



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

12/23/02

**CERTIFIED MAIL**

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

06-84-01-0049  
Degussa Engineered Carbons LP  
Lee Patrick  
PO Box 868  
Theodore, AL 36590

Dear Lee Patrick:

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 Southeast District Office.

Very truly yours,

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

cc: Southeast District Office  
File, DAPC PMU



State of Ohio Environmental Protection Agency

**FINAL TITLE V PERMIT**

Issue Date: **12/23/02**

Effective Date: **01/13/02**

Expiration Date: **12/23/07**

This document constitutes issuance of a Title V permit for Facility ID: 06-84-01-0049 to:

Degussa Engineered Carbons LP

RR 01, Box 453-D

State Route 7 North

Belpre, OH 45714

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

F002 (Storage Bin Vents) Storage Bin Vents include all facility storage bins.	production of carbon black.	Pelletizing Process is used to make the X50-S Carbon.
F003 (Bagging Operations) Bagging Operations include the Unit 1/2 high vacuum, low vacuum and the Unit 2 vacuum bag filter.	P002 (Carbon Black Process Unit #2) The Carbon Black Process Unit #2 is used for the production of carbon black.	P011 (Carbon Black Process Unit #3) The Carbon Black Process Unit #3 is used for the production of carbon black.
F004 (Bulk Loading) Bulk Loading consists of the Unit #1/#2 Shipping Vacuum, and the Unit #3/#4 Clean-up Bag Filters.	P005 (Unit #1 Dryer) The Unit #1 Dryer is used to dry carbon black produced in Process Unit #1 before before being stored.	P012 (Carbon Black Process Unit #4) The Carbon Black Process Unit #4 is used for the production of carbon black.
F005 (Conveying) Conveying consists of the facility wide conveying air bag filters.	P006 (Unit #2 Dryer) The Unit #2 Dryer is used to dry carbon black produced in Process Unit #2 before being stored.	T007 (Feedstock Storage Tank 5) Feedstock Storage Tank 5 is used to store the feedstock used in the production of carbon black.
P001 (Carbon Black Process Unit #1) The Carbon Black Process Unit #1 is used for the	P010 (X-50-S Carbon Black & Si69 Mixing & Pelletizing Process) The X50-S Carbon Black & The Si69 Mixing &	

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:

Southeast District Office  
2195 Front Street  
Logan, OH 43138  
(740) 385-8501

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 Federally Enforceable 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 emissions units are located at this facility:

T001 - feedstock tank #4;  
T003 - feedstock tank #1;  
T004 - feedstock tank #2;  
T005 - feedstock tank #3;  
T006 - Si69 storage tank;  
Z001 - boiler #1;  
Z002 - boiler #2;  
Z004 - 1,000-gallon gasoline tank; and  
Z009 - boiler #3.

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:** Storage Bin Vents (F002)  
**Activity Description:** Storage Bin Vents include all facility storage bins.

#### 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
storage bin vents (storage bins, bulk storage and surge bins)	OAC rule 3745-31-05(A) (PTI 06-4927)	Particulate emissions shall not exceed 2.0 lbs/hr, or there shall be no visible emissions from the storage bin vents, whichever is less stringent.
		Particulate emissions shall not exceed 8.8 tpy.
		See A.I.2.b below.
	OAC rule 3745-17-07	See A.I.2.a below.
	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

##### 2. Additional Terms and Conditions

- 2.a The visible particulate emission limitation required by OAC rule 3745-17-07 is less stringent than the visible particulate emission limitation established in PTI 06-4927 pursuant to OAC rule 3745-31-05(A)(3).
- 2.b The permittee shall employ control measures on all storage bin vents for the purpose of ensuring compliance with the above-mentioned applicable emission limitations. In accordance with the permittee's permit application, the permittee shall maintain total enclosures and vent all the particulate emissions to a fabric filter to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing additional measures to ensure compliance.

##### II. Operational Restrictions

None

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

1. The permittee shall perform daily checks, while the equipment is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log.
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records of the operating hours for this emissions unit.

### IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. The permittee shall submit annual reports which specify the total particulate emissions from this emissions unit for the previous calendar year, in tons. These reports shall be submitted by January 31 of each year and shall cover the previous 12-month period.

### 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:

no visible particulate emissions

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance using Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

**1.b** Emission Limitation:

2.0 lbs/hr of particulate emissions

Applicable Compliance Method:

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. No testing is specifically required by this permit but, if appropriate, may be requested pursuant to OAC rule 3745-15-04.

Facility Name: **Degussa Corporation - Belpre Site**

Facility ID: **06-84-01-0049**

Emissions Unit: **Storage Bin Vents (F002)**

## **V. Testing Requirements (continued)**

**1.c** Emission Limitation:

8.8 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E = 2.0 \text{ lbs/hr} * \text{actual hours of operation/year} * 0.0005 \text{ ton/lb}$$

## **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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** Bagging Operations (F003)

**Activity Description:** Bagging Operations include the Unit 1/2 high vacuum, low vacuum and the Unit 2 vacuum bag filter.

#### 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
bagging operation (unit 1/2 high vac, low vac and unit 2 vac bag filter)	OAC rule 3745-31-05(A) (PTI 06-4927)	Particulate emissions shall not exceed 2.1 lbs/hr, or there shall be no visible emissions from the storage bin vents, whichever is less stringent.
	OAC rule 3745-17-07	Particulate emissions shall not exceed 9.2 tpy.
	OAC rule 3745-17-11	See A.I.2.b below. See A.I.2.a below. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

##### 2. Additional Terms and Conditions

- 2.a The visible particulate emission limitation required by OAC rule 3745-17-07 is less stringent than the visible particulate emission limitation established in PTI 06-4927 pursuant to OAC rule 3745-31-05(A)(3).
- 2.b The permittee shall employ control measures on the bagging operations for the purpose of ensuring compliance with the above-mentioned applicable emission limitations. In accordance with the permittee's permit application, the permittee shall maintain enclosures and vent all the particulate emissions to a fabric filter baghouse which is capable of meeting the applicable requirements to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

##### II. Operational Restrictions

None

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

1. The permittee shall perform daily checks, while the equipment is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log.
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records of the operating hours for this emissions unit.

### IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. The permittee shall submit annual reports which specify the total particulate emissions from this emissions unit for the previous calendar year, in tons. These reports shall be submitted by January 31 of each year and shall cover the previous 12-month period.

### 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:

no visible particulate emissions

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance using Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

**1.b** Emission Limitation:

2.1 lbs/hr of particulate emissions

Applicable Compliance Method:

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. No testing is specifically required by this permit but, if appropriate, may be requested pursuant to OAC rule 3745-15-04.

Facility Name: **Degussa Corporation - Belpre Site**

Facility ID: **06-84-01-0049**

Emissions Unit: **Bagging Operations (F003)**

## **V. Testing Requirements (continued)**

**1.c** Emission Limitation:

9.2 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E = 2.1 \text{ lbs/hr} * \text{actual hours of operation/year} * 0.0005 \text{ ton/lb}$$

## **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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** Bulk Loading (F004)

**Activity Description:** Bulk Loading consists of the Unit #1/#2 Shipping Vacuum, and the Unit #3/#4 Clean-up Bag Filters.

#### 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
bulk loading (unit 1/2 shipping vac and unit 3/4 clean-up bag filters)	OAC rule 3745-31-05(A) (PTI 06-4927)	Particulate emissions shall not exceed 2.92 lbs/hr, or there shall be no visible emissions from the storage bin vents, whichever is less stringent.
		Particulate emissions shall not exceed 12.7 tpy.
		See A.I.2.b below.
	OAC rule 3745-17-07	See A.I.2.a below.
	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

##### 2. Additional Terms and Conditions

- 2.a The visible particulate emission limitation required by OAC rule 3745-17-07 is less stringent than the visible particulate emission limitation established in PTI 06-4927 pursuant to OAC rule 3745-31-05(A)(3).
- 2.b The permittee shall employ control measures on the bulk loading operations for the purpose of ensuring compliance with the above-mentioned applicable emission limitations. In accordance with the permittee's permit application, the permittee shall maintain enclosures and vent all the particulate emissions to a fabric filter baghouse which is capable of meeting the applicable requirements to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

##### II. Operational Restrictions

None

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

1. The permittee shall perform daily checks, while the equipment is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log.
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records of the operating hours for this emissions unit.

### IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. The permittee shall submit annual reports which specify the total particulate emissions from this emissions unit for the previous calendar year, in tons. These reports shall be submitted by January 31 of each year and shall cover the previous 12-month period.

### 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:

no visible particulate emissions

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance using Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

**1.b** Emission Limitation:

2.92 lbs/hr of particulate emissions

Applicable Compliance Method:

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. No testing is specifically required by this permit but, if appropriate, may be requested pursuant to OAC rule 3745-15-04.

Facility Name: **Degussa Corporation - Belpre Site**

Facility ID: **06-84-01-0049**

Emissions Unit: **Bulk Loading (F004)**

## **V. Testing Requirements (continued)**

**1.c** Emission Limitation:

12.7 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E = 2.92 \text{ lbs/hr} * \text{actual hours of operation/year} * 0.0005 \text{ ton/lb}$$

## **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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** Conveying (F005)

**Activity Description:** Conveying consists of the facility wide conveying air bag filters.

#### 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
conveying (conveying air bag filters)	OAC rule 3745-31-05(A) (PTI 06-4927)	Particulate emissions shall not exceed 3.6 lbs/hr, or there shall be no visible emissions from the storage bin vents, whichever is less stringent.
		Particulate emissions shall not exceed 15.8 tpy.
		See A.I.2.b below.
	OAC rule 3745-17-07	See A.I.2.a below.
	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

##### 2. Additional Terms and Conditions

- 2.a The visible particulate emission limitation required by OAC rule 3745-17-07 is less stringent than the visible particulate emission limitation established in PTI 06-4927 pursuant to OAC rule 3745-31-05(A)(3).
- 2.b The permittee shall employ control measures on all conveying for the purpose of ensuring compliance with the above-mentioned applicable emission limitations. In accordance with the permittee's permit application, the permittee shall maintain total enclosures and vent all the particulate emissions to a fabric filter to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing additional measures to ensure compliance.

##### II. Operational Restrictions

None

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

1. The permittee shall perform daily checks, while the equipment is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log.
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records of the operating hours for this emissions unit.

### IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. The permittee shall submit annual reports which specify the total particulate emissions from this emissions unit for the previous calendar year, in tons. These reports shall be submitted by January 31 of each year and shall cover the previous 12-month period.

### 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:

no visible particulate emissions

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance using Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

**1.b** Emission Limitation:

3.6 lbs/hr of particulate emissions

Applicable Compliance Method:

If required, compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. No testing is specifically required by this permit but, if appropriate, may be requested pursuant to OAC rule 3745-15-04.

