



5/20/2015

Certified Mail

Kris Singleton  
SunCoke Energy Middletown Operations  
3353 Yankee Road  
Middletown, OH 45042

Facility ID: 1409011031  
Permit Number: P0111630  
County: Butler

RE: FINAL AIR POLLUTION CONTROL TITLE V PERMIT  
Permit Type: Initial

Dear Permit Holder:

Enclosed is a final Ohio Environmental Protection Agency (EPA) Air Pollution 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. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this Title V permit is a final action of the Director 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. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
77 South High Street, 17th Floor  
Columbus, OH 43215

## **How to save money, reduce pollution and reduce energy consumption**

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 Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/survey.aspx](http://www.epa.ohio.gov/survey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions regarding this permit, please contact the Southwest Ohio Air Quality Agency as indicated on page one of your permit.

Sincerely,



Erica R. Engel-Ishida, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 *Via E-Mail Notification*  
Southwest Ohio Air Quality Agency



**FINAL**

**Division of Air Pollution Control  
Title V Permit  
for  
SunCoke Energy Middletown Operations**

Facility ID:	1409011031
Permit Number:	P0111630
Permit Type:	Initial
Issued:	5/20/2015
Effective:	6/10/2015
Expiration:	6/10/2020





**Division of Air Pollution Control**  
**Title V Permit**  
for  
SunCoke Energy Middletown Operations

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**Final Title V Permit**  
SunCoke Energy Middletown Operations  
**Permit Number:** P0111630  
**Facility ID:** 1409011031  
**Effective Date:**6/10/2015

## Authorization

Facility ID: 1409011031  
Facility Description: Heat recovery coke plant  
Application Number(s): A0045444  
Permit Number: P0111630  
Permit Description: Initial Title V Operating Permit for Heat Recovery Coke Plant  
Permit Type: Initial  
Issue Date: 5/20/2015  
Effective Date: 6/10/2015  
Expiration Date: 6/10/2020  
Superseded Permit Number:

This document constitutes issuance of an OAC Chapter 3745-77 Title V permit to:

SunCoke Energy Middletown Operations  
3353 Yankee Road  
Middletown, OH 45042

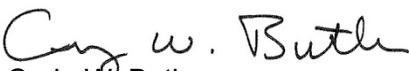
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Southwest Ohio Air Quality Agency  
250 William Howard Taft Rd.  
Cincinnati, OH 45219  
(513)946-7777

The above named entity is hereby granted a Title V permit pursuant to Chapter 3745-77 of the Ohio Administrative Code. 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. You will be sent a notice approximately 18 months prior to the expiration date regarding the renewal of this permit. If you do not receive a notice, please contact the Southwest Ohio Air Quality Agency. 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, if a timely renewal application is submitted. A renewal application will be considered timely if it is submitted no earlier than 18 months and no later than 6 months prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Craig W. Butler  
Director



**Final Title V Permit**  
SunCoke Energy Middletown Operations  
**Permit Number:** P0111630  
**Facility ID:** 1409011031  
**Effective Date:**6/10/2015

## **A. Standard Terms and Conditions**



**1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
- (1) Standard Term and Condition A. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions
  - (2) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions
  - (3) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting For State-Only Requirements
  - (4) Standard Term and Condition A. 29., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (5) Standard Term and Condition A. 30.

*(Authority for term: ORC 3704.036(A))*

**2. 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 (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
- (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) 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:

- (1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:

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 OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted by January 31, April 30, July 31, and October 31 of each year in accordance with Standard Term and Condition A.2.c)(2) below; and each report shall cover the previous calendar quarter. An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) 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. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any submitted scheduled maintenancerequests, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.

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

- (2) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit or, in some cases, in section B. Facility-Wide Terms and Conditions of this Title V permit), all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the



probable cause of such deviations, and (c) any corrective actions or preventive measures taken, shall be submitted promptly to the Southwest Ohio Air Quality Agency. Except as provided below, the written reports shall be submitted by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this Standard Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this Standard Term and Condition.

See A.29 below if no deviations occurred during the quarter.

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

- (3) All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with Standard Term and Condition A.2)c)(2) above shall be submitted in the following manner:

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; Standard Terms and Conditions: A.3, A.4, A.5, A.7.e), A.8, A.13, A.15, A.19, A.20, A.21, and A.23 of this Title V permit, as well as any deviations from the requirements in section C. Emissions Unit Terms and Conditions of this Title V permit, and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted to the Southwest Ohio Air Quality Agency by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable



requirements not specifically addressed by permit or rule for the insignificant activities or emissions levels (IEU) identified in section B. Facility-Wide Terms and Conditions of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with Standard Term and Condition A.2.c)(2) above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.

*(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))*

- (4) 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." Signature by the Responsible Official may be represented by entry of the personal identification number (PIN) by the Responsible Official as part of the electronic submission process or by the scanned attestation document signed by the Responsible Official that is attached to the electronically submitted written report.

*(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))*

- (5) Consistent with A.2.c.1. above, reports of any required monitoring and/or record keeping information required to be submitted to Ohio EPA shall be submitted to Southwest Ohio Air Quality Agency unless otherwise specified.

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

### **3. Reporting of Any Exceedence of a Federally Enforceable Emission Limitation or Control Requirement Resulting From Scheduled Maintenance**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance 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). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in Standard Term and Condition A.2.c)(1) above.

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



#### **4. Risk Management Plans**

If applicable, the permittee shall 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"); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

- a) a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or
- b) as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

*(Authority for term: OAC rule 3745-77-07(A)(4))*

#### **5. 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))*

#### **6. 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))*

#### **7. General Requirements**

- a) 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 except as provided pursuant to A.16 below.
- c) This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.11 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.
  
- f) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when:
  - (1) the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or
  - (2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or
  - (3) a combination of (1) and (2) above.

The permittee shall continue to comply with all applicable OAC Chapter 3745-31 requirements for all regulated air contaminant sources once this permit ceases to be enforceable. The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.

*(Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))*

## **8. 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))*

## **9. 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))*



**10. 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 standard terms and conditions shall apply to all operating scenarios authorized in this permit.

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

**11. 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))*

**12. 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))*

**13. 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:
  - (1) 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.
  - (2) 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.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) 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 Southwest Ohio Air Quality 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:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) 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 Southwest Ohio Air Quality Agency) and the Administrator of the U.S. EPA in the following manner and with the following content:
  - (1) 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.
  - (2) Compliance certifications shall include the following:
    - a. Identification of each term or condition that is the basis of the certification. The identification may include a statement by the Responsible Official that every term and condition that is federally enforceable has been reviewed, and such terms and conditions with which there has been continuous compliance throughout the year are not separately identified.
    - b. The permittee's current compliance status.



- c. Whether compliance was continuous or intermittent consistent with A.13.d.2.a above.
  - d. The method(s) used for determining the compliance status of the source currently and over the required reporting period consistent with A.13.d.2.a above.
  - e. Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
- (3) 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))*

#### **14. 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))*

#### **15. 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 Southwest Ohio Air Quality 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 Southwest Ohio Air Quality 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))*



## **16. 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))*

## **17. 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 emissions 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.

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

## **18. 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 Federal Register 8314, Feb. 24, 1997), in the context of any future proceeding.

*(This term is provided for informational purposes only.)*



**19. Insignificant Activities or Emissions Levels**

Each IEU that is subject to one or more applicable requirements shall comply with those applicable requirements.

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

**20. 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))*

**21. 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))*

**22. Permanent Shutdown of an Emissions Unit**

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the Responsible Official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the Responsible Official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

Unless otherwise exempted, no emissions unit identified in this permit that has been certified by the Responsible Official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.

*(Authority for term: OAC rule 3745-77-01)*

**23. Title VI Provisions**

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:



- a) Persons operating appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.
- b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.
- c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

*(Authority for term: OAC rule 3745-77-01(H)(11))*

**24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only**

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 Southwest Ohio Air Quality 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 Southwest Ohio Air Quality 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, 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.)

**25. Records Retention Requirements Under State Law Only**

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.

