during which the permanent total enclosure was not maintained at the minimum pressure differential specified in section A.II.2.

## IV. Reporting Requirements (continued)

**3.** If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**4.** The permittee shall submit annual reports to the Director (the local air agency) that specify the total annual OC emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

**5.** The permittee shall submit quarterly summaries that include a log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

## V. Testing Requirements

**1.** Compliance with the emission limitations in Section A.I.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
2.25 lbs/hr OC, including cleanup

Applicable Compliance Method-
The hourly OC limitation was established as follows:

i. multiply the maximum hourly lacquer material usage rate of 2.85 gallons by the maximum OC content of the lacquer materials of 7.25 lbs/gallon;

ii. multiply the maximum hourly lacquer cleanup material usage rate of 0.83 gallon by the maximum OC content of the cleanup materials of 7.25 lbs/gallon and by an evaporative loss rate of 0.2;

iii. multiply (1.a.i + 1.a.ii + 0.64*) by a factor of 1 minus the overall control efficiency of 90%, by weight.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

* maximum OC emissions from the wastewater sripper

**1.b** Emission Limitation-
54.05 lbs/day OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.3 of this permit.

**1.c** Emission Limtiation-
9.86 TPY OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.3 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

**1.d** Emission Limitation-
minimum overall fume concentrator/catalytic incinerator control efficiency of 90% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the methods and procedures outlined in Section A.V.2 of this permit.

## V. Testing Requirements (continued)

**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 36 months of permit issuance.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs, and shall include determinations of the capture efficiency, and the fume concentrator/catalytic incinerator control efficiency.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the carbon adsorption and catalytic incineration system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the concentrator, and in the exhaust stack.

d. The test(s) shall be conducted while emissions units K019, K020 and K021 are operating at or near their maximum capacities, unless otherwise specified or approved by the 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.

Formulation data or USEPA Method 24 shall be used to determine the organic compound contents of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Screen Process: Lacquer Spraying, Edge Cleaning and Drying; E-310, E-311, E-312 -Permanently Enclosed and vented to a Fluidized Bed Fume Concentrator and Thermal Incinerator | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: toluene

TLV (ug/m3): 188,000

Maximum Hourly Emission Rate (lbs/hr): 2.25

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 40.81

MAGLC (ug/m3): 1,880

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the Air Toxic Policy is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the Air Toxic Policy will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and,

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the Air Toxic Policy will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is(are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**3.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that a changed emissions unit will still satisfy the Air Toxic Policy:

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the Air Toxic Policy; and,

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Frit Mixing and Application (D-504) Line 4 (K020)

**Activity Description:** Frit mixing and application area for Line 4

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Mixing/Application, vented to a Fluidized Bed Fume Concentrator followed by Thermal Incinerator; E-504 | OAC rule 3745-31-05 (A)(3) PTI 08-4133 | The requirements of this rule also include compliance with OAC rules 3745-21-07(G), 3745-17-07(A), and 3745-17-11(B).<br><br>43.07 lbs/day organic compounds (OC), from frit application<br><br>40 lbs/day OC, from cleanup<br><br>15.2 TPY OC, from frit and cleanup materials usage |
| | OAC rule 3745-17-07(A) | Visible particulate emissions (PE) shall not exceed 20 percent opacity, as a 6-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B) | 0.551 lb/hr PE |
| | OAC rule 3745-21-07(G) | See A.II.1. |

**2. Additional Terms and Conditions**

**2.a** The 0.551 lb/hr PE limit was developed to reflect the potential to emit for the emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with this limit.

**2.b** The OC emissions from this emissions unit shall be controlled through the application of a fluidized bed fume concentrator and thermal incinerator system with a removal/destruction efficiency of at least 90%, by weight, for OC.

(The OC emission control system is common to emissions units K019, K020 and K021.)

### II. Operational Restrictions

**1.** The use of any photochemically reactive material in this emissions unit, as defined in OAC rule 3745-21-01 (C)(5), is prohibited.

## II. Operational Restrictions (continued)

**2.** The permittee shall employ a vacuum filtration system during frit mixing to control all the PE from this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information each day for this emissions unit:

a. The number of pounds of each frit vehicle mixed and applied.

b. The number of pounds of each frit vehicle accounted for as waste.

c. The OC content of each frit vehicle employed, in percent by weight.

d. The total OC emission rate for all the frit vehicles mixed and applied, in pounds, i.e., summation of X* for all the frit vehicles mixed and applied.

e. The number of pounds of each cleanup material employed.

f. The OC content of each cleanup material employed, in percent by weight.

g. The total OC emission rate for all the cleanup materials employed [summation of (e x f) for all cleanup materials], in pounds.

h. The total OC emission rate for all the frit vehicles mixed and applied, and cleanup materials, in pounds, i.e., (d + g).

i. Documentation on whether or not each frit vehicle mixed and applied or cleanup material employed is a photochemically reactive material.

* X = y x b x 0.31**

where:

y = lbs of each frit vehicle mixed - lbs of each frit vehicle accounted for as waste

b = OC content of each frit vehicle, in percent by weight

X = lbs OC emissions/day, from frit vehicle mixing and application

** portion of OCs emitted during mixing and application of frit vehicle

**2.** The permittee shall maintain a log of all the time periods during which the vacuum filtration system was not functioning, when the emissions unit was in operation (during frit mixing).

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that include an identification of each day during which the total OC emissions from the frit mixing and application exceeded 43.07 pounds per day, and the actual OC emission for each such day, and each day during which the total OC emissions from the cleanup materials usage exceeded 40 pounds per day, and the actual organic compound emissions for each such day.

The permittee shall submit the quarterly deviation (excursion) reports, in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**2.** The permittee shall submit quarterly summaries that include a log of all the time periods during which the vacuum filtration system was not functioning, when the emissions unit was in operation (during frit mixing).

## IV. Reporting Requirements (continued)

**3.** The permittee shall notify the Director (the appropriate local air agency) of each day during which any photochemically reactive material was employed in this emissions unit. The notification shall be submitted in writing within 45 days after the deviation occurs.

## V. Testing Requirements

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

**1.a** Emission Limitations-
43.07 lbs/day OC, from frit mixing and application
40 lbs/day OC, from cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping required in section A.III.1 of this permit.

**1.b** Emission Limitation-
15.2 TPY, including cleanup

Applicable Compliance Method-
Compliance with the limitation above shall be based upon the record keeping specified in Section A.III.1 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

**1.c** Emission Limitation-
Visible PE shall not exceed 20 percent opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method-
If required, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03 (B)(1).

**1.d** Emission Limitation-
0.551 lb/hr PE

Applicable Compliance Method-
If required, compliance with the PE limitation above shall be based upon stack testing conducted in accordance with OAC rule 3745-17-03 (B)(10).

**2.** Formulation data or USEPA Method 24 shall be used to determine the organic compound contents of the frit and cleanup materials.

## V. Testing Requirements (continued)

**3.** 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 36 months of permit issuance.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs, and shall include determinations of the capture efficiency, and the fume concentrator/catalytic incinerator control efficiency.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the carbon adsorption and catalytic incineration system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the concentrator, and in the exhaust stack.

d. The test(s) shall be conducted while emissions units K011 and K018 are operating at or near their maximum capacities, unless otherwise specified or approved by the 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.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Mixing/Application, vented to a Fluidized Bed Fume Concentrator followed by Thermal Incinerator; E-504 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: amyl acetate

TLV (ug/m3):532,000

Maximum Hourly Emission Rate (lbs/hr): 0.46

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 186.5

MAGLC (ug/m3): 5320

## III. Monitoring and/or Record Keeping Requirements (continued)

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is(are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**2.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that a changed emissions unit will still satisfy the "Air Toxic Policy":

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Frit Drying Tunnel (D-505) Line 4 (K021)

**Activity Description:** Frit drying tunnel (permanent total enclosure) vented to control unit

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Drying Tunnel with Permanent Total Enclosure vented to a Fluidized Bed Fume Concentrator and a Thermal Incinerator; E-505/E-507 | OAC 3745-31-05(A)(3)<br>PTI 08-4133 | 5.5 lbs/day organic compounds (OC)<br><br>1.0 TPY OC<br><br>The requirements of this rule also include compliance with OAC rule 3745-21-07(G). |
| | OAC rule 3745-21-07(G) | See A.II.4. |

**2. Additional Terms and Conditions**

**2.a** The OC emissions from this emissions unit shall be controlled through the application of a permanent total enclosure (PTE) with a 100 percent capture efficiency and a fluidized bed fume concentrator and thermal incinerator system with a removal/destruction efficiency of at least 90%, by weight, for OC.

(The OC emission control system is common to emissions units K019, K020 and K021.)

**2.b** The permittee has the option to perform an additional demonstration to show that the PTE can not be compromised, under normal plant conditions, when the emissions unit is in operation (i.e., the air flow through the PTE to the control device was always maintained under negative pressure even when all additional egress points (non-natural draft openings) which could affect the PTE were opened) in lieu of installing, maintaining and operating monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the PTE.