Facility Name: **Degussa Corporation - Belpre Site**

Facility ID: **06-84-01-0049**

Emissions Unit: **Conveying (F005)**

## **V. Testing Requirements (continued)**

**1.c** Emission Limitation:

15.8 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E = 3.6 \text{ lbs/hr} * \text{actual hours of operation/year} * 0.0005 \text{ ton/lb}$$

## **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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** Carbon Black Process Unit #1 (P001)

**Activity Description:** The Carbon Black Process Unit #1 is used for the production of carbon black.

#### A. State and Federally Enforceable Section

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

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
carbon black unit #1 (equipped with a product exhaust bag filter and flare)	OAC rule 3745-31-05(A) (PTI 06-4927)	This emissions unit shall be limited to the following emissions during normal operation from the flare:  288.8 lbs/hr and 1,265 tpy of sulfur dioxide (SO <sub>2</sub> ), based upon a rolling, 365-day summation  5.0 lbs/hr and 21.9 tpy of volatile organic compounds (VOC)  188.2 lbs/hr and 824.3 tpy of carbon monoxide (CO)  23.2 lbs/hr and 101.6 tpy of nitrogen oxides (NO <sub>x</sub> )  3.0 lbs/hr and 13.1 tpy of particulate emissions  The combined annual SO <sub>2</sub> emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed 4545 tons, based upon a rolling, 365-day summation.  The combined annual emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed the following, in tons:  NO <sub>x</sub> - 391.7; VOC - 38.4; CO - 1379; and

**Operations, Property,  
 and/or Equipment**

**Applicable Rules/  
 Requirements**

OAC rule 3745-17-11  
 OAC rule 3745-17-07  
  
 OAC rule 3745-18-06

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07.

See A.I.2.a below.

See A.I.2.c below.

Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

See A.I.2.c below.

**2. Additional Terms and Conditions**

**2.a** This emissions unit shall be limited to the following emissions during start-up and shutdown (vent emissions):

6.8 lbs/hr of SO<sub>2</sub>  
 0.3 tpy of SO<sub>2</sub>

380 lbs/hr of VOC  
 15 tpy of VOC

14,254 lbs/hr of CO  
 577 tpy of CO

8.4 lbs/hr of NO<sub>x</sub>  
 0.3 tpy of NO<sub>x</sub>

7.8 lbs/hr of particulate emissions  
 0.3 tpy of particulate emissions

154 lbs/hr of hydrogen sulfide (H<sub>2</sub>S)  
 6.2 tpy of H<sub>2</sub>S

30 lbs/hr of carbonyl sulfide (COS)  
 1.2 tpy of COS

70 lbs/hr of carbon disulfide (CS<sub>2</sub>)  
 2.8 tpy of CS<sub>2</sub>

37 lbs/hr of hydrogen cyanide (HCN)  
 1.5 tpy of HCN

**2.b** The maximum annual production rate for emissions units P001, P002, P011, P012, P005, and P006, combined, shall not exceed 223,000,000 pounds per year, based upon a rolling, 12-month summation of the production rates.

**2. Additional Terms and Conditions (continued)**

- 2.c** The emission limitation specified in this rule is less stringent than the emission limitation established pursuant to the best available technology requirement in OAC rule 3745-31-05(A)(3).

**II. Operational Restrictions**

1. The permittee shall:
  - a. utilize feedstock oil that contains no more than 2.0 percent sulfur (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process); and
  - b. employ a flare with a design destruction efficiency of 95 percent for particulate emissions and 98 percent for all other air pollutants except SO<sub>2</sub> and NO<sub>x</sub>.
2. This emissions unit shall be limited to 81 hours per year for all start-up and shutdown operations.
3. A pilot flame shall be maintained at all times in the flare's pilot light burner.
4. If the mass flow rate meter employed to continuously monitor the feedstock oil feed rate is not in operation, the production of carbon black shall be automatically terminated.

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

1. The permittee shall perform daily checks, while the equipment is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log.
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall keep daily records for all start-up and shutdown periods that contain the following information:
  - a. the date of each start-up or shutdown;
  - b. the time period during which each start-up or shutdown occurred; and
  - c. the year-to-date, total hours of all start-up and shutdown periods.

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

3. The permittee shall maintain records of the feedstock oil for this emissions unit in accordance with either Alternative 1 or Alternative 2 described below.

a. Alternative 1:

For each shipment of feedstock oil received for this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of the feedstock oil and maintain records of the total quantity of feedstock oil received, and the permittee's or oil supplier's analyses for sulfur content and density.

b. Alternative 2:

The permittee shall collect a representative grab sample of the feedstock oil for this emissions unit for each day when the emissions unit is in operation. If additional feedstock oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to create a composite sample that is representative of the average quality of feedstock oil used in this emissions unit. The permittee shall maintain records of the total quantity of feedstock oil used each day, and the permittee's analyses for sulfur content and density.

4. The permittee shall measure the sulfur content (in weight %) of the feedstock oil in accordance with the procedures specified in ASTM standard D4294, "Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-ray Fluorescence Spectrometry". In addition, the permittee shall measure the density (in pounds per gallon) of the feedstock oil in accordance with the procedures specified in ASTM standard D287, "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)".
5. For each day of operation of this emissions unit, the permittee shall collect a sufficient number of grab samples of carbon black product to create a composite sample that is representative of the average quality of the carbon black produced in this emissions unit. The permittee shall measure the sulfur content (in weight %) of each composite sample of carbon black product in accordance with the procedures specified in ASTM standard D1619, "Standard Test Method for Carbon Black- Sulfur Content".
6. The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

The permittee shall record the following information each day:

- a. all periods during which there was no pilot flame;
- b. the corrective action taken to reestablish the flame; and
- c. the downtimes for the flare, monitoring equipment, and the associated emissions unit.
7. The permittee shall properly operate and maintain a Micro Motion mass flow rate meter, model number D100, or equivalent monitor, to continuously monitor the feedstock oil feed rate when the emissions unit is in operation and producing carbon black. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

The permittee shall record the following information each day:

- a. all periods during which the Micro Motion mass flow rate meter, model number D100, was not in operation;
- b. all downtimes for the monitoring equipment and the associated emissions unit; and
- c. the corrective actions taken to reestablish correct operation of the mass flow rate meter.

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

8. The permittee shall maintain monthly records of the following information:
  - a. the production rate for this emissions unit;
  - b. the rolling, 12-month summation of the production rates for emissions units P001, P002, P005, P006, P011, and P012, combined; and
  - c. the total hours of operation of this emissions unit.
9. The permittee shall maintain daily records of the following information for this emissions unit:
  - a. the OEPA identification number of this emissions unit;
  - b. the current day, month, and year;
  - c. the grade of each feedstock oil processed;
  - d. the yield of each feedstock oil (defined as the average amount of carbon black produced during the day, in pounds, per gallon of feedstock oil used during the day);
  - e. the sulfur content of each feedstock oil, in weight percent;
  - f. the sulfur content of the carbon black product, in weight percent;
  - g. the density of each feedstock oil, in pounds per gallon;
  - h. the feedstock oil feed rate, in gallons per hour for each hour of operation (continuously monitored using a Micro Motion mass flow rate meter, model number D100);
  - i. the carbon black production rate, in pounds per hour for each hour of operation, determined by multiplying the feedstock oil feed rate by the yield of the feedstock oil;
  - j. the hourly SO<sub>2</sub> emission rate for each feedstock oil, in pounds per hour for each hour of operation, calculated as specified in section A.III.10;
  - k. the total hours of operation for each feedstock oil;
  - l. the daily SO<sub>2</sub> emission rate for all feedstock oils, in pounds (i.e., the summation of (j) for all of the feedstock oils for all hours of operation during the day); and
  - m. the rolling, 365-day SO<sub>2</sub> emission rate for all feedstock oils, in tons.

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

10. The average hourly sulfur dioxide emission rate for each feedstock oil shall be calculated using the following equations:

$$E = ((SFS) - (SCB)) \times (1 - TG) \times (64/32)$$

where:

E = sulfur dioxide emission rate, in pounds per hour;  
SFS = feedstock oil sulfur weight rate, in pounds per hour;  
SCB = carbon black sulfur weight rate, in pounds per hour;  
TG = fraction of stream to tailgas (constant at .34); and  
64/32 = constant to convert molecular weight rate of sulfur to molecular weight of sulfur dioxide.

NOTE: The permittee conservatively assumes all of the sulfur emissions are emitted as sulfur dioxide emissions.

The feedstock oil sulfur weight rate utilized in the equation above is computed in the following manner:

$$SFS = FSR \times SFSP$$

where:

SFS = feedstock oil sulfur weight rate, in pounds per hour;  
FSR = maximum recorded feedstock oil feed rate, in pounds per hour; and  
SFSP = feedstock oil sulfur content, in weight percent.

The carbon black sulfur weight rate utilized in the equation above is computed in the following manner:

$$SCB = CBPR \times SCBP$$

where:

SCB = carbon black sulfur weight rate, in pounds per hour;  
CBPR = maximum recorded carbon black production rate, in pounds per hour; and  
SCBP = carbon black sulfur content, in weight percent.

11. The permittee shall maintain a daily record of the rolling, 365-day SO<sub>2</sub> emission rate for all feedstock oils, in tons, for emissions units P001, P002, P005, P006, P011, and P012, combined.

### IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods during which the pilot flame was not functioning properly. The reports shall include the date, time, and duration of each such period, and the corrective action(s) to ensure a flame is present at all times.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods during which the Micro Motion mass flow rate meter, model number D100, was not functioning properly. The reports shall include the date, time, and duration of each such period, and the corrective action(s) to ensure correct operation.
3. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the sulfur content limitation. The reports shall include the date, time, and duration of each such period when the sulfur content of the oil used in this emissions unit is greater than 2.0 percent, and the corrective action to bring the sulfur content below 2.0 percent (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process).

#### **IV. Reporting Requirements (continued)**

5. The permittee shall submit quarterly deviation (excursion) reports that identify each hour during which the SO<sub>2</sub> emission rate exceeded 288.8 lbs/hr, and the actual SO<sub>2</sub> emissions for each such hour.
6. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate exceeded 1,265 tons, and the actual SO<sub>2</sub> emissions for each such day.
7. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate for emissions units P001, P002, P005, P006, P011, and P012, combined, exceeded 4,545 tons, and the actual SO<sub>2</sub> emissions for each such day.
8. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
9. The permittee shall submit annual reports that include the following information:
  - a. the total hours of start-up and shutdown operations for this emissions unit for the previous calendar year;
  - b. the total hours of operation of this emissions unit;
  - c. the total production from emissions units P001, P002, P005, P006, P011, and P012; and
  - d. the emissions (including all calculations), in tons, from this emissions unit for the previous calendar year for each pollutant with a tpy limitation in sections A.I.1 and A.I.2.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations in section A.I.1, the production rate restriction in section A.I.2.b, and the operational restriction in section A.II.1.a of these terms and conditions shall be determined in accordance with the following methods:
  - 1.a Emission Limitation:  
  
3.0 lbs/hr of particulate emissions  
  
Applicable Compliance Method:  
  
Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.
  - 1.b Emission Limitation:  
  
5.0 lbs/hr of VOC  
  
Applicable Compliance Method:  
  
Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**V. Testing Requirements (continued)**

**1.c** Emission Limitation:

23.2 lbs/hr of NO<sub>x</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**1.d** Emission Limitation:

188.2 lbs/hr of CO

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**1.e** Emission Limitation:

288.8 lbs/hr of SO<sub>2</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping specified in sections A.III.9 and A.III.10.