**26. 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.

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

**27. Scheduled Maintenance/Malfunction Reporting For State-Only Requirements**

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 Southwest Ohio Air Quality 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).

**28. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Southwest Ohio Air Quality Agency must be notified in writing of any transfer of this permit.

*(Authority for term: OAC rule 3745-77-01(C))*

**29. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations**

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation 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 by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

- a) where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in Standard Term and Condition A.2.c)(2); or
- b) where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potential to emit; or
- c) where the company's Responsible Official has certified that an emissions unit has been permanently shut down.



**30. Submitting Documents Required by this Permit**

All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the Southwest Ohio Air Quality Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the Responsible Official may be represented as provided through procedures established in Air Services.



## **B. Facility-Wide Terms and Conditions**



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

a) B.7. and B.8. below.

2. The following insignificant emissions units at this facility must comply with all applicable State and federal regulations, as well as any emissions limitations and/or control requirements contained within the identified permit-to-install for the emissions unit. The insignificant emissions units listed below are subject to one or more applicable requirements contained in a permit-to-install or in the SIP approved versions of OAC Chapters 3745-17, 3745-18, 3745-21, and 3745-31, and/or 40 CFR Part 60 or 63:

B013 619 hp emergency generator [PBR09109]

B014 Emergency fire pump

G001 Gasoline dispensing station and tank [PBR10386]

3. The following insignificant emissions units contained in this permit are subject to 40 CFR Part 63, Subparts A and ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines: B013 and B014. The complete NESHAP requirements, including the NESHAP General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Southwest Ohio Air Quality Agency.

(Authority for term: 40 CFR Part 63)

4. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subparts A and Y, Standards of Performance for Coal Preparation and Processing Plants (NSPS): F002 and F003. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting Southwest Ohio Air Quality Agency.

(Authority for term: 40 CFR Part 60)

5. The following emissions unit contained in this permit is subject to 40 CFR Part 63, Subparts A and L, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Coke Oven Batteries: P901.

The following emissions units contained in this permit are subject to 40 CFR Part 63, Subparts A and CCCCC, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Coke Ovens: Pushing, Quenching, and Battery Stacks: P001 and P901.

The complete NESHAP requirements, including the NESHAP General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Southwest Ohio Air Quality Agency.

(Authority for term: 40 CFR Part 63)



6. The Southwest Ohio Air Quality Agency has approved the Compliance Assurance Monitoring (CAM) plan submitted by the permittee, pursuant to 40 CFR Part 64, for emissions unit P901. The permittee shall comply with the provisions of the plan (as specified in Part C - Terms and Conditions for Emissions Units) during any operation of the aforementioned emissions unit.  
(Authority for term: 40 CFR Part 64)

7. Pursuant to Permit to Install (PTI) P0104768, issued 2/9/2010, the permittee has purchased and sited, in coordination with the Southwest Ohio Air Quality Agency, two Particulate Matter 10 Microns and Smaller in Diameter (PM<sub>10</sub>) monitors, four Particulate Matter 2.5 Microns and Smaller in Diameter (PM<sub>2.5</sub>) monitors, one Sulfur Dioxide (SO<sub>2</sub>) monitor, and two Volatile Organic Hazardous Air Pollutant monitors. These monitors shall be operated by the Southwest Ohio Air Quality Agency. All air quality monitors shall be operated in accordance with all Ohio EPA and USEPA regulations. The Hazardous Air Pollutant monitor samples will be analyzed using the USEPA Compendium of Methods for the Determination of Toxic Organic Compound in the Ambient Air in the section TO-14A. The PM<sub>10</sub> monitor shall be operated on a one-day-in-six schedule. The PM<sub>2.5</sub> monitor shall be operated on a one-day-in-three schedule. The SO<sub>2</sub> monitor shall be operated on a twenty-four hour schedule. The volatile organic hazardous air pollutant monitor shall be operated on a one-day-in-twelve schedule. The permittee shall reimburse the Southwest Ohio Air Quality Agency for ongoing operational and analysis costs for the monitors.

(Authority for term: ORC 3704.031 and PTI P0104768)

8. The PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> ambient monitors listed above shall be operated for at least five years after start-up of emissions unit P901. The Hazardous Air Pollutant monitors shall be operated for at least two years after start-up of the emissions unit. After the noted times, the permittee can request the Director to examine the ambient air quality data collected to determine if further ambient monitoring is necessary. The Director shall have at least one year to make a decision on the need for the continued operation of the monitoring network. In determining the further need for the continued operation of the monitoring network, the Director shall consider the concentrations measured by the monitors, the trends in air quality concentrations, and the value of the air quality data in fulfilling the goals and requirements of the federal Clean Air Act and Chapter 3704 of the Ohio Revised Code.

(Authority for term: ORC 3704.031 and PTI P0104768)

9. Emissions Offset requirements:

Pursuant to the requirements of PTI P0104768, the Middletown Coke Company obtained legal ownership of emission offsets from AK Steel – Middletown Works (Facility ID 1409010006); 394.57 tons per year (tpy) of NO<sub>x</sub>, 1209.92 tpy of SO<sub>2</sub>, and 117.81 tpy of PM<sub>2.5</sub> and emission offsets from facility ID: 1431390903: 85 tpy NO<sub>x</sub>. In accordance to OAC rule 3745-31-26(A)(1) and (C), and 40 C.F.R. Part 51, Appendix S, the offset ratio for NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>2.5</sub> shall be greater than 1.0 to 1.0.

At the time of PTI P0104768 issuance, Butler County was in non-attainment for the eight hour ozone standard and the PM<sub>2.5</sub> standard. In accordance with the requirements in OAC rule 3745-31-22(A)(3), emission reduction must be used to offset the net emission increase generated by the installation of this facility under PTI P0104768 in order to provide a net air quality benefit as specified under OAC rule 3745-31-22(A)(4). The permanent shutdown or permanent emission reduction of sources as specified in the below table was approved by Ohio EPA as verified emission reduction credits (ERCs) as defined in OAC 3745-111-01 before Middletown Coke Company began operation. Any verified ERCs that were



not used for PTI P0104768 must be banked in accordance to OAC 3745-31-24(I), OAC rule 3745-111-02 and OAC rule 3745-111-05:

A	B	C	D	E	F
Company Name, Address, Contact Person & Phone # Providing Offsets	Emissions Unit ID No. & Description	TPY PM2.5 ERC used for PTI	TPY SO2 ERC used for PTI	TPY of NOx ERC used for PTI	Emission Reduction Activity and Date of reduction
AK Steel – Middletown Works, (Facility ID 14-09-01-0006)	Raw Material Unloading (Emissions Unit F009)	+9.27	0	0	Permanent shutdown April 1, 2004
	Windbox (Emissions Unit P908)	+104.24	+1209.92	+394.57	Permanent shutdown April 1, 2004
	Breaker End (Emissions Unit P936)	+0.87	0	0	Permanent shutdown April 1, 2004
	Cold Sinter Screening (Emissions Unit F007)	+3.43	0	0	Permanent shutdown April 1, 2004
The Procter and Gamble Company Facility ID 1431390903	Boiler 1 (Emissions Unit B008)	0	0	2.17	Permanent Shutdown July 1, 1999
	Boiler 2 (Emissions Unit B001)	0	0	4.43	Permanent Shutdown July 1, 1999
	Boiler 3 (Emissions Unit B021)	0	0	78.40	Permanent Shutdown 5/21/2001

(Authority for term: OAC rule 3745-31-22(A)(3) and PTI P0104768)

- In accordance with OAC rule 3745-31-22(A)(4), the emission offsets discussed above must provide a positive net air quality benefit in the affected area pursuant to rule 3745-31-25 of the Administrative Code. The permittee shall demonstrate compliance with OAC rule 3745-31-22(A)(4) by complying with the requirements listed in OAC rule 3745-31-22(A)(1) thru (A)(3) as specified in the terms and conditions of this permit and PTI P0104768.