If the PTE can not be compromised, under normal plant conditions, when the emissions unit is in operation, the permittee will not be required to comply with the differential pressure operational restriction, monitoring, record keeping, and reporting requirements specified below to ensure the ongoing integrity of the PTE.

If the permittee elects not to perform the additional demonstration specified in Section A.I.2.b to show that the PTE can not be compromised or the additional demonstration indicates that the PTE can be compromised, the permittee will be required to comply with the differential pressure operational restriction, monitoring, record keeping, and reporting requirements specified below (see Sections A.II, A.III, and A.IV below) to ensure the ongoing integrity of the PTE.

## II. Operational Restrictions

**1.** The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than the minimum pressure differential (inches of water) established during the most recent emissions test that demonstrated the emissions unit was in compliance, whenever this emissions unit is in operation.

**2.** The permittee shall ensure that all inspection ports are closed whenever this emissions unit is in operation.

**3.** The permanent total enclosure (PTE)* serving this emissions unit shall be installed and operated in accordance with 40 CFR Part 51, Appendix M, Method 204, whenever the emissions unit is in operation. The PTE shall meet the following criteria:

a. any "Natural Draft Opening" (NDO)* shall be at least 4 equivalent diameters from each OC emission point;

b. the total area of all NDOs shall not exceed 5% of the surface area of the enclosure's four walls, floor and ceiling;

c. the average facial velocity (FV) of air through all NDOs shall be at least 3,600 m/hr (200 fpm) which corresponds to a pressure differential of 0.007 inches of water. The direction of air through all NDOs shall be into the enclosure;

d. all access doors and windows whose areas are not included in paragraph (b) and are not included in the calculation in paragraph (c) shall be closed during routine operation; and

e. all OC emissions must be captured and contained for discharge through the OC control device.

By satisfying the criteria above for establishing permanent total enclosure, the total organic capture efficiency shall be assumed to be 100%.

* Definitions for PTE and NDO:

Permanent Total Enclosure (PTE) - a permanently installed enclosure that completely surrounds a source of emissions such that all OC emissions are captured and contained for discharge through a control device.

Natural Draft Opening (NDO) - any permanent opening in the enclosure that remains open during operation of the facility and is not connected to a duct to which a fan is installed.

**4.** The use of any photochemically reactive material in this emissions unit, as defined in OAC rule 3745-21-01 (C)(5), is prohibited.

**5.** The average temperature of the desorption air stream prior to the fluidized bed fume concentrator, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**6.** The average temperature of the combustion chamber within the thermal incinerator, for any 3-hour period while the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**7.** The average pressure differential across the adsorption chamber in the fluidized bed concentrator, for any 3-hour block of time, shall not be more than 20% below the average pressure differential that was observed during the most recent emission test that demonstrated the emissions unit was in compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall operate and maintain continuous monitors and recorder(s) which measure and record(s) the appropriate parameters at the following location, when the emissions unit is in operation:

a. All 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

c. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the desorption air stream prior to the OC fuidized bed fume concentrator was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

d. All 3-hour blocks of time (when the emissions unit was in operation) during which the average pressure differential across the adsorption chamber in the fluidized bed concentrator was more than 20% below the average pressure differential that was observed during the most recent emission test that demonstrated the emissions unit was in compliance.

**2.** The permittee shall maintain and operate monitoring devices and a recorder that simultaneously measure and record the pressure inside and outside the permanent total enclosure. The monitoring and recording devices shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall maintain records of all 3-hour blocks of time during which the permanent total enclosure was not maintained at or above the minimum pressure differential specified in section A.II.2.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information each day for this emissions unit:

a. The number of pounds of each frit vehicle mixed and applied.

b. The number of pounds of each frit vehicle accounted for as waste.

c. The OC content of each frit vehicle employed, in percent by weight.

d. The total OC emission rate for all the frit vehicles mixed and applied, in pounds, i.e., summation of X* for all frit vehicles mixed and applied.

e. The number of pounds of each cleanup material employed.

f. The OC content of each cleanup material employed, in percent by weight.

g. The total OC emission rate for all the cleanup materials employed [summation of (e x f) for all cleanup materials], in pounds.

h. The total OC emission rate for all the frit vehicles mixed/applied and cleanup materials, in pounds, i.e., (d + g).

i. Documentation on whether or not each frit vehicle mixed and applied or cleanup material employed is a photochemically reactive material.

* X = [(1 - a) x 0.65 x (y x b) + (1 - 0.65) x (y x b) - 0.31 x (y x b) - 0.04 x (y x b)]

where:

a = the percent overall control efficiency of the fume concentrator/catalytic incinerator, as determined during the most recent emission testing that demonstrated the emissions unit is in compliance

y = lbs of each frit vehicle mixed - lbs of each frit vehicle accounted for as waste

b = OC content of each frit vehicle, in percent by weight

X = lbs OC/day

0.65 = capture efficiency is assumed to be 65%

0.31yb = portion of OCs emitted in the mixing/application of the frit

0.04 = portion of OCs emitted in the oven

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall operate and maintain continuous temperature monitors and recorders that measure and record the temperature at the following points when the emissions unit is in operation:

a. The temperature of the exhaust gases in the combustion zone of the incinerator; and

b. The temperature of the desorption air stream prior to the OC fume concentrator.

Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the average temperature from the monitoring points listed in a and b above for each of the 8 3-hour blocks during the day. The permittee shall also maintain a log or record of the downtime for the capture (collection) system, control devices and monitoring equipment when the associated emissions unit was in operation.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports, when the emissions unit was in operation, that identify the following:

a. All 3-hour blocks of time during which the average temperature of the desorption air stream prior to the OC fluidized bed fume concentrator did not comply with the temperature limitation specified in Section A.II. of these terms and conditions.

b. All 3-hour blocks of time during which the average temperature of the combustion chamber within the thermal incinerator was more than 50 degrees Fahrenheit below the average temperature that was observed during the most recent emission test that demonstrated the emissions unit was in compliance.

c. Each day during which the total OC emissions exceeded 5.55 pounds, excluding cleanup, and the actual OC emissions for each such day.

d. All 3-hour blocks of time during which the average pressure differential across the adsorption chamber in the fluidized bed concentrator, was more than 20% below the average pressure differential, that was observed during the most recent emission test that demonstrated the emissions unit was in compliance.

**2.** The permittee shall submit quarterly pressure differential deviation (excursion) reports that identify all 3-hour blocks of time during which the permanent total enclosure was not maintained at the minimum pressure differential specified in section A.II.1 of this permit.

**3.** If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**4.** The permittee shall submit annual reports to the Director (the local air agency) that specify the total annual OC emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

**5.** The permittee shall submit quarterly summaries that include a log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

## V. Testing Requirements

**1.** Compliance with the emission limitations in Section A.I.1. of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emission Limitation-
5.55 lbs/day OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.3 of this permit.

**1.c** Emission Limtiation-
9.86 TPY OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.3 of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000.

**1.d** Emission Limitation-
minimum overall fume concentrator/catalytic incinerator control efficiency of 90% of OC, by weight

Applicable Compliance Methods-
The permittee shall demonstrate compliance with the control requirements above in accordance with the methods and procedures outlined in Section A.V.2 of this permit.

**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 36 months of permit issuance.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs, and shall include determinations of the capture efficiency, and the fume concentrator/catalytic incinerator control efficiency.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the carbon adsorption and catalytic incineration system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the concentrator, and in the exhaust stack.

## V. Testing Requirements (continued)

d. The test(s) shall be conducted while emissions units K011 and K018 are operating at or near their maximum capacities, unless otherwise specified or approved by the 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.

**3.** Formulation data or USEPA Method 24 shall be used to determine the organic compound contents of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Drying Tunnel with Permanent Total Enclosure vented to a Fluidized Bed Fume Concentrator and a Thermal Incinerator; E-505/E-507 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: amyl acetate

TLV (ug/m3):532,000

Maximum Hourly Emission Rate (lbs/hr): 0.23

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4.17

MAGLC (ug/m3): 5320

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the Air Toxic Policy is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the Air Toxic Policy will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and,

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the Air Toxic Policy will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is(are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**3.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that a changed emissions unit will still satisfy the Air Toxic Policy:

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the Air Toxic Policy; and,

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Bulb-Lacquer Coating, Cone Washing, & Drying - PRT #2 (K022)

**Activity Description:** PVA and PMA coatings are applied by inserting a nozzle inside the rotating bulb and spraying the interior face. The bulbs are then sent to the Cone Washing Station where the lacquer is washed from the bulbs with water. The bulbs are then sent to the Drying Stations where the bulbs are dried by electric lamps

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Projection Tubes (PRT) line 2 (Bulb-Lacquer Coating, Cone Washing & Drying) equipped with permanent total enclosure vented to Fume Concentrator and Catalytic Incinerator | OAC rule 3745-31-05 (A)(3)<br>PTI 08-04398 | 0.78 lb/hr organic compounds (OC), excluding cleanup,<br>19.27 lbs/day OC, including cleanup,<br>3.52 TPY OC, including cleanup<br>See A.I.2.b. |
| | OAC rule 3745-21-07(G)(2) | The emission limitations/control requirements specified by this rule are less stringent than the emission limitations/control requirements established pursuant to OAC rule 3745-31-05 (A)(3). |

**2. Additional Terms and Conditions**

**2.a** The OC emissions from this emissions unit shall be controlled through the application of a permanent total enclosure (PTE) with a 100 percent capture efficiency and a removal/destruction efficiency of at least 90%, by weight, for OC.