If required, compliance shall also be demonstrated based upon the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 6 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996.

**1.f** Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).

**1.g** Operational Restriction:

maximum annual production rate of 223,000,000 pounds of carbon black

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.8.

**1.h** Operational Restriction:

2.0 percent sulfur content in the feedstock oil (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process)

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in sections A.III.3 and A.III.4.

**V. Testing Requirements (continued)**

**1.i** Emission Limitation:

1,265 tpy of SO<sub>2</sub> during normal operations, based upon a rolling, 365-day summation

Applicable Compliance Method:

Compliance shall be demonstrated based upon the sum of the daily SO<sub>2</sub> emissions specified in section A.III.9 for the 365-day period, divided by 2000 lbs/ton.

**1.j** Emission Limitation:

21.9 tpy of VOC during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 5.0 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.k** Emission Limitation:

824.3 tpy of CO during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 188.2 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.l** Emission Limitation:

101.6 tpy of NO<sub>x</sub> during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 23.2 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.m** Emission Limitation:

13.1 tpy of particulate emissions during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 3.0 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**V. Testing Requirements (continued)**

**1.n** Emission Limitation:

4,545 tpy of SO<sub>2</sub> based upon a rolling, 365-day summation for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon the sum of the daily SO<sub>2</sub> emissions specified in section A.III.11 for the 365-day period.

**1.o** Emission Limitations:

391.7 tpy of NO<sub>x</sub> for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the NO<sub>x</sub> hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.p** Emission Limitations:

38.4 tpy of VOC for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.q** Emission Limitations:

1379 tpy of CO for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the CO hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.r** Emission Limitations:

57.0 tpy of particulates for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the particulate hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**2.** Compliance with the emission limitations during start-up and shutdown operations in section A.I.2.a and the operational restriction in section A.II.2 of these terms and conditions shall be determined in accordance with the following methods:

**V. Testing Requirements (continued)**

**2.a** Operational Restriction:

81 hrs/yr of start-up and shutdown operations

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.2.

**2.b** Emission Limitation:

0.3 tpy of SO<sub>2</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 6.8 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.c** Emission Limitation:

15 tpy of VOC during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 380 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.d** Emission Limitation:

577 tpy of CO during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 14,254 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.e** Emission Limitation:

0.3 tpy of NO<sub>x</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 8.4 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**V. Testing Requirements (continued)**

**2.f** Emission Limitation:

0.3 tpy of particulate emissions during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 7.8 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.g** Emission Limitation:

6.2 tpy of H<sub>2</sub>S during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 154 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.h** Emission Limitation:

1.2 tpy of COS during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 30 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.i** Emission Limitation:

2.8 tpy of CS<sub>2</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 70 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.j** Emission Limitation:

1.5 tpy of HCN during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 37 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**3.** The hourly limitations for start-up and shutdown operations in section A.1.2.a are the uncontrolled emission rates determined by the known chemical reaction of the process and represent the potentials to emit for this emissions unit; therefore, compliance with the emission limitations is assumed.

## V. Testing Requirements (continued)

4. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- The emission testing shall be conducted within 9 months after issuance of the permit and annually thereafter.
  - The emission testing shall be conducted at the inlet to the flare to verify the uncontrolled mass rates of emission for CO, NO<sub>x</sub>, VOC, and particulates. The design efficiency of the open flare will then be applied to demonstrate compliance with the allowable mass rates of emission for CO, NO<sub>x</sub>, VOC, and particulates.
  - The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A;  
for NO<sub>x</sub>, Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A;  
for CO, Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A; and  
for VOC, Methods 1 through 4 and 25 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

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

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

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

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

## 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** Carbon Black Process Unit #2 (P002)

**Activity Description:** The Carbon Black Process Unit #2 is used for the production of carbon black.

#### A. State and Federally Enforceable Section

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

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
carbon black unit #2 (equipped with a product exhaust bag filter and flare)	OAC rule 3745-31-05(A) (PTI 06-4927)	This emissions unit shall be limited to the following emissions during normal operation from the flare:  255.5 lbs/hr and 1,119 tpy of sulfur dioxide (SO <sub>2</sub> ), based upon a rolling, 365-day summation  4.4 lbs/hr and 19.3 tpy of volatile organic compounds (VOC)  166.4 lbs/hr and 728.8 tpy of carbon monoxide (CO)  20.5 lbs/hr and 89.8 tpy of nitrogen oxides (NO <sub>x</sub> )  2.7 lbs/hr and 11.8 tpy of particulate emissions  The combined annual SO <sub>2</sub> emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed 4545 tons, based upon a rolling, 365-day summation.  The combined annual emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed the following, in tons:  NO <sub>x</sub> - 391.7; VOC - 38.4; CO - 1379; and

**Operations, Property,  
 and/or Equipment**

**Applicable Rules/  
 Requirements**

OAC rule 3745-17-11  
 OAC rule 3745-17-07  
  
 OAC rule 3745-18-06

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07.

See A.I.2.a below.

See A.I.2.c below.

Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

See A.I.2.c below.

**2. Additional Terms and Conditions**

**2.a** This emissions unit shall be limited to the following emissions during start-up and shutdown (vent emissions):

6.1 lbs/hr of SO<sub>2</sub>  
 0.3 tpy of SO<sub>2</sub>

336 lbs/hr of VOC  
 14 tpy of VOC

12,610 lbs/hr of CO  
 511 tpy of CO

7.4 lbs/hr of NO<sub>x</sub>  
 0.3 tpy of NO<sub>x</sub>

6.9 lbs/hr of particulate emissions  
 0.3 tpy of particulate emissions

137 lbs/hr of hydrogen sulfide (H<sub>2</sub>S)  
 5.5 tpy of H<sub>2</sub>S

27 lbs/hr of carbonyl sulfide (COS)  
 1.1 tpy of COS

62 lbs/hr of carbon disulfide (CS<sub>2</sub>)  
 2.5 tpy of CS<sub>2</sub>

33 lbs/hr of hydrogen cyanide (HCN)  
 1.3 tpy of HCN

**2.b** The maximum annual production rate for emissions units P001, P002, P011, P012, P005, and P006, combined, shall not exceed 223,000,000 pounds per year, based upon a rolling, 12-month summation of the production rates.

## **2. Additional Terms and Conditions (continued)**

- 2.c** The emission limitation specified in this rule is less stringent than the emission limitation established pursuant to the best available technology requirement in OAC rule 3745-31-05(A)(3).

## **II. Operational Restrictions**

- 1.** The permittee shall:
  - a. utilize feedstock oil that contains no more than 2.0 percent sulfur (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process); and
  - b. employ a flare with a design destruction efficiency of 95 percent for particulate emissions and 98 percent for all other air pollutants except SO<sub>2</sub> and NO<sub>x</sub>.
- 2.** This emissions unit shall be limited to 81 hours per year for all start-up and shutdown operations.
- 3.** A pilot flame shall be maintained at all times in the flare's pilot light burner.
- 4.** If the mass flow rate meter employed to continuously monitor the feedstock oil feed rate is not in operation, the production of carbon black shall be automatically terminated.

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

- 1.** The permittee shall perform daily checks, while the equipment is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log.
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.
- 2.** The permittee shall keep daily records for all start-up and shutdown periods that contain the following information:
  - a. the date of each start-up or shutdown;
  - b. the time period during which each start-up or shutdown occurred; and
  - c. the year-to-date, total hours of all start-up and shutdown periods.

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

3. The permittee shall maintain records of the feedstock oil for this emissions unit in accordance with either Alternative 1 or Alternative 2 described below.

a. Alternative 1:

For each shipment of feedstock oil received for this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of the feedstock oil and maintain records of the total quantity of feedstock oil received, and the permittee's or oil supplier's analyses for sulfur content and density.

b. Alternative 2:

The permittee shall collect a representative grab sample of the feedstock oil for this emissions unit for each day when the emissions unit is in operation. If additional feedstock oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to create a composite sample that is representative of the average quality of feedstock oil used in this emissions unit. The permittee shall maintain records of the total quantity of feedstock oil used each day, and the permittee's analyses for sulfur content and density.

4. The permittee shall measure the sulfur content (in weight %) of the feedstock oil in accordance with the procedures specified in ASTM standard D4294, "Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-ray Fluorescence Spectrometry". In addition, the permittee shall measure the density (in pounds per gallon) of the feedstock oil in accordance with the procedures specified in ASTM standard D287, "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)".
5. For each day of operation of this emissions unit, the permittee shall collect a sufficient number of grab samples of carbon black product to create a composite sample that is representative of the average quality of the carbon black produced in this emissions unit. The permittee shall measure the sulfur content (in weight %) of each composite sample of carbon black product in accordance with the procedures specified in ASTM standard D1619, "Standard Test Method for Carbon Black- Sulfur Content".
6. The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

The permittee shall record the following information each day:

- a. all periods during which there was no pilot flame;
- b. the corrective action taken to reestablish the flame; and
- c. the downtimes for the flare, monitoring equipment, and the associated emissions unit.
7. The permittee shall properly operate and maintain a Micro Motion mass flow rate meter, model number D100, or equivalent monitor, to continuously monitor the feedstock oil feed rate when the emissions unit is in operation and producing carbon black. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

The permittee shall record the following information each day:

- a. all periods during which the Micro Motion mass flow rate meter, model number D100, was not in operation;
- b. all downtimes for the monitoring equipment and the associated emissions unit; and
- c. the corrective actions taken to reestablish correct operation of the mass flow rate meter.

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

8. The permittee shall maintain monthly records of the following information:
  - a. the production rate for this emissions unit;
  - b. the rolling, 12-month summation of the production rates for emissions units P001, P002, P005, P006, P011, and P012, combined; and
  - c. the total hours of operation of this emissions unit.
9. The permittee shall maintain daily records of the following information for this emissions unit:
  - a. the OEPA identification number of this emissions unit;
  - b. the current day, month, and year;
  - c. the grade of each feedstock oil processed;
  - d. the yield of each feedstock oil (defined as the average amount of carbon black produced during the day, in pounds, per gallon of feedstock oil used during the day);
  - e. the sulfur content of each feedstock oil, in weight percent;
  - f. the sulfur content of the carbon black product, in weight percent;
  - g. the density of each feedstock oil, in pounds per gallon;
  - h. the feedstock oil feed rate, in gallons per hour for each hour of operation (continuously monitored using a Micro Motion mass flow rate meter, model number D100);
  - i. the carbon black production rate, in pounds per hour for each hour of operation, determined by multiplying the feedstock oil feed rate by the yield of the feedstock oil;
  - j. the hourly SO<sub>2</sub> emission rate for each feedstock oil, in pounds per hour for each hour of operation, calculated as specified in section A.III.10;
  - k. the total hours of operation for each feedstock oil;
  - l. the daily SO<sub>2</sub> emission rate for all feedstock oils, in pounds (i.e., the summation of (j) for all of the feedstock oils for all hours of operation during the day); and
  - m. the rolling, 365-day SO<sub>2</sub> emission rate for all feedstock oils, in tons.