(Authority for term: OAC rule 3745-31-22(A)(4) and PTI P0104768)



11. The following abbreviations are used throughout this permit:

NO<sub>x</sub> = Nitrogen Oxides

CO = Carbon Monoxide

VOC = Volatile Organic Compounds

PE = Particulate matter measurable by the applicable test methods in 40 CFR Part 60, Appendix A, "Standards of Performance for New Stationary Sources"

PM<sub>10</sub> = Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers as measured either by a reference method that is based on 40 CFR Part 50, Appendix J and designated in accordance with 40 CFR Part 53 or by an equivalent method designated in accordance with 40 CFR Part 53

PM<sub>2.5</sub> = Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured either by a reference method that is based on 40 CFR Part 50, Appendix L and designated in accordance with 40 CFR Part 53 or by an equivalent method designated in accordance with 40 CFR Part 53

SO<sub>2</sub> = Sulfur dioxide

HAP = Hazardous Air Pollutant

TPY = Tons per year

MMBtu = million British thermal units

PTI = Permit to Install

CFR = Code of Federal Regulations

OAC = Ohio Administrative Code

ORC = Ohio Revised Code

SIP = State Implementation Plan

MACT = Maximum Achievable Control Technology

PSD = Prevention of Significant Deterioration



## **C. Emissions Unit Terms and Conditions**



**1. F001, Paved Roads**

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

Paved Roadways and Parking Areas

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)  [PTI P0110761, issued 9/14/2012]  <i>Best Available Technology (BAT)</i>	See b)(2)a.
b.	OAC rule 3745-31-10 through 20  <i>Prevention of Significant Deterioration</i>	Fugitive PE shall not exceed 1.08 TPY as a rolling 12-month summation.  Fugitive PM <sub>10</sub> shall not exceed 0.21 TPY (filterable PM <sub>10</sub> ) as a rolling 12-month summation.  There shall be no visible particulate emissions except for 1 minute during any 60-minute period.  See b)(2)c.  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B).
c.	OAC rule 3745-31-21 through 27  <i>Nonattainment New Source Review</i>	Fugitive PM <sub>2.5</sub> shall not exceed 0.05 TPY (filterable PM <sub>2.5</sub> ) as a rolling 12-month summation.  There shall be no visible particulate emissions except for 1 minute during any 60-minute period.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)b. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B).
d.	OAC rule 3745-17-07(B)	The particulate emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-17-08(B).
e.	OAC rule 3745-17-08(B)	Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. See b)(2)d. through b)(2)h.

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) are equivalent to the ton per year and visible emissions limitations listed under b)(1)b. and b)(1)c. above.
- b. The permittee has performed a Lowest Achievable Emission Rate (LAER) review for PM<sub>2.5</sub>. The emission limitations based on the LAER requirements are listed in b)(1)c. above.
- c. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the use of paved roadways and watering for control measures constitutes BACT for this emissions unit. The emission limits based on the BACT requirements are listed in b)(1)b. above.
- d. The permittee shall employ best available control measures on all paved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the paved roadways and parking areas by watering at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- e. The permittee shall employ best available control measures on the unpaved shoulders of all paved roadways for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the unpaved shoulders of all paved roadways with water at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.



- f. The needed frequencies of implementation of the control measures shall be determined by the permittee’s inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for a paved roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.
- g. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.
- h. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of the paved roadways and parking areas in accordance with the following frequencies:

<u>paved roadways</u>	<u>minimum inspection frequency</u>
All	Daily
<u>paved parking areas</u>	<u>minimum inspection frequency</u>
All	Daily

The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and OAC rule 3745-17-08)

- (2) The permittee shall maintain records of the following information:
  - a. the permittee shall maintain daily records of the results of the inspections required in d)(1);



- b. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
- c. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
- d. the dates the control measures were implemented; and,
- e. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in d)(2)e. shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and OAC rule 3745-17-08)

- (3) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #P0110761, issued on 9/14/2012: d)(1) and d)(2). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

e) Reporting Requirements

- (1) The permittee shall submit deviation reports that identify any of the following occurrences:
  - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and,
  - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

The quarterly deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and OAC rule 3745-17-08)

- (2) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #P0110761, issued on 9/14/2012:e)(1). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of



this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Fugitive PE shall not exceed 1.08 TPY as a rolling 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the vehicle miles traveled (VMT) per year for the average vehicle fleet weight times the 0.62 pound/VMT emission factor and divide by 2,000 pounds/ton.

The particulate emission factors were calculated using AP-42 Section 13.2.1, Equation (2), dated 11/06.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

b. Emission Limitation:

There shall be no visible particulate emissions except for 1 minute during any 60-minute period.

Applicable Compliance Method:

Compliance with the visible emission limitation for the paved roadways and/or parking areas identified in this permit shall be determined in accordance with U.S. EPA Method 22 and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

c. Emission Limitation:

Fugitive PM<sub>10</sub> emissions shall not exceed 0.21 TPY (filterable PM<sub>10</sub>) as a rolling 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated multiplying the vehicle miles traveled (VMT) per year for the average vehicle fleet weight times the 0.121 pound/VMT emission factor times and divide by 2,000 pounds/ton.



The particulate emission factors were calculated using AP-42 Section 13.2.1, Equation (2), dated 11/06.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

d. Emission Limitation:

Fugitive PM<sub>2.5</sub> emissions shall not exceed 0.05 TPY (filterable PM<sub>2.5</sub>) as a rolling 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated multiplying the vehicle miles traveled (VMT) per year for the average vehicle fleet weight times the 0.03 pound/VMT emission factor times and divide by 2,000 pounds/ton.

The particulate emission factors were calculated using AP-42 Section 13.2.1, Equation (2), dated 11/06.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-21 through 27)

- (2) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #P0110761, issued on 9/14/2012:f(1). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

g) Miscellaneous Requirements

- (1) None.



**2. F002, Storage Piles**

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

Coal and Coke Storage Piles

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-10 through 20  <i>Prevention of Significant Deterioration</i>	PE from wind erosion at coal and coke piles and load-in and load-out at coal and coke piles shall not exceed 7.51 TPY as a rolling 12-month summation.  PM <sub>10</sub> shall not exceed 3.64 TPY (filterable PM <sub>10</sub> ) as a rolling 12-month summation.  There shall be no visible particulate emissions except for 1 minute during any 60-minute period.  See b)(2)c.  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B) and 40 CFR Part 60, Subpart Y.
b.	OAC rule 3745-31-21 through 27  <i>Nonattainment New Source Review</i>	PM <sub>2.5</sub> shall not exceed 1.29 TPY (filterable PM <sub>2.5</sub> ) as a rolling 12-month summation.  There shall be no visible particulate emissions except for 1 minute during any 60-minute period.  See b)(2)b.  The requirements of this rule also include



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		compliance with the requirements of OAC rule 3745-17-08(B) and 40 CFR Part 60, Subpart Y.
c.	OAC rule 3745-17-07(B)	The particulate emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-17-08(B).
d.	OAC rule 3745-17-08(B)	See b)(2)d. through b)(2)g.
e.	OAC rule 3745-31-05(A)(3)  [PTI P0104768, issued 2/9/2010]  <i>Best Available Technology (BAT)</i>	See b)(2)h.
f.	40 CFR Part 60, Subpart Y (40 CFR 60.250-60.258)  <i>Standards of Performance for Coal Preparation and Processing Plants</i>  [In accordance with 40 CFR 60.250(d) and 60.251, the open storage coal pile(s) that are associated with this emissions unit commenced construction after May 27, 2009, and are subject to the requirements specified in this section.]	See b)(2)i. and b)(2)j.

(2) Additional Terms and Conditions

- a. The storage piles that are covered by this permit and subject to the requirements of OAC rule 3745-31-10 through 3745-31-20 are listed below:
  - coal storage pile(s)
  - coke storage pile(s)
- b. The permittee has performed a Lowest Achievable Emission Rate (LAER) review for PM<sub>2.5</sub>. The emission limitations based on the LAER requirements are listed in b)(1)b. above.
- c. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the use of a berm for wind reduction, maintaining material in a wet condition, loading material with a radial stacker or stacker conveyor and



loading material out with front-end loader as control measures constitutes BACT for this emissions unit. "Maintaining material in a wet condition" does not require the permittee to constantly apply water. The emission limits based on the BACT requirements are listed in b)(1)a. above.