(The OC emission control system is common to emissions units K001, K022 and P020.)

**2.b** The hourly emission limitation was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.

## II. Operational Restrictions

**1.** The permanent total enclosure (PTE)* serving this emissions unit shall be installed and operated in accordance with 40 CFR Part 51, Appendix M, Method 204, whenever the emissions unit is in operation. The PTE shall meet the following criteria:

a. any "Natural Draft Opening" (NDO)* shall be at least 4 equivalent diameters from each OC emission point;

b. the total area of all NDOs shall not exceed 5% of the surface area of the enclosure's four walls, floor and ceiling;

c. the average facial velocity (FV) of air through all NDOs shall be at least 3,600 m/hr (200 fpm) which corresponds to a pressure differential of 0.007 inches of water. The direction of air through all NDOs shall be into the enclosure;

d. all access doors and windows whose areas are not included in paragraph (b) and are not included in the calculation in paragraph (c) shall be closed during routine operation; and

e. all OC emissions must be captured and contained for discharge through the OC control device.

By satisfying the criteria above for establishing permanent total enclosure, the total organic capture efficiency shall be assumed to be 100%.

* Definitions for PTE and NDO:

Permanent Total Enclosure (PTE) - a permanently installed enclosure that completely surrounds a source of emissions such that all OC emissions are captured and contained for discharge through a control device.

Natural Draft Opening (NDO) - any permanent opening in the enclosure that remains open during operation of the facility and is not connected to a duct to which a fan is installed.

**2.** The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than 0.007 inch of water, as a 3-hour average, whenever the emissions unit is in operation.

**3.** The average temperature of the exhaust gases immediately before the catalyst bed [the temperature of the concentrated OC laden air stream exiting the OC concentrator wheel], for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature of the exhaust gases immediately after the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**4.** The average temperature of the desorption air stream prior to the fume concentrator wheel, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**5.** The number of revolutions per hour (RPH) of the fume concentrator shall be continuously maintained, when the emissions unit is in operation, at a value within +/-1 RPH of the value established during the most recent emission test that demonstrated compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the catalytic incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately after the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**2.** The permittee shall operate and maintain continuous temperature monitors and recorders that measure and record the temperature of the desorption air stream prior to the OC fume concentrator.

Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the average temperature for each of the 8 3-hour blocks during the day. The permittee shall also maintain a log or record of the downtime for the capture (collection) system, control devices and monitoring equipment when the associated emissions unit was in operation.

**3.** The permittee shall maintain and operate monitoring devices and a recorder that simultaneously measure and record the pressure inside and outside the permanent total enclosure. The monitoring and recording devices shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall maintain records of all 3-hour blocks of time during which the permanent total enclosure was not maintained at or above the minimum pressure differential of 0.007 inch of water, as a 3-hour average.

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall collect and record the following information each day for this emissions unit:

a. The company identification of each lacquer and cleanup material employed;

b. The amount of each lacquer and cleanup material employed, in pounds.

c. The OC content of each lacquer material employed, in percent by weight.

d. The total potential OC emission rate for all the lacquer materials, in pounds, i.e., summation of (a x b) for all lacquer materials.

e. The amount of the lacquer materials disposed of as waste, in pounds.

f. The OC content of the waste lacquer materials, in pecent by weight.

g. The amount of OC in the waste lacquer materials, in pounds, i.e., (d x e).

h. The amount of the lacquer materials reclaimed, in pounds.

i. The OC content of the lacquer materials reclaimed, in percent, by weight.

j. The amount of OC in the lacquer materials reclaimed, i.e., (g x h).

k. The total amount of all the cleanup material employed (summation of b for all cleanup materials, in pounds.

l. The total, controlled OC emission rate, i.e., [(f) + (h)] subtracted from [(c) + (i)]. The result shall then be multiplied by the average overall control efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance.

**5.** The permittee shall perform daily checks, when the emissions unit is in operation, to record the concentrator RPH.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly pressure differential deviation (excursion) reports that identify all 3-hour blocks of time during which the permanent total enclosure was not maintained at the minimum pressure differential of 0.007 inch of water, as a 3-hour average.

**2.** The permittee shall submit quarterly deviation (excursion) reports, when the emissions unit was in operation, that identify the following:

a. All 3-hour blocks of time during which the average temperature of the desorption air stream prior to the OC concentrator wheel did not comply with the temperature limitation specified in Section A.II. of these terms and conditions.

b. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately before the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

c. All 3-hour blocks of time during which the average temperature of the exhaust gases immediately after the catalyst bed did not comply with the temperature limitation specified in Section A.II of these terms and conditions.

d. Each day during which the total OC emissions exceeded 9.63 pounds, including cleanup, and the actual OC emissions for each such day.

## IV. Reporting Requirements (continued)

**3.** The permittee shall submit quarterly deviation (excursion) reports that include the following information for the fume concentrator wheel:

a. An identification of each day during which the RPH was greater than +/- 1 RPH from the value established at the most recent performance test which demonstrated compliance.

b. The corrective actions taken to reestablish the concentrator revolution speed.

**4.** If no deviations (excursions) occurred during a reporting period then the deviation (excursions) reports submitted by the permittee shall state so. The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

**5.** The permittee shall submit annual reports to the Director (the local air agency) that specify the total annual OC emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

## V. Testing Requirements

**1.a** Compliance with the emission limitations in Section A.I.1. of these terms and conditions shall be determined in accordance with the following method:

**1.b** Emission Limitation-
0.78 lb/hr OC, excluding cleanup

Applicable Compliance Method-
The hourly OC limitation was established as follows:

i. multiply the maximum coating density of 7.26 lbs/gallon by the maximum OC content of 96.7%, by weight;

ii. multiply the result from 1.a.i. by the maximum hourly lacquer material usage rate of 1.1 gallons; and

iii. multiply the result from 1.a.ii. by a factor of 1 minus the overall control efficiency of 90%, by weight.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.c** Emission Limitation-
19.27 lbs/day OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.4. of this permit.

**1.d** Emission Limitation-
3.52 TPY OC, including cleanup

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in Section A.III.4. of this permit and shall be the sum of the daily OC emission rates for the calendar year, divided by 2000 lbs/ton.

**2.** Formulation data or USEPA Method 24 shall be used to determine the organic compound contents of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Bulb-Neck Cleaning - PRT #2 (K023)

**Activity Description:** Bulb placed over wash head, methanol sprayed to flush from inside of neck, excess drains into catch pan, and returns to the process storage container.

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Bulb-Neck Cleaning; PRT Line 2 | OAC 3745-31-05 (A)(3)<br>PTI 08-04398 | 1.67 lbs/hr organic compounds (OC),<br>40 lbs/day OC,<br>7.3 TPY OC |
| | OAC rule 3745-21-07 (G)(2) | The emission limitations specified by this rule are less stringent than or equivalent to the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.67 pounds per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 40 pounds per day, and the actual OC emissions for each such day.

The permittee shall submit the quarterly deviation reports to the Director (the local air agency) in accordance with paragraph A.1.c. of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.a** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.b** Emission Limitation-
1.67 lbs/hr OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in section A.III.1 of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.c** Emission Limitation-
40 lbs/day OC

Applicable Compliance Method-
Compliance with the daily allowable OC emission limitation shall be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.d** Emission Limitation-
7.3 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in section A.III.1 of this permit and shall be the summation of the 365 daily emission rates for the calendar year, divided by 2000 lbs/ton.

**2.** Formulation data or USEPA Method 24 shall be used to determine the organic compound content of the cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Mask Gas Blackening Process (A-108) Line 1 (P002)

**Activity Description:** Mask Process: Gas Blackening Oven - Line 1

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P002 - A-108, CO Generating, Natural Gas-Fired Blackening Oven, with Catalytic Incineration | OAC rule 3745-31-05 (A)(3) PTI 08-4110 | 240 lbs/day carbon monoxide (CO), 43.8 TPY CO<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-23-06(B), 3745-21-08(B), 3745-17-07(A), 3745-17-10(B) and 3745-17-08(A). |
| | OAC rules 3745-21-08(B) and 3745-23-06(B) | See A.I.2.b. |
| | OAC rule 3745-17-10(B) | 0.020 lb particulate emissions (PE)/mmBtu of actual heat input |
| | OAC rule 3745-17-07(A) | Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |
| | OAC rule 3745-18-06(A) | See A.I.2.c. |

**2. Additional Terms and Conditions**

**2.a** The application of a catalytic incinerator has been determined to be the best available control technique for the CO emissions from this process.
(The CO control system is common for emissions units P002 and P003.)