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

10. The average hourly sulfur dioxide emission rate for each feedstock oil shall be calculated using the following equations:

$$E = ((SFS) - (SCB)) \times (1 - TG) \times (64/32)$$

where:

E = sulfur dioxide emission rate, in pounds per hour;  
SFS = feedstock oil sulfur weight rate, in pounds per hour;  
SCB = carbon black sulfur weight rate, in pounds per hour;  
TG = fraction of stream to tailgas (constant at .34); and  
64/32 = constant to convert molecular weight rate of sulfur to molecular weight of sulfur dioxide.

NOTE: The permittee conservatively assumes all of the sulfur emissions are emitted as sulfur dioxide emissions.

The feedstock oil sulfur weight rate utilized in the equation above is computed in the following manner:

$$SFS = FSR \times SFSP$$

where:

SFS = feedstock oil sulfur weight rate, in pounds per hour;  
FSR = maximum recorded feedstock oil feed rate, in pounds per hour; and  
SFSP = feedstock oil sulfur content, in weight percent.

The carbon black sulfur weight rate utilized in the equation above is computed in the following manner:

$$SCB = CBPR \times SCBP$$

where:

SCB = carbon black sulfur weight rate, in pounds per hour;  
CBPR = maximum recorded carbon black production rate, in pounds per hour; and  
SCBP = carbon black sulfur content, in weight percent.

11. The permittee shall maintain a daily record of the rolling, 365-day SO<sub>2</sub> emission rate for all feedstock oils, in tons, for emissions units P001, P002, P005, P006, P011, and P012, combined.

### IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods during which the pilot flame was not functioning properly. The reports shall include the date, time, and duration of each such period, and the corrective action(s) to ensure a flame is present at all times.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods during which the Micro Motion mass flow rate meter, model number D100, was not functioning properly. The reports shall include the date, time, and duration of each such period, and the corrective action(s) to ensure correct operation.
3. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the sulfur content limitation. The reports shall include the date, time, and duration of each such period when the sulfur content of the oil used in this emissions unit is greater than 2.0 percent, and the corrective action to bring the sulfur content below 2.0 percent (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process).

#### **IV. Reporting Requirements (continued)**

5. The permittee shall submit quarterly deviation (excursion) reports that identify each hour during which the SO<sub>2</sub> emission rate exceeded 255.5 lbs/hr, and the actual SO<sub>2</sub> emissions for each such hour.
6. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate exceeded 1,119 tons, and the actual SO<sub>2</sub> emissions for each such day.
7. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate for emissions units P001, P002, P005, P006, P011, and P012, combined, exceeded 4,545 tons, and the actual SO<sub>2</sub> emissions for each such day.
8. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
9. The permittee shall submit annual reports that include the following information:
  - a. the total hours of start-up and shutdown operations for this emissions unit for the previous calendar year;
  - b. the total hours of operation of this emissions unit;
  - c. the total production from emissions units P001, P002, P005, P006, P011, and P012; and
  - d. the emissions (including all calculations), in tons, from this emissions unit for the previous calendar year for each pollutant with a tpy limitation in sections A.I.1 and A.I.2.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations in section A.I.1, the production rate restriction in section A.I.2.b, and the operational restriction in section A.II.1.a of these terms and conditions shall be determined in accordance with the following methods:
  - 1.a Emission Limitation:  
  
2.7 lbs/hr of particulate emissions  
  
Applicable Compliance Method:  
  
Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.
  - 1.b Emission Limitation:  
  
4.4 lbs/hr of VOC  
  
Applicable Compliance Method:  
  
Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**V. Testing Requirements (continued)**

**1.c** Emission Limitation:

20.5 lbs/hr of NO<sub>x</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**1.d** Emission Limitation:

166.4 lbs/hr of CO

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**1.e** Emission Limitation:

255.5 lbs/hr of SO<sub>2</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping specified in sections A.III.9 and A.III.10.

If required, compliance shall also be demonstrated based upon the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 6 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996.

**1.f** Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).

**1.g** Operational Restriction:

maximum annual production rate of 223,000,000 pounds of carbon black

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.8.

**1.h** Operational Restriction:

2.0 percent sulfur content in the feedstock oil (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process)

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in sections A.III.3 and A.III.4.

**V. Testing Requirements (continued)**

**1.i** Emission Limitation:

1,119 tpy of SO<sub>2</sub> during normal operations, based upon a rolling, 365-day summation

Applicable Compliance Method:

Compliance shall be demonstrated based upon the sum of the daily SO<sub>2</sub> emissions specified in section A.III.9 for the 365-day period, divided by 2000 lbs/ton.

**1.j** Emission Limitation:

19.3 tpy of VOC during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 4.4 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.k** Emission Limitation:

728.8 tpy of CO during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 166.4 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.l** Emission Limitation:

89.8 tpy of NO<sub>x</sub> during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 20.5 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.m** Emission Limitation:

11.8 tpy of particulate emissions during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 2.7 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**V. Testing Requirements (continued)**

**1.n** Emission Limitation:

4,545 tpy of SO<sub>2</sub> based upon a rolling, 365-day summation for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon the sum of the daily SO<sub>2</sub> emissions specified in section A.III.11 for the 365-day period.

**1.o** Emission Limitations:

391.7 tpy of NO<sub>x</sub> for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the NO<sub>x</sub> hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.p** Emission Limitations:

38.4 tpy of VOC for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.q** Emission Limitations:

1379 tpy of CO for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the CO hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.r** Emission Limitations:

57.0 tpy of particulates for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the particulate hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**2.** Compliance with the emission limitations during start-up and shutdown operations in section A.I.2.a and the operational restriction in section A.II.2 of these terms and conditions shall be determined in accordance with the following methods:

**V. Testing Requirements (continued)**

**2.a** Operational Restriction:

81 hrs/yr of start-up and shutdown operations

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.2.

**2.b** Emission Limitation:

0.3 tpy of SO<sub>2</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 6.1 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.c** Emission Limitation:

14 tpy of VOC during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 336 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.d** Emission Limitation:

511 tpy of CO during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 12,610 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.e** Emission Limitation:

0.3 tpy of NO<sub>x</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 7.4 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**V. Testing Requirements (continued)**

**2.f** Emission Limitation:

0.3 tpy of particulate emissions during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 6.9 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.g** Emission Limitation:

5.5 tpy of H<sub>2</sub>S during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 137 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.h** Emission Limitation:

1.1 tpy of COS during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 27 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.i** Emission Limitation:

2.5 tpy of CS<sub>2</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 62 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.j** Emission Limitation:

1.3 tpy of HCN during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 33 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**3.** The hourly limitations for start-up and shutdown operations in section A.1.2.a are the uncontrolled emission rates determined by the known chemical reaction of the process and represent the potentials to emit for this emissions unit; therefore, compliance with the emission limitations is assumed.

## V. Testing Requirements (continued)

4. 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 9 months after issuance of the permit and annually thereafter.
  - b. The emission testing shall be conducted at the inlet to the flare to verify the uncontrolled mass rates of emission for CO, NO<sub>x</sub>, VOC, and particulates. The design efficiency of the open flare will then be applied to demonstrate compliance with the allowable mass rates of emission for CO, NO<sub>x</sub>, VOC, and particulates.
  - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A;  
for NO<sub>x</sub>, Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A;  
for CO, Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A; and  
for VOC, Methods 1 through 4 and 25 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** Unit #1 Dryer (P005)

**Activity Description:** The Unit #1 Dryer is used to dry carbon black produced in Process Unit #1 before before being stored.

#### A. State and Federally Enforceable Section

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

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
unit #1 dryer controlled with a baghouse	OAC rule 3745-31-05(A) (PTI 06-4927)	This emissions unit shall be limited to the following emissions from the central stack:  154.1 lbs/hr and 675 tpy of sulfur dioxide (SO <sub>2</sub> ), based upon a rolling, 365-day summation  0.2 lb/hr and 0.9 tpy of carbon monoxide (CO)  10.8 lbs/hr and 47.3 tpy of nitrogen oxides (NO <sub>x</sub> )  3.6 lbs/hr and 15.8 tpy of particulate emissions  The combined annual SO <sub>2</sub> emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed 4545 tons, based upon a rolling, 365-day summation.  The combined annual emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed the following, in tons:  NO <sub>x</sub> - 391.7; VOC - 38.4; CO - 1379; and particulates - 57.0.

The requirements of this rule also

**Operations, Property,  
and/or Equipment**

**Applicable Rules/  
Requirements**

**Applicable Emissions  
Limitations/Control  
Measures**

OAC rule 3745-17-07

include compliance with the requirements of OAC rule 3745-17-07. Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

OAC rule 3745-17-11

See A.I.2.b below.

OAC rule 3745-18-06

See A.I.2.b below.

**2. Additional Terms and Conditions**

- 2.a** The maximum annual production rate for emissions units P001, P002, P011, P012, P005, and P006, combined, shall not exceed 223,000,000 pounds per year, based upon a rolling, 12-month summation of the production rates.
- 2.b** The emission limitation specified in this rule is less stringent than the emission limitation established pursuant to the best available technology requirement in OAC rule 3745-31-05(A)(3).

**II. Operational Restrictions**

1. The pressure drop across the baghouse shall be maintained within the range of 2 to 7 inches of water, while the emissions unit is in operation.

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

1. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
2. The permittee shall maintain monthly records of the following information:
- a. the production rate for this emissions unit;
  - b. the rolling, 12-month summation of the production rates for emissions units P001, P002, P005, P006, P011, and P012, combined; and
  - c. the total hours of operation of this emissions unit.
3. The permittee shall maintain daily records of the following information:
- a. the hourly SO<sub>2</sub> emission rate for each carbon black product dried in this emissions unit, in pounds per hour for each hour of operation, i.e., the value from A.III.9.j for emissions unit P001 for each feedstock oil employed, multiplied by a factor of .34/.66;
  - b. the daily and year-to-date SO<sub>2</sub> emission rates for all carbon black products dried in this emissions unit, in pounds, i.e., the value from A.III.9.l for emissions unit P001 for all feedstock oils employed, multiplied by a factor of .34/.66; and
  - c. the rolling, 365-day SO<sub>2</sub> emission rate for all carbon black products dried in this emissions unit, in tons.
4. The permittee shall maintain a daily record of the rolling, 365-day SO<sub>2</sub> emission rate for all feedstock oils, in tons, for emissions units P001, P002, P005, P006, P011, and P012, combined.

#### **IV. Reporting Requirements**

1. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
3. The permittee shall submit annual reports that include the following information:
  - a. the total hours of operation of this emissions unit;
  - b. the total production from emissions units P001, P002, P005, P006, P011, and P012; and
  - c. the emissions (including all calculations), in tons, from this emissions unit for the previous calendar year for each pollutant with a tpy limitation in section A.I.1.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 of each year.