- d. The permittee shall employ best available control measures on all load-in and load-out operations associated with the storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to the following control measures to ensure compliance: fugitive emissions shall be controlled through maintaining the material handled in a moist condition and the application of water as necessary.
- e. The above-mentioned control measure(s) shall be employed for each load-in and load-out operation of each storage pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during any such operation until further observation confirms that use of the measure(s) is unnecessary.
- f. The permittee shall employ best available control measures for wind erosion from the surfaces of all storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the open coal storage pile with water at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- g. The above-mentioned control measure(s) shall be employed for wind erosion from each pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Implementation of the control measure(s) shall not be necessary for a storage pile that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.
- h. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) are equivalent to the ton per year and visible emissions limitations listed under b)(1)a. and b)(1)b. above.
- i. The permittee shall prepare and operate in accordance with a fugitive coal dust emissions control plan that is appropriate for the site conditions as specified in 40 CFR 60.254(c)(1) through (c)(6). The permittee shall submit a copy of the fugitive coal dust emissions control plan to the Southwest Ohio Air Quality Agency in accordance with 60.254(c)(4).
- j. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States



Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of each load-in operation at each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-in inspection frequency</u>
All	Daily

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (2) Except as otherwise provided in this section, the permittee shall perform inspections of each load-out operation at each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-out inspection frequency</u>
All	Daily

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (3) Except as otherwise provided in this section, the permittee shall perform inspections of the wind erosion from pile surfaces associated with each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum wind erosion inspection frequency</u>
All	Daily

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (4) No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice and for any storage pile activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.



(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (5) The purpose of the inspections is to determine the need for implementing the control measures specified in this permit for load-in and load-out of a storage pile, and wind erosion from the surface of a storage pile. The inspections shall be performed during representative, normal storage pile operating conditions.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (6) If the daily checks show emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of normal visible emissions.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (7) The permittee shall maintain records of the following information:
- a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
  - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - c. the dates the control measures were implemented; and,
  - d. on a calendar quarter basis, the total number of days the control measures were implemented and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in d)(7)d. shall be kept separately for (i) the load-in operations, (ii) the load-out operations, and (iii) the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)



- (8) The permittee shall comply with the applicable monitoring and record keeping requirements required under 40 CFR Part 60, Subpart Y, including the following sections:

60.258(a)	Maintain a logbook per (a)(1) through (a)(10)
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(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 60, Subpart Y)

- (9) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #P0104768, issued on 2/9/2010:d)(1) - d)(8). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

e) Reporting Requirements

- (1) The permittee shall submit deviation reports that identify any of the following occurrences:
  - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and,
  - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (2) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subpart Y, including the following sections:

60.7	Notification requirements
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(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 60, Subpart Y)

- (3) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #P0104768, issued on 2/9/2010:e)(1) and e)(2). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting



requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

PE from wind erosion at coal and coke piles and load-in and load-out at coal and coke piles shall not exceed 7.51 TPY as a rolling 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by calculating the sum of the following:

i. coal pile load-in - PE

Multiply the maximum tons of coal handled per year times the 0.0017 pound/ton particulate emission factor and divide by 2,000 pounds per ton. The particulate emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06.

ii. coal pile wind erosion - PE

Multiply the maximum area of the coal storage pile, in acres, times the 365, the maximum number of days per year, times the 10.08 pound/day/acre emission factor times the 0.50 assuming a 50% control efficiency for the water sprays and divide by 2,000 pounds per ton. The particulate emission factor was calculated in accordance with AP-40, Section 4, Equation 5. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

ii. coal pile load-out – PE

Multiply the maximum tons of coal handled per year times the 0.0017 pound/ton emission factor times 0.05 assuming a 95% control efficiency for underpile feed load-out, and divide by 2,000 pounds per ton. The particulate emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iv. coke pile load-in - PE

Multiply the maximum tons of coke handled per year times the 0.0017 pound/ton particulate emission factor and divide by 2,000 pounds per ton. The particulate emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.



v. coke pile wind erosion - PE

Multiply the maximum area of the coal storage pile, in acres, times the 365, the maximum number of days per year, times the 2.19 pound/day/acre emission factor and divide by 2,000 pounds per ton. The particulate emission factor was calculated in accordance with AP-40, Section 4, Equation 5.

vi. coke breeze pile wind erosion - PE

Multiply the maximum area of the coal storage pile, in acres, times the 365, the maximum number of days per year, times the 10.74 pound/day/acre emission factor and divide by 2,000 pounds per ton. The particulate emission factor was calculated in accordance with AP-40, Section 4, Equation 5.

vii. coke pile load-out - PE

Multiply the maximum tons of coal handled per year times the 0.0017 pound/ton emission factor and divide by 2,000 pounds per ton. The particulate emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rules 3745-31-10 through 20, and OAC rule 3745-31-05(A)(3))

b. Emission Limitation:

PM<sub>10</sub> emissions from wind erosion at coal and coke piles and load-in and load-out at coal and coke piles shall not exceed 3.64 TPY (filterable PM<sub>10</sub>) as a rolling 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by calculating the sum of the following:

i. coal pile load-in - PM<sub>10</sub>

Multiply the maximum tons of coal handled per year times the 0.0008 pound/ton emission factor and divide by 2,000 pounds per ton. The PM<sub>10</sub> emission factor is calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06.

ii. coal pile wind erosion - PM<sub>10</sub>

Multiply the maximum area of the coal storage pile, in acres, times 365, the maximum number of days per year, times the 5.04 pound/day/acre emission factor times the 0.50 assuming a 50% control efficiency for the water sprays and divide by 2,000 pounds per ton. The PM<sub>10</sub> emission factor was calculated in accordance with AP-40, Section 4, Equation 5.



The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iii. coal pile load-out -  $PM_{10}$

Multiply the maximum tons of coal handled per year times the 0.0008 pound/ton emission factor times 0.05 assuming a 95% control efficiency for underpile feed load-out, and divide by 2,000 pounds per ton. The  $PM_{10}$  emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iv. coke pile load-in -  $PM_{10}$

Multiply the maximum tons of coal handled per year times the 0.0008 pound/ton particulate emission factor and divide by 2,000 pounds per ton. The particulate emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

v. coke pile wind erosion -  $PM_{10}$

Multiply the maximum area of the coal storage pile, in acres, times the 365, the maximum number of days per year, times the 1.10 pound/day/acre emission factor and divide by 2,000 pounds per ton. The particulate emission factor was calculated in accordance with AP-40, Section 4, Equation 5.

vi. coke breeze pile wind erosion -  $PM_{10}$

Multiply the maximum area of the coal storage pile, in acres, times the 365, the maximum number of days per year, times the 5.37 pound/day/acre emission factor and divide by 2,000 pounds per ton. The particulate emission factor was calculated in accordance with AP-40, Section 4, Equation 5.

vii. coke pile load-out -  $PM_{10}$

Multiply the maximum tons of coal handled per year times the 0.0008 pound/ton emission factor and divide by 2,000 pounds per ton. The particulate emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rules 3745-31-10 through 20, and OAC rule 3745-31-05(A)(3))



c. Emission Limitation:

PM<sub>2.5</sub> emissions from wind erosion at coal and coke piles and load-in and load-out at coal and coke piles shall not exceed 1.29 TPY (filterable PM<sub>2.5</sub>) as a rolling 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by calculating the sum of the following:

i. coal pile load-in - PM<sub>2.5</sub>

Multiply the maximum tons of coal handled per year times the 0.00025 pound/ton emission factor and divide by 2,000 pounds per ton. The PM<sub>2.5</sub> emission factor is calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06.

ii. coal pile wind erosion – PM<sub>2.5</sub>

Multiply the maximum area of the coal storage pile, in acres, times 365, the maximum number of days per year, times the 2.02 pound/day/acre emission factor times the 0.50 assuming a 50% control efficiency for the water sprays and divide by 2,000 pounds per ton. The PM<sub>2.5</sub> emission factor was calculated in accordance with AP-40, Section 4, Equation 5. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iii. coal pile load-out – PM<sub>2.5</sub>