**2.b** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 08-4110.

**2. Additional Terms and Conditions (continued)**

**2.c** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

## II. Operational Restrictions

**1.** The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**2.** The permitte shall on a quarterly basis monitor and record the flow rate for natural gas entering the CO gas generator. Units shall be in cubic feet/hour.

**3.** The permittee shall operate and maintain equipment to continuously monitor and record the CO concentration, by volume, from the gas-blackening generator into the oven on an average hourly basis. Units shall be in pounds/cubic feet.

**4.** The monitoring and recording devices shall be capable of accurately measuring the desired parameters and shall be properly operated and maintained in accordance with the manufacturer's recommendations.

The permittee shall maintain records of all data obtained by the continuous CO concentration monitoring system including, but not limited to, the average hourly CO concentration by volume, the results of daily zero/span calibration checks, and the magnitude of manual calibration adjustments.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall calculate the hourly CO emissions in the following manner:

a. calculate CO emissions captured and controlled as follows:

COs (lbs/hr) = (1 - x) x (y) x (COave);

b. calculate fugitive CO emissions as follows:

COf (lbs/hr) = (1 - y) x (COave); and

c. sum 5.a and 5.b.

Where:

x = the measured destruction efficiency of the catalytic oxidizer from the most recent compliance test that demonstrated the emissions unit was in compliance

y = capture efficiency (assume 50% capture efficiency, from the oven, until the actual capture efficiency is established during compliance testing)

COave = (average hourly CO concentration, in lbs/cubic feet, as measured by the monitor) x (average hourly combustion gas flow rate, in cubic feet/hour, as determined during testing and quarterly monitoring)

**6.** The permittee shall record and maintain each day the CO emissions, in lbs, calculated by summing the hourly emission rates, from Section A.III.5.c, for the calendar day.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time, when the emissions unit was in operation, during which the average temperature of the exhaust gases immediately before the catalyst bed or the average temperature difference across the catalyst bed did not comply with the temperature limitations specified in Section A.II. of these terms and conditions.

**2.** The permittee shall submit deviation (excursion) reports to the Director (appropriate local air agency) that identifies each day during which the daily controlled CO emission limitation of 240 pounds was exceeded.

**3.** The permittee shall submit reports within 30 days following the end of each calendar quarter to the Director (the appropriate local air agency) documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the continuous CO monitoring system while the emissions unit was on line shall also be included in the quarterly report.

**4.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total annual CO emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

**5.** All quarterly deviation reports shall be submitted in accordance with General Term and Condition, paragraph A.1.c of this permit.

## V. Testing Requirements

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

## V. Testing Requirements (continued)

**1.a** Emission Limitation-
240 lbs/day CO

Applicable Compliance Method-

Compliance with the daily allowable CO emission limitation may be based upon the record keep requirements established in section A.III.5 of this permit.

**1.b** Emission Limitation-
43.8 TPY CO

Applicable Compliance Method-
This annual allowable CO emission limitation was developed by multiplying the daily OC emissions by 365, and then dividing by 2000. Therefore, if compliance is shown with the daily emission limitation, compliance with the annual limitation shall be assumed.

**1.c** Emission Limitation:
0.020 lb PE/mmBtu actual heat input

Applicable Compliance Method:
The permittee may demonstrate compliance with the lb PE/mmBtu allowable limitation above by multiplying an emission factor from AP-42, Table 1.4-2 (revised 7/98) of 1.9 lbs PE (filterable)/mm cu.ft of natural gas by the emissions unit's maximum hourly natural gas consumption rate (mm cu.ft/hr), and then dividing by the maximum heat input rate of the emissions unit (mmBtu/hr).

If required, the permittee shall demonstrate compliance with the PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

**1.d** Emission Limitation-
Visible PE shall not exceed 20% opacity, as a six minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with Method 9 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 6 months of permit issuance and within 12 months of permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for CO and the overall control efficiency limitation for CO and to establish the combustion gas flow rate, in cubic feet/hr.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for CO, Method 10 of 40 CFR Part 60 Appendix A. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitation for CO are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any

## V. Testing Requirements (continued)

other applicable requirement.) The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in the mass balance protocol approved on 10/25/95. The test methods and procedures selected shall be based on a consideration of the diversity of the pollutants present and their total concentration, and on a consideration of the potential presence of interfering gases.

e. 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.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Mask Gas Blackening Process (B-108) Line 2 (P003)

**Activity Description:** Mask Process: Gas Blackening Oven - Line 2

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P003 - B-108, CO Generating, Natural Gas-Fired Blackening Oven, with Catalytic Incineration | OAC rule 3745-31-05 (A)(3) PTI 08-4110 | 360 lbs/day carbon monoxide (CO), 65.7 TPY CO<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-23-06(B), 3745-21-08(B), 3745-17-07(A), 3745-17-10(B) and 3745-17-08(A). |
| | OAC rules 3745-21-08(B) and 3745-23-06(B) | See A.I.2.b. |
| | OAC rule 3745-17-10(B) | 0.020 lb particulate emissions (PE)/mmBtu of actual heat input |
| | OAC rule 3745-17-07(A) | Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |
| | OAC rule 3745-18-06(A) | See A.I.2.c. |

**2. Additional Terms and Conditions**

**2.a** The application of a catalytic incinerator has been determined to be the best available control technique for the CO emissions from this process.
(The CO control system is common for emissions units P002 and P003.)

**2.b** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 08-4110.

**2. Additional Terms and Conditions (continued)**

**2.c** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

## II. Operational Restrictions

**1.** The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**2.** The permitte shall on a quarterly basis monitor and record the flow rate for natural gas entering the CO gas generator. Units shall be in cubic feet/hour.

**3.** The permittee shall operate and maintain equipment to continuously monitor and record the CO concentration, by volume, from the gas-blackening generator into the oven on an average hourly basis. Units shall be in pounds/cubic feet.

**4.** The monitoring and recording devices shall be capable of accurately measuring the desired parameters and shall be properly operated and maintained in accordance with the manufacturer's recommendations.

The permittee shall maintain records of all data obtained by the continuous CO concentration monitoring system including, but not limited to, the average hourly CO concentration by volume, the results of daily zero/span calibration checks, and the magnitude of manual calibration adjustments.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall calculate the hourly CO emissions in the following manner:

a. calculate CO emissions captured and controlled as follows:

COs (lbs/hr) = (1 - x) x (y) x (COave);

b. calculate fugitive CO emissions as follows:

COf (lbs/hr) = (1 - y) x (COave); and

c. sum 5.a and 5.b.

Where:

x = the measured destruction efficiency of the catalytic oxidizer from the most recent compliance test that demonstrated the emissions unit was in compliance

y = capture efficiency (assume 50% capture efficiency, from the oven, until the actual capture efficiency is established during compliance testing)

COave = (average hourly CO concentration, in lbs/cubic feet, as measured by the monitor) x (average hourly combustion gas flow rate, in cubic feet/hour, as determined during testing and quarterly monitoring)

**6.** The permittee shall record and maintain each day the CO emissions, in lbs, calculated by summing the hourly emission rates, from Section A.III.5.c, for the calendar day.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time, when the emissions unit was in operation, during which the average temperature of the exhaust gases immediately before the catalyst bed or the average temperature difference across the catalyst bed did not comply with the temperature limitations specified in Section A.II. of these terms and conditions.

**2.** The permittee shall submit deviation (excursion) reports to the Director (appropriate local air agency) that identifies each day during which the daily controlled CO emission limitation of 360 pounds was exceeded.

**3.** The permittee shall submit reports within 30 days following the end of each calendar quarter to the Director (the appropriate local air agency) documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the continuous CO monitoring system while the emissions unit was on line shall also be included in the quarterly report.

**4.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total annual CO emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

**5.** All quarterly deviation reports shall be submitted in accordance with General Term and Condition, paragraph A.1.c of this permit.

## V. Testing Requirements

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

## V. Testing Requirements (continued)

**1.a** Emission Limitation-
360 lbs/day CO

Applicable Compliance Method-

Compliance with the daily allowable CO emission limitation may be based upon the record keep requirements established in section A.III.5 of this permit.

**1.b** Emission Limitation-
65.7 TPY CO

Applicable Compliance Method-
This annual allowable CO emission limitation was developed by multiplying the daily OC emissions by 365, and then dividing by 2000. Therefore, if compliance is shown with the daily emission limitation, compliance with the annual limitation shall be assumed.

**1.c** Emission Limitation:
0.020 lb PE/mmBtu actual heat input

Applicable Compliance Method:
The permittee may demonstrate compliance with the lb PE/mmBtu allowable limitation above by multiplying an emission factor from AP-42, Table 1.4-2 (revised 7/98) of 1.9 lbs PE (filterable)/mm cu.ft of natural gas by the emissions unit's maximum hourly natural gas consumption rate (mm cu.ft/hr), and then dividing by the maximum heat input rate of the emissions unit (mmBtu/hr).