4. The permittee shall submit quarterly deviation (excursion) reports that identify each hour during which the SO<sub>2</sub> emission rate exceeded 154.1 lbs/hr, and the actual SO<sub>2</sub> emissions for each such hour.
5. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate exceeded 675 tons, and the actual SO<sub>2</sub> emissions for each such day.
6. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate for emissions units P001, P002, P005, P006, P011, and P012, combined, exceeded 4,545 tons, and the actual SO<sub>2</sub> emissions for each such day.

#### **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:

3.6 lbs/hr of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.2.

**1.b** Emission Limitation:

0.2 lb/hr of CO

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.2.

**1.c** Emission Limitation:

10.8 lbs/hr of NO<sub>x</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.2.

**V. Testing Requirements (continued)**

**1.d** Emission Limitation:

154.1 lbs/hr of SO<sub>2</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.3 and the emission testing procedures specified in section A.V.2.

**1.e** Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).

**1.f** Emission Limitation:

675.0 tpy of SO<sub>2</sub>, based upon a rolling, 365-day summation

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.3 for the 365-day period.

**1.g** Emission Limitation:

15.8 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 3.6 \text{ lbs/hr} * \text{actual hours of operation} * 0.0005 \text{ ton/lb}$$

**1.h** Emission Limitation:

0.9 tpy of CO

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 0.2 \text{ lb/hr} * \text{actual hours of operation} * 0.0005 \text{ ton/lb}$$

**1.i** Emission Limitation:

47.3 tpy of NO<sub>x</sub>

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 10.8 \text{ lbs/hr} * \text{actual hours of operation} * 0.0005 \text{ ton/lb}$$

**V. Testing Requirements (continued)**

**1.j** Operational Restriction:

maximum annual production rate of 223,000,000 pounds of carbon black

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.2.

**1.k** Emission Limitation:

4,545 tpy of SO<sub>2</sub> based upon a rolling, 365-day summation for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon the sum of the daily SO<sub>2</sub> emissions specified in section A.III.11 for the 365-day period.

**1.l** Emission Limitations:

391.7 tpy of NO<sub>x</sub> for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the NO<sub>x</sub> hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.m** Emission Limitations:

38.4 tpy of VOC for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.n** Emission Limitations:

1379 tpy of CO for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the CO hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

## V. Testing Requirements (continued)

### 1.o Emission Limitations:

57.0 tpy of particulates for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the particulate hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

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 9 months after issuance of the permit and annually thereafter.
  - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulates, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC.
  - c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A;  
for SO<sub>2</sub>, Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A;  
for NO<sub>x</sub>, Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A;  
for CO, Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A; and  
for VOC, Methods 1 through 4 and 25 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted while this emissions unit and emissions unit P001 are operating at or near their maximum capacities, 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.

Facility Name: **Degussa Corporation - Belpre Site**

Facility ID: **06-84-01-0049**

Emissions Unit: **Unit #1 Dryer (P005)**

## **VI. Miscellaneous Requirements**

1. The permittee has submitted a PTI modification request for this emissions unit to revise the CO and NO<sub>x</sub> emission limitations. The PTI modification will also include VOC emission limitations that were inadvertently left out of the original PTI. The PTI modification request was submitted on May 23, 2000 and will be identified as PTI 06-4927.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** Unit #2 Dryer (P006)

**Activity Description:** The Unit #2 Dryer is used to dry carbon black produced in Process Unit #2 before being stored.

#### A. State and Federally Enforceable Section

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

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
unit #2 dryer controlled with a baghouse	OAC rule 3745-31-05(A) (PTI 06-4927)	This emissions unit shall be limited to the following emissions from the central stack:  136.3 lbs/hr and 597 tpy of sulfur dioxide (SO <sub>2</sub> ), based upon a rolling, 365-day summation  0.2 lb/hr and 0.9 tpy of carbon monoxide (CO)  9.5 lbs/hr and 41.6 tpy of nitrogen oxides (NO <sub>x</sub> )  3.2 lbs/hr and 14 tpy of particulate emissions  The combined annual SO <sub>2</sub> emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed 4545 tons, based upon a rolling, 365-day summation.  The combined annual emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed the following, in tons:  NO <sub>x</sub> - 391.7; VOC - 38.4; CO - 1379; and particulates - 57.0.

The requirements of this rule also

**Operations, Property,  
and/or Equipment**

**Applicable Rules/  
Requirements**

include compliance with the  
 requirements of OAC rule  
 3745-17-07. **Applicable Emissions  
Limitations/Control  
Measures**

OAC rule 3745-17-07

Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

OAC rule 3745-17-11

See A.I.2.b below.

OAC rule 3745-18-06

See A.I.2.b below.

**2. Additional Terms and Conditions**

- 2.a** The maximum annual production rate for emissions units P001, P002, P011, P012, P005, and P006, combined, shall not exceed 223,000,000 pounds per year, based upon a rolling, 12-month summation of the production rates.
- 2.b** The emission limitation specified in this rule is less stringent than the emission limitation established pursuant to the best available technology requirement in OAC rule 3745-31-05(A)(3).

**II. Operational Restrictions**

- 1. The pressure drop across the baghouse shall be maintained within the range of 2 to 7 inches of water, while the emissions unit is in operation.

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

- 1. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
- 2. The permittee shall maintain monthly records of the following information:
  - a. the production rate for this emissions unit;
  - b. the rolling, 12-month summation of the production rates for emissions units P001, P002, P005, P006, P011, and P012, combined; and
  - c. the total hours of operation of this emissions unit.
- 3. The permittee shall maintain daily records of the following information:
  - a. the hourly SO<sub>2</sub> emission rate for each carbon black product dried in this emissions unit, in pounds per hour for each hour of operation, i.e., the value from A.III.9.j for emissions unit P002 for each feedstock oil employed, multiplied by a factor of .34/.66;
  - b. the daily and year-to-date SO<sub>2</sub> emission rates for all carbon black products dried in this emissions unit, in pounds, i.e., the value from A.III.9.l for emissions unit P002 for all feedstock oils employed, multiplied by a factor of .34/.66; and
  - c. the rolling, 365-day SO<sub>2</sub> emission rate for all carbon black products dried in this emissions unit, in tons.
- 4. The permittee shall maintain a daily record of the rolling, 365-day SO<sub>2</sub> emission rate for all feedstock oils, in tons, for emissions units P001, P002, P005, P006, P011, and P012, combined.

#### IV. Reporting Requirements

1. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These reports shall be submitted semi-annually, i.e. January 31, and June 30 of each year and shall cover the previous six months.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
3. The permittee shall submit annual reports that include the following information:
  - a. the total hours of operation of this emissions unit;
  - b. the total production from emissions units P001, P002, P005, P006, P011, and P012; and
  - c. the emissions (including all calculations), in tons, from this emissions unit for the previous calendar year for each pollutant with a tpy limitation in section A.I.1.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 of each year.

4. The permittee shall submit quarterly deviation (excursion) reports that identify each hour during which the SO<sub>2</sub> emission rate exceeded 136.3 lbs/hr, and the actual SO<sub>2</sub> emissions for each such hour.
5. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate exceeded 597 tons, and the actual SO<sub>2</sub> emissions for each such day.
6. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate for emissions units P001, P002, P005, P006, P011, and P012, combined, exceeded 4,545 tons, and the actual SO<sub>2</sub> emissions for each such day.

#### 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:

3.2 lbs/hr of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.2.

**1.b** Emission Limitation:

0.2 lb/hr of CO

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.2.

**1.c** Emission Limitation:

9.5 lbs/hr of NO<sub>x</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.2.

**V. Testing Requirements (continued)**

**1.d** Emission Limitation:

136.3 lbs/hr of SO<sub>2</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.3 and the emission testing procedures specified in section A.V.2.

**1.e** Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).

**1.f** Emission Limitation:

597.0 tpy of SO<sub>2</sub>, based upon a rolling, 365-day summation

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.3 for the 365-day period.

**1.g** Emission Limitation:

14.0 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 3.2 \text{ lbs/hr} * \text{actual hours of operation} * 0.0005 \text{ ton/lb}$$

**1.h** Emission Limitation:

0.9 tpy of CO

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 0.2 \text{ lb/hr} * \text{actual hours of operation} * 0.0005 \text{ ton/lb}$$

**1.i** Emission Limitation:

41.6 tpy of NO<sub>x</sub>

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 9.5 \text{ lbs/hr} * \text{actual hours of operation} * 0.0005 \text{ ton/lb}$$

**V. Testing Requirements (continued)**

**1.j** Operational Restriction:

maximum annual production rate of 223,000,000 pounds of carbon black

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.2.

**1.k** Emission Limitation:

4,545 tpy of SO<sub>2</sub> based upon a rolling, 365-day summation for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon the sum of the daily SO<sub>2</sub> emissions specified in section A.III.11 for the 365-day period.

**1.l** Emission Limitations:

391.7 tpy of NO<sub>x</sub> for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the NO<sub>x</sub> hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.m** Emission Limitations:

38.4 tpy of VOC for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.n** Emission Limitations:

1379 tpy of CO for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the CO hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

## V. Testing Requirements (continued)

### 1.o Emission Limitations:

57.0 tpy of particulates for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the particulate hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

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 9 months after issuance of the permit and annually thereafter.
  - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulates, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC.
  - c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A;  
for SO<sub>2</sub>, Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A;  
for NO<sub>x</sub>, Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A;  
for CO, Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A; and  
for VOC, Methods 1 through 4 and 25 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted while this emissions unit and emissions unit P002 are operating at or near their maximum capacities, 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.

Facility Name: **Degussa Corporation - Belpre Site**

Facility ID: **06-84-01-0049**

Emissions Unit: **Unit #2 Dryer (P006)**

## **VI. Miscellaneous Requirements**

1. The permittee has submitted a PTI modification request for this emissions unit to revise the CO and NOx emission limitations. The PTI modification will also include VOC emission limitations that were inadvertently left out of the original PTI. The PTI modification request was submitted on May 23, 2000 and will be identified as PTI 06-4927.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** X-50-S Carbon Black & Si69 Mixing & Pelletizing Process (P010)  
**Activity Description:** The X50-S Carbon Black & The Si69 Mixing & Pelletizing Process is used to make the X50-S Carbon.

#### A. State and Federally Enforceable Section

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

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
X50-S carbon black & Si69 blending and pelletizing (vented to a fabric filter)	OAC rule 3745-31-05(A) (PTI 06-2546)	0.3 lb/hr of particulate emissions  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07.
	OAC rule 3745-17-07	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emission limitation 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 perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.

### IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

### 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:

0.3 lb/hr of particulate emissions

Applicable Compliance Method:

Compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(10). No testing is specifically required by this permit but, if appropriate, may be requested pursuant to OAC rule 3745-15-04.