Multiply the maximum tons of coal handled per year times the 0.00025 pound/ton emission factor times 0.05 assuming a 95% control efficiency for underpile feed load-out, and divide by 2,000 pounds per ton. The PM<sub>2.5</sub> emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iv. coke pile load-in - PM<sub>2.5</sub>

Multiply the maximum tons of coal handled per year times the 0.00025 pound/ton particulate emission factor and divide by 2,000 pounds per ton. The particulate emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

v. coke pile wind erosion - PM<sub>2.5</sub>

Multiply the maximum area of the coal storage pile, in acres, times the 365, the maximum number of days per year, times the 0.44 pound/day/acre emission factor and divide by 2,000 pounds per ton. The particulate emission factor was calculated in accordance with AP-40, Section 4, Equation 5.



vi. coke breeze pile wind erosion -  $PM_{2.5}$

Multiply the maximum area of the coal storage pile, in acres, times the 365, the maximum number of days per year, times the 2.15 pound/day/acre emission factor and divide by 2,000 pounds per ton. The particulate emission factor was calculated in accordance with AP-40, Section 4, Equation 5.

vii. coke pile load-out -  $PM_{2.5}$

Multiply the maximum tons of coal handled per year times the 0.00025 pound/ton emission factor and divide by 2,000 pounds per ton. The particulate emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rules 3745-31-21 through 27, and OAC rule 3745-31-05(A)(3))

d. Emission Limitation:

There shall be no visible emissions except for 1 minute in any hour from coal or coke storage piles.

Applicable Compliance Method:

Compliance with the visible emission limitation for the material storage piles areas identified in this permit shall be determined in accordance with U.S. EPA Method 22 and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(c) of OAC rule 3745-17-03.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and OAC rule 3745-31-05(A)(3))

- (2) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #P0104768, issued on 2/9/2010:f)(1). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

g) Miscellaneous Requirements

- (1) None.



**3. F003, Coal Handling**

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

Coal Handling, Processing and Transfer

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rules 3745-31-10 through 20  <i>Prevention of Significant Deterioration</i>	Fugitive PE shall not exceed 3.47 TPY as a rolling, 12-month summation.  PE from this source shall not exceed 4.6 pounds per hour.  Fugitive filterable PM <sub>10</sub> shall not exceed 1.67 TPY as a rolling, 12-month summation.  Fugitive visible particulate emissions shall not exceed 10% opacity, as a 3-minute average.  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B).  See b)(2)c. and c)(1).
b.	OAC rules 3745-31-21 through 27  <i>Nonattainment New Source Review</i>	Fugitive filterable PM <sub>2.5</sub> shall not exceed 0.52 TPY as a rolling, 12-month summation.  Fugitive visible particulate emissions shall not exceed 10% opacity, as a 3-minute average.  The requirements of this rule also include



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		compliance with the requirements of OAC rule 3745-17-08(B).  See b)(2)b. and c)(1).
c.	OAC rule 3745-17-07(B)(1)	The particulate emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-17-08(B), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27.
d.	OAC rule 3745-17-08(B)	Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.  See b)(2)d. and b)(2)e.
e.	40 CFR Part 60, Subpart Y (40 CFR 60.250-60.258)  <i>Standards of Performance for Coal Preparation and Processing Plants</i>  [In accordance with 40 CFR 60.250(d) and 60.251, this emissions unit is comprised of coal processing and conveying equipment and transfer and loading systems that commenced construction after May 27, 2009, and are subject to the emission limitations and/or control measures specified in this section.]	The visible emission limitation for fugitive particulate emissions specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-17-08(B), OAC rules 3745-31-10 through 20 and OAC rules 3745-31-21 through 27.  See b)(2)g.
f.	OAC rule 3745-31-05(A)(3)  [PTI P0110760, issued 9/14/2012]  <i>Best Available Technology (BAT)</i>	See b)(2)h.

(2) Additional Terms and Conditions

- a. The material handling operation(s) that are covered by this permit and subject to the above-mentioned requirements are listed below:
- coal unloading via rail car bottom dumping
  - coal conveying via enclosed belt conveyor



coal transfer via enclosed belt conveyor to belt conveyor

coal crushing

- b. The permittee has performed a Lowest Achievable Emission Rate (LAER) review for PM<sub>2.5</sub>. The emission limitations based on the LAER requirements are listed in b)(1)b. above. It has been determined that enclosure and wet suppression control measures constitute LAER for coal unloading in this emissions unit, enclosure and wet suppression constitute LAER for coal transfer by conveyor and enclosure and wet material constitute LAER for coal crushing.
- c. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that enclosure and wet suppression control measures constitute BACT for coal unloading in this emissions unit, enclosure and wet suppression constitute BACT for coal transfer by conveyor and enclosure and wet material constitute BACT for coal crushing. The emission limits based on the BACT requirements are listed in b)(1)a. above.
- d. The permittee shall employ best available control measures for the above-identified material handling operation(s) for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee shall perform the following control measure(s) to ensure compliance:

<u>material handling operation(s)</u>	<u>control measure(s)</u>
rail car bottom dumping	partial enclosure and wet material
enclosed belt conveyors and transfer points (9)	enclosure and wet material
unenclosed belt conveyors and transfer points (6)	wet material
coal crushing	total enclosure and wet material

Nothing in this paragraph shall prohibit the permittee from employing additional or alternative control measures to ensure compliance. All conveyors shall be enclosed except at points where safety related concerns are present. The permittee shall apply water in sufficient volume and frequency to maintain these operations in compliance with the opacity limitation in b)(1).

- e. For each material handling operation that is not adequately enclosed to eliminate visible emissions, the above-identified control measure(s) shall be implemented if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) is (are) necessary to ensure compliance with the above-mentioned applicable requirements. Any



required implementation of the control measure(s) shall continue during the operation of the material handling operation(s) until further observation confirms that the use of the control measure(s) is unnecessary.

- f. Compliance with the emission limitations in b) and implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rules 3745-31-10 through 20 and OAC rules 3745-31-21 through 27.
- g. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.
- h. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) are equivalent to the pound per hour, ton per year and visible emissions limitations listed under paragraph b)(1)a. and b. above.

c) Operational Restrictions

- (1) The maximum annual wet coal usage rate for this emissions unit shall not exceed 912,500 based upon a rolling, 12-month summation of the wet coal usage rates.

(Authority for term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (2) The permittee shall install and operate a system for applying chemical dust suppressants on the coal at the following locations:
  - a. the rail car unloading operation;
  - b. the common conveyor (radial stacker) in front of the outdoor storage piles; and
  - c. the conveyor between the outdoor coal piles and the coal crusher.

The chemical dust suppressants shall contain a wetting agent and is either a binder or surfactant. The application of the chemical dust suppressant is not required if the coal's moisture content or weather conditions such as rain or snow indicate that the chemical dust suppressant would be ineffective.

(Authority for term: OAC rule 3745-77-07(A)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information:
  - a. the wet coal usage rate for each month; and



b. the rolling, 12-month summation of the wet coal usage rates.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

(2) Except as otherwise provided in this section, for material handling operations that are not totally enclosed, the permittee shall perform inspections of such operations in accordance with the following minimum frequencies:

<u>material handling operation(s)</u>	<u>minimum inspection frequency</u>
unenclosed transfer conveyors	daily
railcar bottom dump	daily

The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal operating conditions.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

(3) The permittee shall maintain records of the following information:

- a. the date and reason any required inspection was not performed;
- b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measure(s);
- c. the dates the control measure(s) was (were) implemented; and,
- d. on a calendar quarter basis, the total number of days the control measure(s) was (were) implemented.