If required, the permittee shall demonstrate compliance with the PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

**1.d** Emission Limitation-
Visible PE shall not exceed 20% opacity, as a six minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with Method 9 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 6 months of permit issuance and within 12 months of permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for CO and the overall control efficiency limitation for CO and to establish the combustion gas flow rate, in cubic feet/hr.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for CO, Method 10 of 40 CFR Part 60 Appendix A. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitation for CO are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any

## V. Testing Requirements (continued)

other applicable requirement.) The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in the mass balance protocol approved on 10/25/95. The test methods and procedures selected shall be based on a consideration of the diversity of the pollutants present and their total concentration, and on a consideration of the potential presence of interfering gases.

e. 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.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Pump Parts Washer Line 1/2 (P019)

**Activity Description:**

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P019 - Screen Process Pump Parts Washer | OAC rule 3745-31-05(A)(3)<br>PTI 08-1549 | 1.8 lbs/hr organic compounds (OC),<br>40 lbs/day OC,<br>4.8 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than or equivalent to the emission limitations established pursuant to OAC rule 3745-31-05 (A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The number of pounds of each OC material employed.

c. The total OC emission rate for all the OC materials, in pounds.

d. The total number of hours the emissions unit was in operation.

e. The average hourly OC emission rate for all organic compound materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.8 pounds per hour, and the actual average hourly organic compound emissions for each such day.

b. An identification of each day during which the OC emissions exceeded 40 pounds per day, and the actual organic compound emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph I.A.1.c of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.8 lbs/hr OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in section A.III.1 of this permit.

If required, the permittee shall demonstrate compliance with the hourly allowable OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
40 lbs/day OC

Applicable Compliance Method-
Compliance with the daily alllowable OC emissions shall be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
4.8 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements specified in section A.III.1 of this permit and shall be the sum of the 365 daily OC emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the OC materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Lacquer Mixing Operation (P020)

**Activity Description:** Lacquer mixing for Line 1, 2, 3, 4, and PRT

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P020 - Lacquer Mixing, with Permanent Total Enclosure vented to Fume Concentrator and Catalytic Incinerator | OAC rule 3745-31-05 (A)(3) PTI 08-04133 | 0.57 lb/hr organic compound (OC), 13.77 lbs/day OC, 2.51 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The control requirements specified by this rule are less stringent than the control requirements established pursuant to OAC rule 3745-31-05 (A)(3). |

**2. Additional Terms and Conditions**

**2.a** The hourly OC emission limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.

**2.b** The OC emissions from this emissions unit shall be controlled through the application of a permanent total enclosure (PTE) with 100% capture and a fume concentrator and catalytic incinerator system operating at a minimum of 90% control efficiency, by weight, for OC.

(The OC emission control system is common to emissions units K001, K022 and P020.)

**2. Additional Terms and Conditions (continued)**

**2.c** The permittee has the option to perform an additional demonstration to show that the PTE can not be compromised, under normal plant conditions, when the emissions unit is in operation (i.e., the air flow through the PTE to the control device was always maintained under negative pressure even when all additional egress points (non-natural draft openings) which could affect the PTE were opened) in lieu of installing, maintaining and operating monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the PTE.

If the PTE can not be compromised, under normal plant conditions, when the emissions unit is in operation, the permittee will not be required to comply with the differential pressure operational restriction, monitoring, record keeping, and reporting requirements specified below to ensure the ongoing integrity of the PTE.

If the permittee elects not to perform the additional demonstration specified in Section A.I.2.c. to show that the PTE can not be compromised or the additional demonstration indicates that the PTE can be compromised, the permittee will be required to comply with the differential pressure operational restriction, monitoring, record keeping, and reporting requirements specified below (see Sections A.II, A.III, and A.IV below) to ensure the ongoing integrity of the PTE.

## II. Operational Restrictions

**1.** The average temperature of the exhaust gases at the inlet to the catalytic incinerator (immediately before the catalyst bed), for any 3-hour block of time, shall not be less than 550 degrees Fahrenheit. The average temperature of the exhaust gases immediately after the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

**2.** The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than the minimum pressure differential (inches of water), established during the most recent emissions test that demonstrated the emissions unit was in compliance, whenever this emissions unit is in operation.

**3.** The permanent total enclosure (PTE)* serving this emissions unit shall be installed and operated in accordance with 40 CFR Part 51, Appendix M, Method 204, whenever the emissions unit is in operation. The PTE shall meet the following criteria:

a. any "Natural Draft Opening" (NDO)* shall be at least 4 equivalent diameters from each OC emission point;

b. the total area of all NDOs shall not exceed 5% of the surface area of the enclosure's four walls, floor and ceiling;

c. the average facial velocity (FV) of air through all NDOs shall be at least 3,600 m/hr (200 fpm) which corresponds to a pressure differential of 0.007 inches of water. The direction of air through all NDOs shall be into the enclosure;

d. all access doors and windows whose areas are not included in paragraph (b) and are not included in the calculation in paragraph (c) shall be closed during routine operation; and

e. all OC emissions must be captured and contained for discharge through the OC control device.

By satisfying the criteria above for establishing permanent total enclosure, the total organic capture efficiency shall be assumed to be 100%.

## II. Operational Restrictions (continued)

* Definitions for PTE and NDO:

Permanent Total Enclosure (PTE) - a permanently installed enclosure that completely surrounds a source of emissions such that all OC emissions are captured and contained for discharge through a control device.

Natural Draft Opening (NDO) - any permanent opening in the enclosure that remains open during operation of the facility and is not connected to a duct to which a fan is installed.

**4.** The average temperature of the desorption air stream prior to the fume concentrator, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emissions test that demonstrated the emissions unit was in compliance.

**5.** The number of revolutions per hour (RPH) of the fume concentrator shall be continuously maintained, when the emissions unit is in operation, at a value within +/-1 RPH of the value established during the most recent emission test that demonstrated compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information each day for this emissions unit:

a. The amount of OC (toluene) mixed, in pounds

b. The amount of solids mixed, in pounds.

c. The OC emissions, in pounds, calculated as follows:

OC (lbs/day) = amount of toluene used (from 1.a above) x 0.05 x (1 - eff)

where:

0.05 = represents an evaporative loss of 5%

eff = the overall control efficiency as measured during the most recent emission testing that demonstrated compliance

**2.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was less than 550 degrees Fahrenheit.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately after the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall maintain and operate monitoring devices and a recorder which simultaneously measures the pressure inside and outside the permanent total enclosure and records the differential pressure. The monitoring and recording devices shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall maintain records of all 3-hour blocks of time during which the permanent total enclosure was not maintained at or above the minimum pressure differential (inches of water), established during the most recent emissions test that demonstrated the emissions unit was in compliance, whenever this emissions unit is in operation.

**4.** The permittee shall perform daily checks, when the emissions unit is in operation, to record the concentrator RPH.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that include an identification of each day during which the total daily allowable OC emissions exceeded 13.77 pounds, and the actual OC emissions for each such day.

**2.** The permittee shall submit quarterly deviation (excursion) reports that identify all 3-hour blocks of time when the emissions unit was in operation during which the average temperature of the exhaust gases immediately before the catalyst bed or the average temperature of the exhaust gases immediately after the catalyst bed did not comply with the temperature limitations specified in Section A.II of these terms and conditions.

**3.** The permittee shall submit pressure differential deviation (excursion) reports that identify all 3-hour blocks of time during which the permanent total enclosure was not maintained at the required differential pressure specified above.

**4.** The permittee shall submit quarterly deviation (excursion) reports that include the following information for the fume concentrator wheel:

a. An identification of each day during which the RPH was greater than +/- 1 RPH from the value established at the most recent performance test which demonstrated compliance.

b. The corrective actions taken to reestablish the concentrator revolution speed.

**5.** The permittee shall submit the quarterly deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the emission limitations in Section A.I.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
0.57 lb/hr OC

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
13.77 lbs/day OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements in Section A.III.1. of this permit .

## V. Testing Requirements (continued)

**1.c** Emission Limitation-
2.51 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements in Section A.III.1. of this permit and shall be the summation of the daily OC emission rates for the calendar year, divided by 2000.

**1.d** Emission Limitation-
Minimum overall fume concentrator/catalytic incinerator control efficiency of 90% of organic material emissions being vented to control system.

Applicable Compliance Methods-
Compliance shall be determined by the stack testing requirements specified in Section A.V.3.