**1.b** Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).

### 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** Carbon Black Process Unit #3 (P011)

**Activity Description:** The Carbon Black Process Unit #3 is used for the production of carbon black.

**A. State and Federally Enforceable Section**

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

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
carbon black unit #3 (equipped with a product exhaust bag filter and thermal incinerator)	OAC rule 3745-31-05(A) (PTI 06-4927)	<p>This emissions unit shall be limited to the following emissions during normal operation from the flare:</p> <p>130.7 lbs/hr and 572.5 tpy of sulfur dioxide (SO<sub>2</sub>), based upon a rolling, 365-day summation</p> <p>0.2 lb/hr and 0.9 tpy of volatile organic compounds (VOC)</p> <p>0.2 lb/hr and 0.9 tpy of carbon monoxide (CO)</p> <p>13.9 lbs/hr and 60.9 tpy of nitrogen oxides (NO<sub>x</sub>)</p> <p>3.44 lbs/hr and 14.3 tpy of particulate emissions</p> <p>The combined annual SO<sub>2</sub> emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed 4545 tons, based upon a rolling, 365-day summation.</p> <p>The combined annual emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed the following, in tons:</p> <p>NO<sub>x</sub> - 391.7;          VOC - 38.4;          CO - 1379; and</p>

**Operations, Property,  
 and/or Equipment**

**Applicable Rules/  
 Requirements**

OAC rule 3745-17-11  
 OAC rule 3745-17-07  
  
 OAC rule 3745-18-06

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07.

See A.I.2.a below.

See A.I.2.c below.

Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

See A.I.2.c below.

**2. Additional Terms and Conditions**

**2.a** This emissions unit shall be limited to the following emissions during start-up and shutdown (vent emissions):

2.0 lbs/hr of SO<sub>2</sub>  
 0.1 tpy of SO<sub>2</sub>

110 lbs/hr of VOC  
 4.6 tpy of VOC

4,112 lbs/hr of CO  
 172 tpy of CO

2.4 lbs/hr of NO<sub>x</sub>  
 0.1 tpy of NO<sub>x</sub>

2.3 lbs/hr of particulate emissions  
 0.1 tpy of particulate emissions

44.5 lbs/hr of hydrogen sulfide (H<sub>2</sub>S)  
 1.9 tpy of H<sub>2</sub>S

8.7 lbs/hr of carbonyl sulfide (COS)  
 0.4 tpy of COS

20.1 lbs/hr of carbon disulfide (CS<sub>2</sub>)  
 0.9 tpy of CS<sub>2</sub>

10.7 lbs/hr of hydrogen cyanide (HCN)  
 0.5 tpy of HCN

**2.b** The maximum annual production rate for emissions units P001, P002, P011, P012, P005, and P006, combined, shall not exceed 223,000,000 pounds per year, based upon a rolling, 12-month summation of the production rates.

## **2. Additional Terms and Conditions (continued)**

- 2.c** The emission limitation specified in this rule is less stringent than the emission limitation established pursuant to the best available technology requirement in OAC rule 3745-31-05(A)(3).

## **II. Operational Restrictions**

- 1.** The permittee shall:
  - a. utilize feedstock oil that contains no more than 2.0 percent sulfur (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process); and
  - b. employ a thermal incinerator with a design destruction efficiency of 95 percent for particulate emissions and 98 percent for all other air pollutants except SO<sub>2</sub> and NO<sub>x</sub>.
- 2.** This emissions unit shall be limited to 84 hours per year for all start-up and shutdown operations.
- 3.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when this 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 this emissions unit was in compliance.
- 4.** If the mass flow rate meter employed to continuously monitor the feedstock oil feed rate is not in operation, the production of carbon black shall be automatically terminated.

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

- 1.** The permittee shall perform daily checks, while the equipment is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log.
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.
- 2.** The permittee shall keep daily records for all start-up and shutdown periods that contain the following information:
  - a. the date of each start-up or shutdown;
  - b. the time period during which each start-up or shutdown occurred; and
  - c. the year-to-date, total hours of all start-up and shutdown periods.

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

3. The permittee shall maintain records of the feedstock oil for this emissions unit in accordance with either Alternative 1 or Alternative 2 described below.

- a. Alternative 1:

For each shipment of feedstock oil received for this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of the feedstock oil and maintain records of the total quantity of feedstock oil received, and the permittee's or oil supplier's analyses for sulfur content and density.

- b. Alternative 2:

The permittee shall collect a representative grab sample of the feedstock oil for this emissions unit for each day when the emissions unit is in operation. If additional feedstock oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to create a composite sample that is representative of the average quality of feedstock oil used in this emissions unit. The permittee shall maintain records of the total quantity of feedstock oil used each day, and the permittee's analyses for sulfur content and density.

4. The permittee shall measure the sulfur content (in weight %) of the feedstock oil in accordance with the procedures specified in ASTM standard D4294, "Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-ray Fluorescence Spectrometry". In addition, the permittee shall measure the density (in pounds per gallon) of the feedstock oil in accordance with the procedures specified in ASTM standard D287, "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)".
5. For each day of operation of this emissions unit, the permittee shall collect a sufficient number of grab samples of carbon black product to create a composite sample that is representative of the average quality of the carbon black produced in this emissions unit. The permittee shall measure the sulfur content (in weight %) of each composite sample of carbon black product in accordance with the procedures specified in ASTM standard D1619, "Standard Test Method for Carbon Black- Sulfur Content".
6. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when this 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 monitor and recorder 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 for each day:

- a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when this 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; and
- b. 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)

7. The permittee shall properly operate and maintain a Micro Motion mass flow rate meter, model number D100, or equivalent monitor, to continuously monitor the feedstock oil feed rate when the emissions unit is in operation and producing carbon black. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

The permittee shall record the following information each day:

- a. all periods during which the Micro Motion mass flow rate meter, model number D100, was not in operation;
  - b. all downtimes for the monitoring equipment and the associated emissions unit; and
  - c. the corrective actions taken to reestablish correct operation of the mass flow rate meter.
8. The permittee shall maintain monthly records of the following information:
- a. the production rate for this emissions unit;
  - b. the rolling, 12-month summation of the production rates for emissions units P001, P002, P005, P006, P011, and P012, combined; and
  - c. the total hours of operation of this emissions unit.
9. The permittee shall maintain daily records of the following information for this emissions unit:
- a. the OEPA identification number of this emissions unit;
  - b. the current day, month, and year;
  - c. the grade of each feedstock oil processed;
  - d. the yield of each feedstock oil (defined as the average amount of carbon black produced during the day, in pounds, per gallon of feedstock oil used during the day);
  - e. the sulfur content of each feedstock oil, in weight percent;
  - f. the sulfur content of the carbon black product, in weight percent;
  - g. the density of each feedstock oil, in pounds per gallon;
  - h. the feedstock oil feed rate, in gallons per hour for each hour of operation (continuously monitored using a Micro Motion mass flow rate meter, model number D100);
  - i. the carbon black production rate, in pounds per hour for each hour of operation, determined by multiplying the feedstock oil feed rate by the yield of the feedstock oil;
  - j. the hourly SO<sub>2</sub> emission rate for each feedstock oil, in pounds per hour for each hour of operation, calculated as specified in section A.III.10;
  - k. the total hours of operation for each feedstock oil;
  - l. the daily SO<sub>2</sub> emission rate for all feedstock oils, in pounds (i.e., the summation of (j) for all of the feedstock oils for all hours of operation during the day); and
  - m. the rolling, 365-day SO<sub>2</sub> emission rate for all feedstock oils, in tons.

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

10. The average hourly sulfur dioxide emission rate for each feedstock oil shall be calculated using the following equations:

$$E = ((SFS) - (SCB)) \times (1 - TG) \times (64/32)$$

where:

E = sulfur dioxide emission rate, in pounds per hour;  
SFS = feedstock oil sulfur weight rate, in pounds per hour;  
SCB = carbon black sulfur weight rate, in pounds per hour;  
TG = fraction of stream to tailgas (constant at .34); and  
64/32 = constant to convert molecular weight rate of sulfur to molecular weight of sulfur dioxide.

NOTE: The permittee conservatively assumes all of the sulfur emissions are emitted as sulfur dioxide emissions.

The feedstock oil sulfur weight rate utilized in the equation above is computed in the following manner:

$$SFS = FSR \times SFSP$$

where:

SFS = feedstock oil sulfur weight rate, in pounds per hour;  
FSR = maximum recorded feedstock oil feed rate, in pounds per hour; and  
SFSP = feedstock oil sulfur content, in weight percent.

The carbon black sulfur weight rate utilized in the equation above is computed in the following manner:

$$SCB = CBPR \times SCBP$$

where:

SCB = carbon black sulfur weight rate, in pounds per hour;  
CBPR = maximum recorded carbon black production rate, in pounds per hour; and  
SCBP = carbon black sulfur content, in weight percent.

11. The permittee shall maintain a daily record of the rolling, 365-day SO<sub>2</sub> emission rate for all feedstock oils, in tons, for emissions units P001, P002, P005, P006, P011, and P012, combined.

### IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator did not comply with the temperature limitation specified above.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods during which the Micro Motion mass flow rate meter, model number D100, was not functioning properly. The reports shall include the date, time, and duration of each such period, and the corrective action(s) to ensure correct operation.
3. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the sulfur content limitation. The reports shall include the date, time, and duration of each such period when the sulfur content of the oil used in this emissions unit is greater than 2.0 percent, and the corrective action to bring the sulfur content below 2.0 percent (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process).

#### **IV. Reporting Requirements (continued)**

5. The permittee shall submit quarterly deviation (excursion) reports that identify each hour during which the SO<sub>2</sub> emission rate exceeded 130.7 lbs/hr, and the actual SO<sub>2</sub> emissions for each such hour.
6. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate exceeded 572.5 tons, and the actual SO<sub>2</sub> emissions for each such day.
7. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate for emissions units P001, P002, P005, P006, P011, and P012, combined, exceeded 4,545 tons, and the actual SO<sub>2</sub> emissions for each such day.
8. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
9. The permittee shall submit annual reports that include the following information:
  - a. the total hours of start-up and shutdown operations for this emissions unit for the previous calendar year;
  - b. the total hours of operation of this emissions unit;
  - c. the total production from emissions units P001, P002, P005, P006, P011, and P012; and
  - d. the emissions (including all calculations), in tons, from this emissions unit for the previous calendar year for each pollutant with a tpy limitation in sections A.I.1 and A.I.2.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations in section A.I.1, the production rate restriction in section A.I.2.b, and the operational restriction in section A.II.1.a of these terms and conditions shall be determined in accordance with the following methods:
  - 1.a Emission Limitation:  
  
3.44 lbs/hr of particulate emissions  
  
Applicable Compliance Method:  
  
Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.
  - 1.b Emission Limitation:  
  
0.2 lb/hr of VOC  
  
Applicable Compliance Method:  
  
Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**V. Testing Requirements (continued)**

**1.c** Emission Limitation:

13.9 lbs/hr of NO<sub>x</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**1.d** Emission Limitation:

0.2 lb/hr of CO

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**1.e** Emission Limitation:

130.7 lbs/hr of SO<sub>2</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping specified in sections A.III.9 and A.III.10.