The information in d)(3)d. shall be kept separately for each material handling operation identified above, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

(4) The permittee shall comply with the applicable monitoring and record keeping requirements required under 40 CFR Part 60, Subpart Y, including the following sections:

60.258(a)	Maintain a logbook per (a)(1) through (a)(10)
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(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 60, Subpart Y)



- (5) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #P0110760, issued on 9/14/2012:d)(1) - d)(4). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

e) Reporting Requirements

- (1) The permittee shall submit deviation reports that identify any of the following occurrences:
  - a. each day during which an inspection was not performed by the required frequency as specified in d)(2); and
  - b. each instance when a control measure, that was to be performed as a result of an inspection, was not implemented.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (2) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subpart Y, including the following sections:

60.7 and 60.258(b)	and	Notification and reporting requirements
60.258(c) and (d)		Submission of performance tests

(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 60, Subpart Y)

- (3) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #P0110760, issued on 9/14/2012:e)(1) - e)(2). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:



a. Emission Limitation:

Fugitive PE shall not exceed 4.6 pounds per hour and 3.47 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by calculating the sum of the following:

i. Coal railcar unloading with partial enclosure and wet suppression:

Multiply the maximum tons of coal processed per hour or unloaded per year, times the 0.0017 pound/ton emission factor times 0.10, assuming a 90% control efficiency for wet suppression and partial enclosure, and divide by 2,000 pounds per ton. The particulate emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

ii. Coal transfer points with enclosure and wet suppression:

Multiply the maximum tons of coal processed per hour or handled per year, times the number of transfer points, times the 0.0017 pound/ton emission factor times 0.05, assuming a 95% control efficiency for totally enclosed transfer points and wet suppression, and divide by 2,000 pounds per ton. The particulate emission factor was calculated from AP-42, Section 13.2.4 Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iii. Unenclosed coal transfer points with wet suppression:

Multiply the maximum tons of coal processed per hour or handled per year, times the number of transfer points, times the 0.0017 pound/ton emission factor times the 50% control efficiency for wet suppression and divide by 2,000 pounds per ton. The particulate emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM Table 2.22-3, dated 10/80.

iv. Coal screening/crushing with total enclosure and wet material:

Multiply the maximum tons of coal processed per hour or handled per year times the 0.16 pound/ton emission factor times 0.01, assuming a 99% control efficiency for total enclosure and wet material, and divide by 2,000 pounds per ton. The particulate emission factor was calculated from AP-42, 5th Edition, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from AP-40 and Ohio RACM.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)



b. Emission Limitation:

Fugitive visible particulate emissions shall not exceed 10% opacity as a 3-minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(3).

The visible emission observations shall be performed at the appropriate non-stack egress points from this emissions unit.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

c. Emission Limitation:

Fugitive PM<sub>10</sub> shall not exceed 1.67 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be determined by calculating the sum of the following:

i. Coal railcar unloading with partial enclosure and wet suppression:

Multiply the maximum tons of coal unloaded per month, times the 0.0008 pound/ton emission factor times 0.10, assuming a 90% control efficiency for wet suppression and partial enclosure, and divide by 2,000 pounds per ton. The PM<sub>10</sub> emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

ii. Coal transfer points with enclosure and wet suppression:

Multiply the maximum tons of coal handled per month, times the number of controlled transfer points, times the 0.0008 pound/ton emission factor times 0.05, assuming a 95% control efficiency for totally enclosed transfer points and wet suppression, and divide by 2,000 pounds per ton. The PM<sub>10</sub> emission factor was calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iii. Unenclosed coal transfer points with wet suppression:

Multiply the maximum tons of coal handled per month, times the number of uncontrolled transfer points, times the 0.0008 pound/ton emission factor times the 50% control efficiency for wet suppression and divide by



2,000 pounds per ton. The  $PM_{10}$  emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

- iv. Coal screening/crushing with total enclosure and wet material:

Multiply the maximum tons of coal handled per year times the 0.08 pound/ton emission factor times 0.01, assuming a 99% control efficiency for total enclosure and wet material, and divide by 2,000 pounds per ton. The particulate emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from AP-40 and Ohio RACM.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

- d. Emission Limitation:

Fugitive  $PM_{2.5}$  shall not exceed 0.52 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be determined by calculating the sum of the following:

- i. Coal railcar unloading with partial enclosure and wet suppression:

Multiply the maximum tons of coal unloaded per month, times the 0.00025 pound/ton emission factor times 0.10, assuming a 90% control efficiency for wet suppression and partial enclosure, and divide by 2,000 pounds per ton. The  $PM_{2.5}$  emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

- ii. Coal transfer points with enclosure and wet suppression:

Multiply the maximum tons of coal handled per month, times the number of controlled transfer points, times the 0.00025 pound/ton emission factor times 0.05, assuming a 95% control efficiency for totally enclosed transfer points and wet suppression, and divide by 2,000 pounds per ton. The  $PM_{2.5}$  emission factor was calculated from AP-42, 5th Edition, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

- iii. Unenclosed coal transfer points with wet suppression:

Multiply the maximum tons of coal handled per month, times the number of uncontrolled transfer points, times the 0.00025 pound/ton emission factor times the 50% control efficiency for wet suppression and divide by 2,000 pounds per ton. The  $PM_{2.5}$  emission factor was calculated from AP-



42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iv. Coal screening/crushing with total enclosure and wet material:

Multiply the maximum tons of coal handled per year, times the 0.024 pound/ton emission factor times 0.01, assuming a 99% control efficiency for total enclosure and wet material, and divide by 2,000 pounds per ton. The particulate emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from AP-40 and Ohio RACM.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rule 3745-31-21 through 27)

(2) Compliance with the requirements of c)(1) shall be demonstrated by the monitoring and record keeping required in d)(1).

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

(3) The permittee shall comply with the applicable performance testing and compliance requirements required under 40 CFR Part 60, Subpart Y, including the following sections:

60.255(b)(2)	Performance testing
60.255(c)	Building enclosures
60.255(f) and (g)	Alternatives to performance testing
60.257(a)	Test methods and procedures

(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 60, Subpart Y)

(4) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #P0110760, issued on 9/14/2012:f)(1) – f)(3). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

g) Miscellaneous Requirements

(1) None.



**4. F004, Coke Handling**

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

Coke and breeze handling and processing

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rules 3745-31-10 through 20  <i>Prevention of Significant Deterioration</i>	PE and filterable PM <sub>10</sub> emissions from the crushing/screening baghouse shall not exceed 3.43 pounds per hour.  PE and filterable PM <sub>10</sub> emissions from the crushing/screening baghouse shall not exceed 0.008 grain per dry standard cubic foot of exhaust gases.  PE from the coke and breeze handling and processing shall not exceed 18.6 TPY as a rolling, 12-month summation.  Filterable PM <sub>10</sub> from the coke and breeze handling and processing shall not exceed 16.71 TPY as a rolling, 12-month summation.  Visible particulate emissions of fugitive dust from this emissions unit shall not exceed 10% opacity as a 3-minute average.  Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.  See b)(2)c.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-07(B) and OAC rule 3745-17-08(B).</p>
b.	<p>OAC rules 3745-31-21 through 27</p> <p><i>Nonattainment New Source Review</i></p>	<p>Filterable PM<sub>2.5</sub> from the crushing/screening baghouse shall not exceed 3.43 pounds per hour.</p> <p>Filterable PM<sub>2.5</sub> from the crushing/screening baghouse shall not exceed 0.008 grain per dry standard cubic foot of exhaust gases.</p> <p>Visible particulate emissions of fugitive dust from this emissions unit shall not exceed 10% opacity as a 3-minute average.</p> <p>Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.</p> <p>Filterable PM<sub>2.5</sub> from the coke and breeze handling and processing shall not exceed 15.55 TPY as a rolling, 12-month summation.</p> <p>See b)(2)b.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-07(B) and OAC rule 3745-17-08(B).</p>
c.	OAC rule 3745-17-07(A)	<p>The particulate emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-17-08(B).</p>
d.	OAC rule 3745-17-07(B)(1)	<p>The particulate emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-17-08(B).</p>
e.	OAC rule 3745-17-08(B)	<p>Best available control measures that are sufficient to minimize or eliminate visible</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		emissions of fugitive dust.  See b)(2)d. through b)(2)e.
f.	OAC rule 3745-31-05(A)(3)  [PTI P0108779, issued 10/5/2011]  <i>Best Available Technology (BAT)</i>	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27 and OAC rule 3745-17-08(B).