**2.** Formulation data or USEPA Method 24 shall be used to determine the organic compound contents of the coatings.

**3.** 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 12 months of permit issuance and within 6 months of permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the overall control system efficiency for OCs which will be determined as the product of the capture efficiency and the overall control efficiency of the fume concentrator and catalytic incinerator system.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency will be determined using the test methods specified in 40 CFR Part 51, Appendix M, Method 204 through 204F, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency as specified in the USEPA Guidelines for Determining Capture Efficiency, dated January 9, 1995. Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement. The control efficiency of the fume concentrator and catalytic incinerator system shall be conducted in accordance with the test methods and procedures specified in OAC rule 3745-21-10 and shall measure the percent reduction in mass emissions of organic compounds or organic materials between the inlet and outlet of the vapor control system. For the purpose of this testing, the sampling shall be conducted at the inlet stream to the catalytic incinerator (prior to combining with the outlet stream from the concentrator), at the inlet stream to the concentrator, and in the exhaust stack.

d. The test(s) shall be conducted while emissions unit P020 is operating at or near its maximum capacity,

## V. Testing Requirements (continued)

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.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Mask Gas Blackening Process (C-108) Line 3 (P021)

**Activity Description:** Mask Process: Gas Blackening Oven - Line 3

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P021 - C-108, CO Generating, Natural Gas-Fired Blackening Oven, with Catalytic Incineration | OAC rule 3745-31-05 (A)(3) PTI 08-4110 | 360 lbs/day carbon monoxide (CO), 65.7 TPY CO<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-23-06(B), 3745-21-08(B), 3745-17-07(A), 3745-17-10(B) and 3745-17-08(A). |
| | OAC rules 3745-21-08(B) and 3745-23-06(B) | See A.I.2.b. |
| | OAC rule 3745-17-10(B) | 0.020 lb particulate emissions (PE)/mmBtu of actual heat input |
| | OAC rule 3745-17-07(A) | Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |
| | OAC rule 3745-18-06(A) | See A.I.2.c. |

**2. Additional Terms and Conditions**

**2.a** The application of a catalytic incinerator has been determined to be the best available control technique for the CO emissions from this process.

**2.b** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 08-4110.

**2. Additional Terms and Conditions (continued)**

**2.c** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

## II. Operational Restrictions

**1.** The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

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

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

**2.** The permitte shall on a quarterly basis monitor and record the flow rate for natural gas entering the CO gas generator. Units shall be in cubic feet/hour.

**3.** The permittee shall operate and maintain equipment to continuously monitor and record the CO concentration, by volume, from the gas-blackening generator into the oven on an average hourly basis. Units shall be in pounds/cubic feet.

**4.** The monitoring and recording devices shall be capable of accurately measuring the desired parameters and shall be properly operated and maintained in accordance with the manufacturer's recommendations.

The permittee shall maintain records of all data obtained by the continuous CO concentration monitoring system including, but not limited to, the average hourly CO concentration by volume, the results of daily zero/span calibration checks, and the magnitude of manual calibration adjustments.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall calculate the hourly CO emissions in the following manner:

a. calculate CO emissions captured and controlled as follows:

COs (lbs/hr) = (1 - x) x (y) x (COave);

b. calculate fugitive CO emissions as follows:

COf (lbs/hr) = (1 - y) x (COave); and

c. sum 5.a and 5.b.

Where:

x = the measured destruction efficiency of the catalytic oxidizer from the most recent compliance test that demonstrated the emissions unit was in compliance

y = capture efficiency (assume 50% capture efficiency, from the oven, until the actual capture efficiency is established during compliance testing)

COave = (average hourly CO concentration, in lbs/cubic feet, as measured by the monitor) x (average hourly combustion gas flow rate, in cubic feet/hour, as determined during testing and quarterly monitoring)

**6.** The permittee shall record and maintain each day the CO emissions, in lbs, calculated by summing the hourly emission rates, from Section A.III.5.c, for the calendar day.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time, when the emissions unit was in operation, during which the average temperature of the exhaust gases immediately before the catalyst bed or the average temperature difference across the catalyst bed did not comply with the temperature limitations specified in Section A.II. of these terms and conditions.

**2.** The permittee shall submit deviation (excursion) reports to the Director (appropriate local air agency) that identifies each day during which the daily controlled CO emission limitation of 360 pounds was exceeded.

**3.** The permittee shall submit reports within 30 days following the end of each calendar quarter to the Director (the appropriate local air agency) documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the continuous CO monitoring system while the emissions unit was on line shall also be included in the quarterly report.

**4.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total annual CO emissions from this emissions unit. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

**5.** All quarterly deviation reports shall be submitted in accordance with General Term and Condition, paragraph A.1.c of this permit.

## V. Testing Requirements

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

## V. Testing Requirements (continued)

**1.a** Emission Limitation-
360 lbs/day CO

Applicable Compliance Method-

Compliance with the daily allowable CO emission limitation may be based upon the record keep requirements established in section A.III.5 of this permit.

**1.b** Emission Limitation-
65.7 TPY CO

Applicable Compliance Method-
This annual allowable CO emission limitation was developed by multiplying the daily OC emissions by 365, and then dividing by 2000. Therefore, if compliance is shown with the daily emission limitation, compliance with the annual limitation shall be assumed.

**1.c** Emission Limitation:
0.020 lb PE/mmBtu actual heat input

Applicable Compliance Method:
The permittee may demonstrate compliance with the lb PE/mmBtu allowable limitation above by multiplying an emission factor from AP-42, Table 1.4-2 (revised 7/98) of 1.9 lbs PE (filterable)/mm cu.ft of natural gas by the emissions unit's maximum hourly natural gas consumption rate (mm cu.ft/hr), and then dividing by the maximum heat input rate of the emissions unit (mmBtu/hr).

If required, the permittee shall demonstrate compliance with the PE limitation above pursuant to OAC rule 3745-17-03(B)(9).

**1.d** Emission Limitation-
Visible PE shall not exceed 20% opacity, as a six minute average, except as provided by rule.

Applicable Compliance Method-
If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with Method 9 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 6 months of permit issuance and within 12 months of permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for CO and the overall control efficiency limitation for CO and to establish the combustion gas flow rate, in cubic feet/hr.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for CO, Method 10 of 40 CFR Part 60 Appendix A. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitation for CO are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any

## V. Testing Requirements (continued)

other applicable requirement.) The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in the mass balance protocol approved on 10/25/95. The test methods and procedures selected shall be based on a consideration of the diversity of the pollutants present and their total concentration, and on a consideration of the potential presence of interfering gases.

e. 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.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** PMSF Assembly (C-406) Line 3 (P025)

**Activity Description:** Bulb Process: Panel Mask Funnel Assembly - Line 3

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P025 - Panel Mask Funnel Assembly (PMSF) | OAC rule 3745-31-05(A)(3) PTI 08-3377 | 1.67 lbs/hr organic compounds (OC), 40 lbs/day OC, 7.3 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than or equivalent to the emission limitations established pursuant to OAC rule 3745-31-05 (A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for this emissions unit:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.67 pounds per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 40 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.67 lbs/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III.1 of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
40 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
7.3 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the OC materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Frit Sealing Oven (C-407) Line 3 (P026)

**Activity Description:** Bulb Process: Frit Sealing - Line 3

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Oven and Sealing C-407, line #3 | OAC rule 3745-31-05 (A)(3)<br>PTI 08-4103 | The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(G)(1).<br><br>2.1 lbs/hr particulate emissions (PE), 9.20 TPY PE<br><br>2.74 TPY organic compounds (OC)<br><br>Visible PE shall not exceed 5 percent opacity, as a 6-minute average. |
| | OAC rule 3745-21-07 (G)(1) | 3.0 lbs/hr OC<br><br>15.0 lbs/day OC |
| | OAC rule 3745-17-07 (A)<br>OAC rule 3745-17-11 | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05 (A)(3). |

**2. Additional Terms and Conditions**

**2.a** The 2.1 lbs/hr and 9.20 TPY PE limitations were developed to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with these limitations.

### II. Operational Restrictions

**None**

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information each day for this emissions unit:

a. The number of pounds of each frit vehicle mixed and employed.

b. The number of pounds of each frit vehicle accounted for as waste.

c. The OC content of each frit vehicle, in percent by weight.

d. The number of pounds of each cleanup material employed.

e. The OC content of each cleanup material, in percent by weight.

f. The total OC emission rate for all the frit vehicles and cleanup materials [summation of [(a - b) x c x 0.04*] for all frit vehicles + summation of (d x e) for all cleanup materials], in pounds.

g. The total number of hours this emissions unit was in operation. (This number should be the same as the number of hours the associated coating operation was in operation.)

h. The average hourly OC emission rate, i.e., (f)/(g), in pounds per hour (average).

* 4% of the OCs are emitted in the oven

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports which include the following information:

a. An identification of each day during which the average hourly organic compound emissions exceeded 3 pounds per hour, and the actual average hourly organic compound emissions for each such day.

b. An identification of each day during which the organic compound emissions exceeded 15 pounds per day, and the actual organic compound emissions for each such day.

**2.** The permittee shall submit the quarterly deviation (excursion) reports, in accordance with paragraph A.1. of the General Terms and Conditions of this permit.

## V. Testing Requirements

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

**1.a** Emission Limitation-
3.0 lbs/hr OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements established in section A.III.1. of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
15.0 lbs/day OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements established in section A.III.1. of this permit.

## V. Testing Requirements (continued)

**1.c** Emission Limitation-
2.74 TPY OC

Applicable Compliance Method-
Compliance with the annual allowable OC emission limitation above may be based upon the record keeping requirements established in section A.III.1 and shall be the sum of the 365 daily OC emission rates, divided by 2000.

**1.d** Emission Limitation-
2.1 lbs/hr PE

Applicable Compliance Method-
Compliance with the hourly allowable PE limitation above may be determined by multiplying the maximum hourly process weight rate (11,740 lbs/hr) by a company-derived emission factor of 2.99 x 10-4 lb PE/lb material.