Compliance shall also be demonstrated based upon the emission testing procedures specified in section A.V.4.

**1.f** Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).

**1.g** Operational Restriction:

maximum annual production rate of 223,000,000 pounds of carbon black

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.8.

**1.h** Operational Restriction:

2.0 percent sulfur content in the feedstock oil (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process)

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in sections A.III.3 and A.III.4.

**V. Testing Requirements (continued)**

**1.i** Emission Limitation:

572.5 tpy of SO<sub>2</sub> during normal operations, based upon a rolling, 365-day summation

Applicable Compliance Method:

Compliance shall be demonstrated based upon the sum of the daily SO<sub>2</sub> emissions specified in section A.III.9 for the 365-day period, divided by 2000 lbs/ton.

**1.j** Emission Limitation:

0.9 tpy of VOC during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 0.2 \text{ lb/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.k** Emission Limitation:

0.9 tpy of CO during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 0.2 \text{ lb/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.l** Emission Limitation:

60.9 tpy of NO<sub>x</sub> during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 13.9 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.m** Emission Limitation:

14.3 tpy of particulate emissions during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 3.44 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**V. Testing Requirements (continued)**

**1.n** Emission Limitation:

4,545 tpy of SO<sub>2</sub> based upon a rolling, 365-day summation for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon the sum of the daily SO<sub>2</sub> emissions specified in section A.III.11 for the 365-day period.

**1.o** Emission Limitations:

391.7 tpy of NO<sub>x</sub> for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the NO<sub>x</sub> hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.p** Emission Limitations:

38.4 tpy of VOC for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.q** Emission Limitations:

1379 tpy of CO for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the CO hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.r** Emission Limitations:

57.0 tpy of particulates for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the particulate hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**2.** Compliance with the emission limitations during start-up and shutdown operations in section A.I.2.a and the operational restriction in section A.II.2 of these terms and conditions shall be determined in accordance with the following methods:

**V. Testing Requirements (continued)**

**2.a** Operational Restriction:

84 hrs/yr of start-up and shutdown operations

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.2.

**2.b** Emission Limitation:

0.1 tpy of SO<sub>2</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 2.0 \text{ lbs/hr} * \text{actual hours of start-up/shutown operation} * 0.0005 \text{ ton/lb}$$

**2.c** Emission Limitation:

4.6 tpy of VOC during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 110 \text{ lbs/hr} * \text{actual hours of start-up/shutown operation} * 0.0005 \text{ ton/lb}$$

**2.d** Emission Limitation:

172 tpy of CO during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 4,112 \text{ lbs/hr} * \text{actual hours of start-up/shutown operation} * 0.0005 \text{ ton/lb}$$

**2.e** Emission Limitation:

0.1 tpy of NO<sub>x</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 2.4 \text{ lbs/hr} * \text{actual hours of start-up/shutown operation} * 0.0005 \text{ ton/lb}$$

**V. Testing Requirements (continued)**

**2.f** Emission Limitation:

0.1 tpy of particulate emissions during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 2.3 \text{ lbs/hr} * \text{actual hours of start-up/shutown operation} * 0.0005 \text{ ton/lb}$$

**2.g** Emission Limitation:

1.9 tpy of H<sub>2</sub>S during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 44.5 \text{ lbs/hr} * \text{actual hours of start-up/shutown operation} * 0.0005 \text{ ton/lb}$$

**2.h** Emission Limitation:

0.4 tpy of COS during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 8.7 \text{ lbs/hr} * \text{actual hours of start-up/shutown operation} * 0.0005 \text{ ton/lb}$$

**2.i** Emission Limitation:

0.9 tpy of CS<sub>2</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 20.1 \text{ lbs/hr} * \text{actual hours of start-up/shutown operation} * 0.0005 \text{ ton/lb}$$

**2.j** Emission Limitation:

0.5 tpy of HCN during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 10.7 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**3.** The hourly limitations for start-up and shutdown operations in section A.1.2.a are the uncontrolled emission rates determined by the known chemical reaction of the process and represent the potentials to emit for this emissions unit; therefore, compliance with the emission limitations is assumed.

## **V. Testing Requirements (continued)**

4. 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 9 months after issuance of the permit and annually thereafter.
  - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulates, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC.
  - c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A;  
for SO<sub>2</sub>, Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A;  
for NO<sub>x</sub>, Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A;  
for CO, Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A; and  
for VOC, Methods 1 through 4 and 25 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. 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**

1. The permittee has submitted a PTI modification request for this emissions unit to revise the CO and VOC emission limitations. The PTI modification request was submitted on May 23, 2000 and will be identified as PTI 06-4927.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** Carbon Black Process Unit #4 (P012)

**Activity Description:** The Carbon Black Process Unit #4 is used for the production of carbon black.

#### A. State and Federally Enforceable Section

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

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
carbon black unit #4 (equipped with a product exhaust bag filter and thermal incinerator)	OAC rule 3745-31-05(A) (PTI 06-4927)	<p>This emissions unit shall be limited to the following emissions during normal operation from the flare:</p> <p>206.6 lbs/hr and 904.9 tpy of sulfur dioxide (SO<sub>2</sub>), based upon a rolling, 365-day summation</p> <p>0.3 lb/hr and 1.3 tpy of volatile organic compounds (VOC)</p> <p>0.3 lb/hr and 1.3 tpy of carbon monoxide (CO)</p> <p>23.1 lbs/hr and 101.2 tpy of nitrogen oxides (NO<sub>x</sub>)</p> <p>5.73 lbs/hr and 22.0 tpy of particulate emissions</p> <p>The combined annual SO<sub>2</sub> emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed 4545 tons, based upon a rolling, 365-day summation.</p> <p>The combined annual emissions from all carbon black emissions units (P001, P002, P005, P006, P011, and P012) shall not exceed the following, in tons:</p> <p>NO<sub>x</sub> - 391.7;            VOC - 38.4;            CO - 1379; and</p>

**Operations, Property,  
 and/or Equipment**

**Applicable Rules/  
 Requirements**

OAC rule 3745-17-11  
 OAC rule 3745-17-07  
  
 OAC rule 3745-18-06

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07.

See A.I.2.a below.

See A.I.2.c below.

Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

See A.I.2.c below.

**2. Additional Terms and Conditions**

**2.a** This emissions unit shall be limited to the following emissions during start-up and shutdown (vent emissions):

3.1 lbs/hr of SO<sub>2</sub>  
 0.1 tpy of SO<sub>2</sub>

177 lbs/hr of VOC  
 7.4 tpy of VOC

6,621 lbs/hr of CO  
 278 tpy of CO

3.9 lbs/hr of NO<sub>x</sub>  
 0.2 tpy of NO<sub>x</sub>

3.8 lbs/hr of particulate emissions  
 0.2 tpy of particulate emissions

70 lbs/hr of hydrogen sulfide (H<sub>2</sub>S)  
 3.0 tpy of H<sub>2</sub>S

14 lbs/hr of carbonyl sulfide (COS)  
 0.6 tpy of COS

32 lbs/hr of carbon disulfide (CS<sub>2</sub>)  
 1.3 tpy of CS<sub>2</sub>

17 lbs/hr of hydrogen cyanide (HCN)  
 0.7 tpy of HCN

**2.b** The maximum annual production rate for emissions units P001, P002, P011, P012, P005, and P006, combined, shall not exceed 223,000,000 pounds per year, based upon a rolling, 12-month summation of the production rates.

## **2. Additional Terms and Conditions (continued)**

- 2.c** The emission limitation specified in this rule is less stringent than the emission limitation established pursuant to the best available technology requirement in OAC rule 3745-31-05(A)(3).

## **II. Operational Restrictions**

- 1.** The permittee shall:
  - a. utilize feedstock oil that contains no more than 2.0 percent sulfur (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process); and
  - b. employ a thermal incinerator with a design destruction efficiency of 95 percent for particulate emissions and 98 percent for all other air pollutants except SO<sub>2</sub> and NO<sub>x</sub>.
- 2.** This emissions unit shall be limited to 84 hours per year for all start-up and shutdown operations.
- 3.** The average combustion temperature within the thermal incinerator, 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.** If the mass flow rate meter employed to continuously monitor the feedstock oil feed rate is not in operation, the production of carbon black shall be automatically terminated.

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

- 1.** The permittee shall perform daily checks, while the equipment is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log.
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.
- 2.** The permittee shall keep daily records for all start-up and shutdown periods that contain the following information:
  - a. the date of each start-up or shutdown;
  - b. the time period during which each start-up or shutdown occurred; and
  - c. the year-to-date, total hours of all start-up and shutdown periods.

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

3. The permittee shall maintain records of the feedstock oil for this emissions unit in accordance with either Alternative 1 or Alternative 2 described below.

a. Alternative 1:

For each shipment of feedstock oil received for this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of the feedstock oil and maintain records of the total quantity of feedstock oil received, and the permittee's or oil supplier's analyses for sulfur content and density.

b. Alternative 2:

The permittee shall collect a representative grab sample of the feedstock oil for this emissions unit for each day when the emissions unit is in operation. If additional feedstock oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to create a composite sample that is representative of the average quality of feedstock oil used in this emissions unit. The permittee shall maintain records of the total quantity of feedstock oil used each day, and the permittee's analyses for sulfur content and density.

4. The permittee shall measure the sulfur content (in weight %) of the feedstock oil in accordance with the procedures specified in ASTM standard D4294, "Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-ray Fluorescence Spectrometry". In addition, the permittee shall measure the density (in pounds per gallon) of the feedstock oil in accordance with the procedures specified in ASTM standard D287, "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)".
5. For each day of operation of this emissions unit, the permittee shall collect a sufficient number of grab samples of carbon black product to create a composite sample that is representative of the average quality of the carbon black produced in this emissions unit. The permittee shall measure the sulfur content (in weight %) of each composite sample of carbon black product in accordance with the procedures specified in ASTM standard D1619, "Standard Test Method for Carbon Black- Sulfur Content".
6. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when this 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 monitor and recorder 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 for each day:

- a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when this 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; and
- b. 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)

7. The permittee shall properly operate and maintain a Micro Motion mass flow rate meter, model number D100, or equivalent monitor, to continuously monitor the feedstock oil feed rate when the emissions unit is in operation and producing carbon black. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

The permittee shall record the following information each day:

- a. all periods during which the Micro Motion mass flow rate meter, model number D100, was not in operation;
  - b. all downtimes for the monitoring equipment and the associated emissions unit; and
  - c. the corrective actions taken to reestablish correct operation of the mass flow rate meter.
8. The permittee shall maintain monthly records of the following information:
- a. the production rate this emissions unit;
  - b. the rolling, 12-month summation of the production rates for emissions units P001, P002, P005, P006, P011, and P012, combined; and
  - c. the total hours of operation of this emissions unit.
9. The permittee shall maintain daily records of the following information for this emissions unit:
- a. the OEPA identification number of this emissions unit;
  - b. the current day, month, and year;
  - c. the grade of each feedstock oil processed;
  - d. the yield of each feedstock oil (defined as the average amount of carbon black produced during the day, in pounds, per gallon of feedstock oil used during the day);
  - e. the sulfur content of each feedstock oil, in weight percent;
  - f. the sulfur content of the carbon black product, in weight percent;
  - g. the density of each feedstock oil, in pounds per gallon;
  - h. the feedstock oil feed rate, in gallons per hour for each hour of operation (continuously monitored using a Micro Motion mass flow rate meter, model number D100);
  - i. the carbon black production rate, in pounds per hour for each hour of operation, determined by multiplying the feedstock oil feed rate by the yield of the feedstock oil;
  - j. the hourly SO<sub>2</sub> emission rate for each feedstock oil, in pounds per hour for each hour of operation, calculated as specified in section A.III.10;
  - k. the total hours of operation for each feedstock oil;
  - l. the daily SO<sub>2</sub> emission rate for all feedstock oils, in pounds (i.e., the summation of (j) for all of the feedstock oils for all hours of operation during the day); and
  - m. the rolling, 365-day SO<sub>2</sub> emission rate for all feedstock oils, in tons.