(2) Additional Terms and Conditions

- a. The material handling operation(s) that are covered by this permit and subject to the above-mentioned requirements are listed below:
  - coke conveying - enclosed
  - coke conveying - unenclosed
  - coke breeze silo
  - crushing/screeningbaghouse
  - coke loading – railcars and/or trucks
- b. The permittee has performed a Lowest Achievable Emission Rate (LAER) review for PM<sub>2.5</sub>. The emission limitations based on the LAER requirements are listed in b)(1)b. above. It has been determined that enclosure and wet suppression control measures constitute LAER for coke being transferred by belt conveyor at this emissions unit and enclosure and fabric filter control measures constitute LAER for coke screening and crushing.
- c. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that enclosure and wet suppression control measures constitute BACT for coke being transferred by belt conveyor at this emissions unit and enclosure and fabric filter control measures constitute BACT for coke screening and crushing. The emission limits based on the BACT requirements are listed in b)(1)a. above.
- d. The permittee shall employ best available control measures for the above-identified material handling operation(s) for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee shall perform the following control measure(s) to ensure compliance:



<u>Material handling operation(s)</u>	<u>Control measure(s)</u>
coke crushing/screening	fabric filter
coke conveying-enclosed	total enclosure, wet material
coke conveying-partially enclosed	partial enclosure, dry material
coke conveying-unenclosed	wet material
coke breeze silo	partial enclosure, wet material
coke loading of railcars and trucks (alternative to conveyor transport)	wet material

Nothing in this paragraph shall prohibit the permittee from employing additional or alternative control measures to ensure compliance.

- e. For each material handling operation that is not adequately enclosed, the above-identified control measure(s) shall be implemented if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) is (are) necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during the operation of the material handling operation(s) until further observation confirms that the use of the control measure(s) is unnecessary.
- f. Compliance with the emission limitations in section b) and implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rules 3745-31-10 through 20 and OAC rules 3745-31-21 through 27 and the requirements OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the coke crushing/screening baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the coke crushing/screening baghouse once per each shift of operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).

Whenever the monitored value for the pressure drop deviates from the limit or range specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:



- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The range or limit of 3 to 12 inches of water on the pressure drop across the coke crushing/screening baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Southwest Ohio Air Quality Agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (2) Except as otherwise provided in this section, for material handling operations that are not adequately enclosed, the permittee shall perform inspections of such operations in accordance with the following minimum frequencies:



<u>Material-handling operation(s)</u>	<u>Minimum inspection frequency</u>
coke loading of railcars and trucks	daily
coke conveying via belt conveyors	daily
coke transfer points (belt conveyor to belt conveyor and crusher to belt conveyor)	daily

The above-mentioned inspections shall be performed during representative, normal operating conditions.

If the daily checks show emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of normal visible emissions.

The permittee shall maintain records of the following information:

- a. the date and reason any required inspection was not performed;
- b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measure(s);
- c. the dates the control measure(s) was (were) implemented; and,
- d. on a calendar quarter basis, the total number of days the control measure(s) was (were) implemented.

The information in d)(2)d. shall be kept separately for each material handling operation identified above, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (3) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #P0108779, issued on 10/5/2011:d)(1) - d)(2). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.



e) Reporting Requirements

- (1) The permittee shall submit quarterly reports that identify the following information concerning the operation of the coke crushing/screening baghouse during the operation of the emissions unit(s):
  - a. each period of time when the pressure drop across the baghouse was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
  - b. an identification of each incident of deviation described in "a." (above) where a prompt investigation was not conducted;
  - c. an identification of each incident of deviation described in "a." where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
  - d. an identification of each incident of deviation described in "a." where proper records were not maintained for the investigation and/or the corrective action(s).

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify any of the following occurrences:
  - a. each day during which an inspection of the material handling operations was not performed by the required frequency as specified in d)(2); and,
  - b. each instance when a control measure, that was to be performed as a result of an inspection, was not implemented.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-08(B), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (3) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #P0108779, issued on 10/5/2011:e)(1) - e)(2). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.



f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

PE/PM<sub>10</sub>/PM<sub>2.5</sub> emissions from the crushing/screening baghouse shall not exceed 3.43 pounds per hour.

Applicable Compliance Method:

The 3.43 pound per hour limit for PE was determined by multiplying the emission factor (grain loading) of 0.008 gr/dscf times 1 pound divided by 7000 grains times airflow of 50,000 scfm times 60 minutes per hour. The emission factor for PE was used as a surrogate for PM<sub>10</sub> and PM<sub>2.5</sub> where PM<sub>10</sub> and PM<sub>2.5</sub> factors were not available. The 0.008 gr/dscf emissions factor for PE is a controlled emissions factor provided as an engineering estimate by the permittee.

If requested, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(10).

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

b. Emission Limitation:

PE shall not exceed 18.6 TPY as a rolling, 12-month summation from the coke and breeze handling and processing.

Applicable Compliance Method:

Compliance shall be demonstrated by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be determined by calculating the sum of the following:

i. Totally enclosed coke transfer points

Multiply the maximum tons of coke handled per year per each conveyor times the 0.00169 pound/ton emission factor times 0.05, assuming a 95% control efficiency for the full enclosures and wet material, and divide by 2,000 pounds per ton.

The particulate emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.



- ii. Partially enclosed coke transfer points and coke loadout / wet material  

Multiply the maximum tons of coke handled per year per each transfer point times the 0.00169 pound/ton emission factor times 0.15 assuming 85% control efficiency for the partial enclosures and wet material and divide by 2,000 pounds per ton. The particulate emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06.
- iii. Partially enclosed coke transfer points / dry material  

Multiply the maximum tons of coke handled per year per each transfer point times the 0.00169 pound/ton emission factor times 0.5 assuming 50% control efficiency for the partial enclosure and divide by 2,000 pounds per ton. The particulate emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06.
- iv. Unenclosed coke transfer points / dry material  

Multiply the maximum tons of coke handled per year times the 0.00169 pound/ton emission factor and divide by 2,000 pounds per ton. The particulate emission factor was calculated from AP-42 5th, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.
- v. Coke breeze silo / partially enclosed bunker  

Multiply the maximum tons of coke breeze handled per year times 2, the number of transfer points (load-out and load-in), times the 0.00169 pound/ton emission factor times 0.15, assuming an 85% control efficiency for the partial enclosure and wet material, and divide by 2,000 pounds per ton. The particulate emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.
- vi. Crushing/screening baghouse  

An emission rate, in terms of pounds per ton of coke, shall be calculated from the hourly rate of particulate emissions determined from the emission testing requirements for this source performed in accordance with PTI P0108779, issued 10/5/2011, including 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(10). Multiply the emission rate in pounds per ton times the throughput, in tons, and divide by 2,000 pounds per ton.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rule 3745-31-10 through 20)



c. Emission Limitation:

Visible particulate emissions of fugitive dust from this emissions unit shall not exceed 10% opacity as a 3-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 procedures and methods required in OAC rule 3745-17-03(B)(3).

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

d. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 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 procedures and methods required in OAC rule 3745-17-03(B)(1).

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

e. Emission Limitation:

PE, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from the crushing/screening baghouse shall not exceed 0.008 grain per dry standard cubic foot of exhaust gases.

Applicable Compliance Method:

If requested, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(10).

Note: PE was used as a surrogate for PM<sub>10</sub> and PM<sub>2.5</sub> for purposes of compliance with both the PM<sub>10</sub> and PM<sub>2.5</sub> fractions of PE.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

f. Emission Limitation:

PM<sub>10</sub> emissions shall not exceed 16.71 TPY as a rolling, 12-month summation from the coke and breeze handling and processing.



Applicable Compliance Method:

Compliance shall be demonstrated by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be determined by calculating the sum of the following:

i. Totally enclosed coke transfer points

Multiply the maximum tons of coke handled per year per each conveyor times the 0.0008 pound/ton emission factor times 0.05, assuming a 95% control efficiency for complete enclosure and wet material, and divide by 2,000 pounds per ton.