If required, compliance the hourly allowable PE limitation above shall be based upon the results of stack testing conducted in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.

**1.e** Emission Limitation-
9.20 TPY PE

Applicable Compliance Method-
Compliance with the annual allowable PE limitation may be determined by multiplying the hourly allowable PE limitation by 8760,and then dividing by 2000. Therefore, provided compliance is shown with the hourly PE limitation, compliance shall also be shown with the annual limitation.

**1.f** Emission Limitation-
Visible PE shall not exceed 5 percent opacity, as a 6-minute average.

Applicable Compliance Method-
If required, compliance shall be determined by visible emission evaluations performed in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Oven and Sealing C-407, line #3 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the worst case pollutant(s):

Pollutant: amyl acetate

TLV (ug/m3): 532,000

Maximum Hourly Emission Rate (lbs/hr): 3.0

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 548.9

MAGLC (ug/m3): 12,670

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically 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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**3.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Pump Parts Washer (C-155) Line 3 (P027)

**Activity Description:** Pump Maintenance - Line 3

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P027 - Pump Maintenance | OAC rule 3745-31-05 (A)(3)<br>PTI 08-3377 | 2.01 lbs/hr organic compounds (OC), 48.3 lbs/day OC, 8.5 TPY OC<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(G). |
| | OAC rule 3745-21-07(G) | See A.II.1. |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**1.** The use of photochemically reactive materials in this emissions unit, as defined in OAC rule 3745-21-01(C)(5), is prohibited.

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for this operation:

a. The company identification for each OC material employed.

b. The number of pounds of each OC material employed.

c. The total OC emission rate for all the OC materials employed, in pounds.

d. The total number of hours the emissions unit was in operation.

e. The average hourly OC emission rate for all the OC materials employed, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 2.01 pounds per hour, and the actual average hourly organic compound emissions for each such day.

b. An identification of each day during which the OC emissions exceeded 48.3 pounds per day, and the actual organic compound emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
2.01 lbs/hr OC

Applicable Compliance Method-
Compliance with the hourly allowable OC emission limitation above may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

If required, the permittee shall demonstrate compliance with the hourly allowable OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
48.3 lbs/day OC

Applicable Compliance Method-
Compliance with the daily allowable OC emission limitation above may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
8.5 TPY OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements specified in section A.III.1 of this permit and shall be the sum of the 365 daily OC emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Bulb Conditioning (A-408) Line 1 (P029)

**Activity Description:** Bulb Process: Bulb Conditioning - Line 1

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P029 - Bulb Conditioning Process | OAC rule 3745-31-05 (A)(3)<br>PTI 08-3576 | 1.67 lbs/hr organic compounds (OC), 40 lbs/day OC, 7.3 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than or equivalent to the emission limitations established pursuant to OAC rule 3745-31-05 (A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.67 pounds per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 40 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.67 lbs/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
40 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
7.3 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Bulb Conditioning (B-408) Line 2 (P030)

**Activity Description:** Bulb Process: Bulb Conditioning - Line 2

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P030 - Bulb Conditioning Process | OAC rule 3745-31-05 (A)(3) PTI 08-3576 | 1.67 lbs/hr organic compounds (OC), 40 lbs/day OC, 7.3 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than or equivalent to the emission limitations established pursuant to OAC rule 3745-31-05 (A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.67 pounds per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 40 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.67 lbs/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
40 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
7.3 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Bulb Conditioning (C-408) Line 3 (P031)

**Activity Description:** Bulb Process: Bulb Conditioning - Line 3

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P031 - Bulb Conditioning Process | OAC rule 3745-31-05 (A)(3) PTI 08-3576 | 1.67 lbs/hr organic compounds (OC), 40 lbs/day OC, 7.3 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than or equivalent to the emission limitations established pursuant to OAC rule 3745-31-05 (A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.67 pounds per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 40 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.67 lbs/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
40 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
7.3 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** PMSF Assembly (A-406) Line 1 (P032)

**Activity Description:** Bulb Process: Panel Mask Funnel Assembly wipe down - Line 1

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P032 - Panel Mask Funnel Assembly (PMSF) | OAC rule 3745-31-05 (A)(3) PTI 08-3576 | 1.67 lbs/hr organic compounds (OC), 40 lbs/day OC, 7.3 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than or equivalent to the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.67 pounds per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 40 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.67 lbs/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
40 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
7.3 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Panel Reclaim (A-314, B-314) Line 1/2 (P034)

**Activity Description:** Screen Process: Panel Reclaim wipe down - Lines 1 and 2

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P034 - Panel Reclaim | OAC rule 3745-31-05 (A)(3) PTI 08-3576 | 1.25 lbs/hr organic compounds (OC), 30 lbs/day OC, 5.48 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.25 pounds per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 30 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.25 lbs/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
30 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
5.48 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Panel Reclaim (C-314) Line 3 (P035)

**Activity Description:** Screen Process: Panel Reclaim wipe down - Line 3

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P035 - Panel Reclaim | OAC rule 3745-31-05 (A)(3) PTI 08-3576 | 0.63 lb/hr organic compounds (OC), 15 lbs/day OC, 2.74 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 0.63 pound per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 15 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
0.63 lb/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
15 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
2.74 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Neck Cleaning (D-114) PRT (P036)

**Activity Description:** Bulb Process: Neck Cleaning - PRT Line

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P036 - Bulb Neck Cleaning Process | OAC rule 3745-31-05 (A)(3) PTI 08-3618 | 1.67 lbs/hr organic compounds (OC), 40 lbs/day OC, 7.3 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than or equivalent to the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The amount of materials properly handled and disposed of as waste, in pounds.

e. The OC emission rate for each OC material employed (b x c), in pounds.

f. The total OC emission rate for all the OC materials employed [summation of (e) for all the OC materials minus (d)], in pounds.

g. The total number of hours the emissions unit was in operation.

h. The average hourly OC emission rate for all the OC materials, i.e., (f)/(g), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.67 pounds per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 40 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.67 lbs/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
40 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
7.3 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Panel Reclaim (E201-1) Line 4 (P041)

**Activity Description:** Panel wipe with acetone

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Black Matrix (BM) Panel Reclaim; E201-1 | OAC rule 3745-31-05 (A)(3) PTI 08-4133 | 1.25 lbs/hr organic compounds (OC), 30 lbs/day OC, 5.48 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.25 pounds per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 30 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.25 lbs/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
30 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
5.48 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Black Matrix (BM) Panel Reclaim; E201-1 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: acetone

TLV (ug/m3):1,780,000

Maximum Hourly Emission Rate (lbs/hr): 1.67

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 217.20

MAGLC (ug/m3): 17,800

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically 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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**3.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** PMSF Assemlby (E-406) Line 4 (P042)

**Activity Description:** Assembly of bulb prior to frit sealing oven and edge wipe of panel with acetone

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Panel Mask Funnel Assembly (PMSF); E-407, Line #4 | OAC rule 3745-31-05 (A)(3) PTI 08-4133 | 1.67 lbs/hr organic compounds (OC), 40 lbs/day OC, 7.3 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than or equivalent to the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 1.67 pounds per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 40 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
1.67 lbs/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
40 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
7.3 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Panel Mask Funnel Assembly (PMSF); E-407, Line #4 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: acetone

TLV (ug/m3):1,780,000

Maximum Hourly Emission Rate (lbs/hr): 1.67

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 217.20

MAGLC (ug/m3): 17,800

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically 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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**3.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Frit Sealing Oven (Natural Gas Fired) (E-407) Line 4 (P043)

**Activity Description:** 17.76 mmBTU/hr gas fired oven

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Sealing, Natural Gas-Fired Oven; 17.76 mmBtu/hr; E-408, Line #4 | OAC rule 3745-31-05 (A)(3)<br>PTI 08-4133 | For Frit Sealing:<br><br>3.0 lb/hr organic compounds (OC), 15 lbs/day OC, 2.74 TPY OC<br><br>2.0 lbs/hr particulate emissions (PE), 8.76 TPY PE<br><br>Visible PE shall not exceed 5 percent opacity, as a 6-minute average.<br><br>For The Oven:<br><br>2.59 lbs/hr nitrogen oxides (NOx) 11.34 TPY NOx<br><br>1.49 lbs/hr carbon monoxide (CO) 6.53 TPY CO<br><br>0.36 lb/hr PE<br>1.58 TPY PE<br><br>Visible emissions shall not exceed 5 percent opacity, as a 6-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-10(B), 3745-21-08(B), 3745-18-06(A) and 3745-23-06(B). |

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | OAC rule 3745-21-07(G)(1)<br>OAC rule 3745-17-07(A)<br>OAC rule 3745-17-11(B) | For Frit Sealing:<br><br>The limitations based on these rules are less stringent than or equivalent to the limitations established pursuant to OAC rule 3745-31-05 (A)(3). |
| | OAC rule 3745-17-07(A) | For The Oven:<br><br>The limitation based on this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| | OAC rule 3745-17-10(B) | 0.020 lb PE/mmBtu of actual heat input (for the oven) |
| | OAC rule 3745-18-06(A) | See A.I.2.b. (for the oven) |
| | OAC rules 3745-21-08(B) and 3745-23-06(B) | See A.I.2.c. (for the oven) |

**2. Additional Terms and Conditions**

**2.a** The hourly emission limitations were developed to reflect the potentials to emit for the emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with these limitations.