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

10. The average hourly sulfur dioxide emission rate for each feedstock oil shall be calculated using the following equations:

$$E = ((SFS) - (SCB)) \times (1 - TG) \times (64/32)$$

where:

E = sulfur dioxide emission rate, in pounds per hour;  
SFS = feedstock oil sulfur weight rate, in pounds per hour;  
SCB = carbon black sulfur weight rate, in pounds per hour;  
TG = fraction of stream to tailgas (constant at .34); and  
64/32 = constant to convert molecular weight rate of sulfur to molecular weight of sulfur dioxide.

NOTE: The permittee conservatively assumes all of the sulfur emissions are emitted as sulfur dioxide emissions.

The feedstock oil sulfur weight rate utilized in the equation above is computed in the following manner:

$$SFS = FSR \times SFSP$$

where:

SFS = feedstock oil sulfur weight rate, in pounds per hour;  
FSR = maximum recorded feedstock oil feed rate, in pounds per hour; and  
SFSP = feedstock oil sulfur content, in weight percent.

The carbon black sulfur weight rate utilized in the equation above is computed in the following manner:

$$SCB = CBPR \times SCBP$$

where:

SCB = carbon black sulfur weight rate, in pounds per hour;  
CBPR = maximum recorded carbon black production rate, in pounds per hour; and  
SCBP = carbon black sulfur content, in weight percent.

11. The permittee shall maintain a daily record of the rolling, 365-day SO<sub>2</sub> emission rate for all feedstock oils, in tons, for emissions units P001, P002, P005, P006, P011, and P012, combined.

### IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator did not comply with the temperature limitation specified above.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods during which the Micro Motion mass flow rate meter, model number D100, was not functioning properly. The reports shall include the date, time, and duration of each such period, and the corrective action(s) to ensure correct operation.
3. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month production rate limitation.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the sulfur content limitation. The reports shall include the date, time, and duration of each such period when the sulfur content of the oil used in this emissions unit is greater than 2.0 percent, and the corrective action to bring the sulfur content below 2.0 percent (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process).

#### **IV. Reporting Requirements (continued)**

5. The permittee shall submit quarterly deviation (excursion) reports that identify each hour during which the SO<sub>2</sub> emission rate exceeded 206.6 lbs/hr, and the actual SO<sub>2</sub> emissions for each such hour.
6. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate exceeded 904.9 tons, and the actual SO<sub>2</sub> emissions for each such day.
7. The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the rolling, 365-day SO<sub>2</sub> emission rate for emissions units P001, P002, P005, P006, P011, and P012, combined, exceeded 4,545 tons, and the actual SO<sub>2</sub> emissions for each such day.
8. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
9. The permittee shall submit annual reports that include the following information:
  - a. the total hours of start-up and shutdown operations for this emissions unit for the previous calendar year;
  - b. the total hours of operation of this emissions unit;
  - c. the total production from emissions units P001, P002, P005, P006, P011, and P012; and
  - d. the emissions (including all calculations), in tons, from this emissions unit for the previous calendar year for each pollutant with a tpy limitation in sections A.I.1 and A.I.2.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 of each year.

#### **V. Testing Requirements**

1. Compliance with the emission limitations in section A.I.1, the production rate restriction in section A.I.2.b, and the operational restriction in section A.II.1.a of these terms and conditions shall be determined in accordance with the following methods:
  - 1.a Emission Limitation:  
  
5.73 lbs/hr of particulate emissions  
  
Applicable Compliance Method:  
  
Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.
  - 1.b Emission Limitation:  
  
0.3 lb/hr of VOC  
  
Applicable Compliance Method:  
  
Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**V. Testing Requirements (continued)**

**1.c** Emission Limitation:

23.1 lbs/hr of NO<sub>x</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**1.d** Emission Limitation:

0.3 lb/hr of CO

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing procedures specified in section A.V.4.

**1.e** Emission Limitation:

206.6 lbs/hr of SO<sub>2</sub>

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping specified in sections A.III.9 and A.III.10.

Compliance shall also be demonstrated based upon the emission testing procedures specified in section A.V.4.

**1.f** Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).

**1.g** Operational Restriction:

maximum annual production rate of 223,000,000 pounds of carbon black

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.8.

**1.h** Operational Restriction:

2.0 percent sulfur content in the feedstock oil (this value shall change to 3 percent sulfur upon the effective date of the final PTI 06-4927 modification now in process)

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in sections A.III.3 and A.III.4.

**V. Testing Requirements (continued)**

**1.i** Emission Limitation:

904.9 tpy of SO<sub>2</sub> during normal operations, based upon a rolling, 365-day summation

Applicable Compliance Method:

Compliance shall be demonstrated based upon the sum of the daily SO<sub>2</sub> emissions specified in section A.III.9 for the 365-day period, divided by 2000 lbs/ton.

**1.j** Emission Limitation:

1.3 tpy of VOC during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 0.3 \text{ lb/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.k** Emission Limitation:

1.3 tpy of CO during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 0.3 \text{ lb/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.l** Emission Limitation:

101.2 tpy of NO<sub>x</sub> during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 23.1 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**1.m** Emission Limitation:

22.0 tpy of particulate emissions during normal operations

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 5.73 \text{ lbs/hr} * \text{actual hours of normal operation} * 0.0005 \text{ ton/lb}$$

**V. Testing Requirements (continued)**

**1.n** Emission Limitation:

4,545 tpy of SO<sub>2</sub> based upon a rolling, 365-day summation for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon the sum of the daily SO<sub>2</sub> emissions specified in section A.III.11 for the 365-day period.

**1.o** Emission Limitations:

391.7 tpy of NO<sub>x</sub> for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the NO<sub>x</sub> hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.p** Emission Limitations:

38.4 tpy of VOC for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.q** Emission Limitations:

1379 tpy of CO for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the CO hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**1.r** Emission Limitations:

57.0 tpy of particulates for emissions units P001, P002, P005, P006, P011, and P012, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the particulate hourly allowable emission limitation for each emissions unit by the actual annual hours of operation for that emissions unit, dividing by 2000 lbs/ton, and then summing the results for each emissions unit.

**2.** Compliance with the emission limitations during start-up and shutdown operations in section A.I.2.a and the operational restriction in section A.II.2 of these terms and conditions shall be determined in accordance with the following methods:

**V. Testing Requirements (continued)**

**2.a** Operational Restriction:

84 hrs/yr of start-up and shutdown operations

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in section A.III.2.

**2.b** Emission Limitation:

0.1 tpy of SO<sub>2</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 3.1 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.c** Emission Limitation:

7.4 tpy of VOC during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 177 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.d** Emission Limitation:

278 tpy of CO during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 6,621 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.e** Emission Limitation:

0.2 tpy of NO<sub>x</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 3.9 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**V. Testing Requirements (continued)**

**2.f** Emission Limitation:

0.2 tpy of particulate emissions during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 3.8 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.g** Emission Limitation:

3.0 tpy of H<sub>2</sub>S during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 70 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.h** Emission Limitation:

0.6 tpy of COS during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 14 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.i** Emission Limitation:

1.3 tpy of CS<sub>2</sub> during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 32 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**2.j** Emission Limitation:

0.7 tpy of HCN during start-up/shutdown

Applicable Compliance Method:

Compliance shall be demonstrated using the following equation:

$$E(\text{tpy}) = 17 \text{ lbs/hr} * \text{actual hours of start-up/shutdown operation} * 0.0005 \text{ ton/lb}$$

**3.** The hourly limitations for start-up and shutdown operations in section A.1.2.a are the uncontrolled emission rates determined by the known chemical reaction of the process and represent the potentials to emit for this emissions unit; therefore, compliance with the emission limitations is assumed.

## **V. Testing Requirements (continued)**

4. 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 9 months after issuance of the permit and annually thereafter.
  - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulates, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC.
  - c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A;  
for SO<sub>2</sub>, Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A;  
for NO<sub>x</sub>, Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A;  
for CO, Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A; and  
for VOC, Methods 1 through 4 and 25 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. 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**

1. The permittee has submitted a PTI modification request for this emissions unit to revise the CO and VOC emission limitations. The PTI modification request was submitted on May 23, 2000 and will be identified as PTI 06-4927.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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:** Feedstock Storage Tank 5 (T007)

**Activity Description:** Feedstock Storage Tank 5 is used to store the feedstock used in the production of carbon black.

#### 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
2,730,000-gallon feedstock storage tank (tank 5)	OAC rule 3745-31-05(A)(3) (PTI 06-5673)	See A.I.2.a below.  The requirements of this rule also include compliance with the requirements of 40 CFR Part 60, Subpart Kb and OAC rule 3745-21-09(L).
	40 CFR Part 60, Subpart Kb	See A.III.1 below.
	OAC rule 3745-21-09(L)	See A.III.2 below.

##### 2. Additional Terms and Conditions

- 2.a The permittee shall maintain and operate this emissions unit with a bottom fill pipe.

##### II. Operational Restrictions

None

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

1. In accordance with 40 CFR 60.116b(a) and (b), the permittee shall maintain records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel for the life of this emissions unit.
2. The permittee shall maintain records of the following information in a readily accessible location for at least 5 years and shall make copies of the records available to the Director upon verbal or written request:
  - a. the types of petroleum liquids stored in the tank; and
  - b. the maximum true vapor pressure (in pounds per square inch absolute), as stored, of each liquid that has a maximum true vapor pressure greater than 1.0 pound per square inch absolute.

##### IV. Reporting Requirements

1. In accordance with 40 CFR 60.116b(d), the permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days when the maximum true vapor pressure of the liquid stored in this emissions unit exceeds 5.2 kPa (0.75 psia).

**IV. Reporting Requirements (continued)**

2. If the permittee places, stores, or holds in this emissions unit any petroleum liquid with a true vapor pressure which is greater than 1.52 psia and the emissions unit does not comply with the requirements of OAC rule 3745-21-09(L)(1), the permittee shall so notify the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days of becoming aware of the occurrence.

**V. Testing Requirements**

**None**

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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**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

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