**2.b** OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

**2.c** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively, by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 008-4133.

## II. Operational Restrictions

**1.** The permittee shall burn only natural gas in this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information each day for this emissions unit:

a. The number of pounds of each frit vehicle mixed and employed.

b. The number of pounds of each frit vehicle accounted for as waste.

c. The OC content of each frit vehicle, in percent by weight.

d. The number of pounds of each cleanup material employed.

e. The OC content of each cleanup material, in percent by weight.

f. The total OC emission rate for all the frit vehicle and cleanup materials [summation of [(a - b) x c x 0.04*] for all frit vehicles+ summation of (d x e) for all cleanup materials], in pounds.

g. The total number of hours this emissions unit was in operation. (This number should be the same as the number of hours the associated coating operation was in operation.)

h. The average hourly OC emission rate, i.e., (f)/(g), in pounds per hour (average).

* the portion, by weight, of OCs emitted in the oven (4%)

**2.** For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly organic compound emissions exceeded 3.0 pounds per hour, and the actual average hourly organic compound emissions for each such day.

b. An identification of each day during which the organic compound emissions exceeded 15 pounds per day, and the actual organic compound emissions for each such day.

The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**2.** The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas, was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

## V. Testing Requirements

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

**1.a** Emission Limitation-
3.0 lbs/hr OC (from frit sealing)

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements established in section A.III.1. of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

## V. Testing Requirements (continued)

**1.b** Emission Limitation-
15.0 lbs/day OC (from frit sealing)

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements established in section A.III.1. of this permit.

**1.c** Emission Limitation-
2.74 TPY OC (from frit sealing)

Applicable Compliance Method-
Compliance with the annual allowable OC emission limitation above may be based upon the record keeping requirements established in section A.III.1 and shall be the sum of the 365 daily OC emission rates, divided by 2000.

**1.d** Emission Limitation-
2.0 lbs/hr PE (from frit sealing)

Applicable Compliance Method-
The hourly emission limitation was determined in the following manner:

PE (lbs/hr) = (100 bulbs processed/hr) x (0.02*) x (1 lb PE/broken bulb) = 2.0 lbs PE/hr

If required, the permittee shall demonstrate compliance with the hourly PE limitation above in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.

* Assume 2% bulb breakage during processing.

**1.e** Emission Limitation-
8.76 TPY PE (from frit sealing)

Applicable Compliance Method-
The annual PE limitation was determined by multiplying the hourly PE limitation by 8760, and then dividing by 2000. Therefore, as long as compliance with the hourly PE limitation is maintained, compliance with the annual PE limitation shall be assumed.

**1.f** Emission Limitation-
2.59 lbs/hr NOx (from the oven)

Applicable Compliance Method-
Compliance may be determined by multiplying the maximum rated capacity of the unit (17.76 mmBtu/hr) by the manufacturer's emission factor of 0.146 lb NOx /mmBtu of actual heat input.

If required, the permittee shall demonstrate compliance with the hourly NOx emission limitation in accordance with Methods 1 - 4 and 7 of 40 CFR, Part 60, Appendix A.

**1.g** Emission Limitation-
11.34 TPY NOx (from the oven)

Applicable Compliance Method-
The annual NOx emission limitation was determined by multiplying the hourly NOx emission limitation by 8760, and then dividing by 2000. Therefore, as long as compliance with the hourly NOx emission limitation is maintained, compliance with the annual NOx emission limitation shall be assumed.

## V. Testing Requirements (continued)

**1.h** Emission Limitation-
1.49 lbs/hr CO (from the oven)

Applicable Compliance Method-
Compliance may be determined by multiplying the maximum rated capacity of the unit (17.76 mmBtu/hr) by emission factor from AP-42, Table 1.4-1 (revised 7/98) of 0.084 lb CO/mmBtu.

If required, the permittee shall demonstrate compliance with the hourly CO emission limitation in accordance with Methods 1 - 4 and 10 of 40 CFR, Part 60, Appendix A.

**1.i** Emission Limitation-
6.53 TPY CO (from the oven)

Applicable Compliance Method-
The annual CO emission limitation was determined by multiplying the hourly CO emission limitation by 8760, and then dividing by 2000. Therefore, as long as compliance with the hourly CO emission limitation is maintained, compliance with the annual CO emission limitation shall be assumed.

**1.j** Emission Limitation:
0.020 pound of PE per mmBtu of actual heat input (from the oven)

Applicable Compliance Method:
Compliance may be determined by multiplying the PE (filtrable) emission factor of 1.9 pounds per million cubic feet of natural gas combusted by the emissions unit's maximum hourly fuel consumption rate (0.0176 mm cu. ft./hr), and then dividing by the emissions unit's maximum heat input capacity (17.76 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (revised 7/98).

If required, the permittee shall demonstrate compliance with the emission limitation above in accordance with the methods specified in OAC rule 3745-17-03(B)(9).

**1.k** Emission Limitation-
0.36 lb/hr PE (from the oven)

Applicable Compliance Method-
Compliance may be determined by multiplying the PE (filtrable) emission factor of 1.9 pounds per million cubic feet of natural gas combusted by the emissions unit's maximum hourly fuel consumption rate (0.0176 mm cu. ft./hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (revised 7/98).

If required, the permittee shall demonstrate compliance with the emission limitation above in accordance with the methods specified in OAC rule 3745-17-03(B)(9).

**1.l** Emission Limitation-
1.58 TPY PE (from the oven)

Applicable Compliance Method-
The annual PE limitation was determined by multiplying the hourly PE limitation by 8760, and then dividing by 2000. Therefore, as long as compliance with the hourly PE limitation is maintained, compliance with the annual PE limitation shall be assumed.

## V. Testing Requirements (continued)

**1.m** Emission Limitation-
For Frit Sealing and Oven: Visible emissions shall not exceed 5 percent opacity, as a 6-minute average.

Applicable Compliance Method-
If required, compliance shall be determined by visible emission evaluations performed in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC contents of the coatings.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Frit Sealing, Natural Gas-Fired Oven; 17.76 mmBtu/hr; E-408, Line #4 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: amyl acetate

TLV (ug/m3): 532,000

Maximum Hourly Emission Rate (lbs/hr): 3.0

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 28.37

MAGLC (ug/m3): 5,320

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically 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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**3.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Final Inspection (E-807) Line 4 (P044)

**Activity Description:** Panel wipe with acetone

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tube Process; Final Inspection E-807 | OAC rule 3745-31-05 (A)(3) PTI 08-4133 | 0.63 lb/hr organic compounds (OC), 15 lbs/day OC, 2.74 TPY OC |
| | OAC rule 3745-21-07(G)(2) | The emission limitations specified by this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall collect and record the following information for each day for the cleaning operation:

a. The company identification for each OC material employed.

b. The OC content of each OC material employed, in pounds/gallon.

c. The number of gallons of each OC material employed.

d. The OC emission rate for each OC material employed (b x c), in pounds.

e. The total OC emission rate for all the OC materials employed (summation of d for all the OC materials), in pounds.

f. The total number of hours the emissions unit was in operation.

g. The average hourly OC emission rate for all the OC materials, i.e., (c)/(d), in pounds per hour (average).

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that include the following information:

a. An identification of each day during which the average hourly OC emissions exceeded 0.63 pound per hour, and the actual average hourly OC emissions for each such day.

b. An identification of each day during which the OC emissions from exceeded 15 pounds per day, and the actual OC emissions for each such day.

**2.** The permittee shall submit deviation (excursion) reports in accordance with paragraph A.1.c of the General Terms and Conditions of this permit.

**3.** The permittee shall submit annual reports to the Director (the appropriate local air agency) that specify the total OC emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

## V. Testing Requirements

**1.** Compliance with the emission limitations in section A.1. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation-
0.63 lb/hr OC

Applicable Compliance Method-
Compliance may be based upon the record keeping requirements as specified in section A.III of this permit.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

**1.b** Emission Limitation-
15 lbs/day OC

Applicable Compliance Method-
Compliance with the daily organic compound emission limit may be based upon the record keeping requirements contained in Section A.III.1 of this permit.

**1.c** Emission Limitation-
2.74 TPY OC

Applicable Compliance Method-
Compliance shall be based upon the record keeping requirements as specified in section A.III. and shall be the summation of the 365 daily emission rates for the the calendar year, divided by 2000.

**2.** Formulation data or USEPA Method 24 shall be used to determine the OC content of the coatings and cleanup materials.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tube Process; Final Inspection E-807 | none | none |

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s)::

Pollutant: acetone

TLV (ug/m3):1,780,000

Maximum Hourly Emission Rate (lbs/hr): 0.63

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 161

MAGLC (ug/m3): 17,800

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically 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 previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

**3.** The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

## IV. Reporting Requirements

**None**

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

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