The PM<sub>10</sub> emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

ii. Partially enclosed coke transfer points and coke loadout / wet material

Multiply the maximum tons of coke handled per year per each transfer point times the 0.0008 pound/ton emission factor times 0.15 assuming 85% control efficiency for the partial enclosures and wet material and divide by 2,000 pounds per ton. The PM<sub>10</sub> emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06.

iii. Partially enclosed coke transfer points / dry material

Multiply the maximum tons of coke handled per year per each transfer point times the 0.0008 pound/ton emission factor times 0.5 assuming 50% control efficiency and divide by 2,000 pounds per ton. The PM<sub>10</sub> emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06.

iv. Unenclosed coke transfer points / dry material

Multiply the maximum tons of coke handled per year times the 0.0008 pound/ton emission factor and divide by 2,000 pounds per ton. The PM<sub>10</sub> emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

v. Coke breeze silo / partially enclosed bunker

Multiply the maximum tons of coke breeze handled per year times 2, the number of transfer points (load-out and load-in), times the 0.0008 pound/ton emission factor times 0.15, assuming a 85% control efficiency for partial enclosure and wet material, and divide by 2,000 pounds per ton. The PM<sub>10</sub> emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.



vi. Crushing/screening baghouse

The emission factor for PE was used as a surrogate for  $PM_{10}$  and  $PM_{2.5}$  where  $PM_{10}$  and  $PM_{2.5}$  factors were not available. An emission rate, in terms of pounds per ton of coke shall be calculated from the hourly rate of particulate emissions determined from the emission testing requirements for this source performed in accordance with PTI P0108779, issued 10/5/2011, including 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(10). Multiply the emission rate in pounds per ton times the throughput, in tons, and divide by 2,000 pounds per ton.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

g. Emission Limitation:

$PM_{2.5}$  emissions shall not exceed 15.55 TPY as a rolling, 12-month summation from the coke and breeze handling and processing.

Applicable Compliance Method:

Compliance shall be demonstrated by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be determined by calculating the sum of the following:

i. Totally enclosed coke transfer points

Multiply the maximum tons of coke handled per year per each conveyor times the 0.00025 pound/ton emission factor times 0.05, assuming a 95% control efficiency for total enclosure and wet material, and divide by 2,000 pounds per ton.

The  $PM_{2.5}$  emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

ii. Partially enclosed coke transfer points and coke loadout / wet material

Multiply the maximum tons of coke handled per year per each transfer point times the 0.00025 pound/ton emission factor times 0.15 assuming 85% control efficiency for the partial enclosures and wet material and divide by 2,000 pounds per ton. The  $PM_{2.5}$  emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06.

iii. Partially enclosed coke transfer points / dry material

Multiply the maximum tons of coke handled per year per each transfer point times the 0.00025 pound/ton emission factor times 0.5 assuming 50% control efficiency for the partial enclosures and wet material and



divide by 2,000 pounds per ton. The  $PM_{2.5}$  emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06.

iv. Unenclosed coke transfer points / dry material

Multiply the maximum tons of coke handled per year times the 0.00025 pound/ton emission factor and divide by 2,000 pounds per ton. The  $PM_{2.5}$  emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

v. Coke breeze silo / partially enclosed bunker

Multiply the maximum tons of coke breeze handled per year times 2, the number of transfer points (load-out and load-in), times the 0.00025 pound/ton emission factor times 0.15, assuming an 85% control efficiency for partial enclosure and wet material, and divide by 2,000 pounds per ton. The  $PM_{2.5}$  emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

vi. Crushing/screening baghouse

The emission factor for PE was used as a surrogate for  $PM_{10}$  and  $PM_{2.5}$  where  $PM_{10}$  and  $PM_{2.5}$  factors were not available. An emission rate, in terms of pounds per ton of coke shall be calculated from the hourly rate of particulate emissions determined from the emission testing requirements for this source performed in accordance with PTI P0108779, issued 10/5/2011, including 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(10). Multiply the emission rate in pounds per ton times the throughput, in tons, and divide by 2,000 pounds per ton.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-21 through 27)

(2) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #P0108779, issued on 10/5/2011:f)(1). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

g) Miscellaneous Requirements

(1) None.



**5. P001, Quench Tower**

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

Quench Tower

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) b)(1)h., d)(2)d., e)(1)b., and f)(1)i.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rules 3745-31-10 through 20  <i>Prevention of Significant Deterioration</i>	Filterable PE from this emissions unit shall not exceed 0.12 pound per ton of coal charged, 60 pounds per hour, and 54.75 TPY as a rolling, 12-month summation.  Filterable PM <sub>10</sub> emissions from this emissions unit shall not exceed 0.044 pound per ton of coal charged, 22.0 pounds per hour, and 20.08 TPY as a rolling, 12-month summation.  See b)(2)d., b)(2)e., and b)(2)f.  The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1) and 3745-17-07(B)(1), and 40 CFR Part 63, Subpart CCCCC.
b.	OAC rules 3745-31-21 through 27  <i>Nonattainment New Source Review</i>	Filterable PM <sub>2.5</sub> emissions from this emissions unit shall not exceed 0.027 pound per ton of coal charged, 13.5 pounds per hour and 12.32 TPY as a rolling, 12-month summation.  See b)(2)c., b)(2)e., and b)(2)f.  The requirements of this rule also include compliance with the requirements of OAC



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		rules 3745-17-07(A)(1) and 3745-17-07(B)(1), and 40 CFR Part 63, Subpart CCCCC.
c.	OAC rule 3745-31-05(A)(3) [PTI P0104768, issued 2/9/2010]  <i>Best Available Technology (BAT)</i>	HAP emissions (excluding HCl) from emissions units P001 and P901, combined, shall not exceed 3.6 TPY.  HCl emissions from emissions units P001 and P901, combined, shall not exceed 118.04 TPY.  See b)(2)b.  The requirements of this rule include compliance with OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, OAC rule 3745-17-07(A)(1), OAC rule 3745-17-07(B)(1), and 40 CFR Part 63, Subpart CCCCC.
d.	OAC rule 3745-17-07(A)(1)	Visible particulate stack emissions from this emissions unit shall not exceed 20 per cent opacity as a 6 minute average.
e.	40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280-7352)  <i>National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks</i>  [In accordance with 63.7282 and 63.7352, this emissions unit is a quench tower that is part of a coke oven battery (new affected source) subject to the requirements specified in this section.]	See b)(2)a. and c)(1).
f.	40 CFR 63.1-15 (40 CFR 63.7350)	Table 1 to Subpart CCCCC of 40 CFR Part 63 - Applicability of General Provisions to Subpart CCCCC shows which parts of the General Provisions in 40 CFR 63.1-15 apply.
g.	OAC rule 3745-17-07(B)(1)	Visible particulate fugitive emissions from this emissions unit shall not exceed 20 per cent opacity as a 3 minute average



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
h.	OAC rule 3745-31-05(E)	Lead emissions shall not exceed 0.28 TPY as a rolling 12-month summation for emissions units P001 and P901 combined.

(2) Additional Terms and Conditions

- a. The concentration of total dissolved solids (TDS) in the water used for quenching shall not exceed 1,100 milligrams per liter (mg/L).
- b. Compliance with OAC rule 3745-31-05(A)(3), shall be demonstrated by a TDS concentration limit of 1100 mg/L and the operation and maintenance of an interior baffle system with baffle plates which allow no more than 5 per cent of the cross sectional area of the tower to be uncovered or open to the sky.
- c. The permittee has performed a Lowest Achievable Emission Rate (LAER) review for PM2.5. The emission limitations based on the LAER requirements are listed in b)(1)b. above. It has been determined that a wet system with baffled tower, including improved baffle design, and water with controlled TDS as control measures constitute LAER for coke quenching.
- d. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that a wet system with baffled tower, including improved baffle design, and water with controlled TDS as control measures constitute BACT for coke quenching. The emission limits based on the BACT requirements are listed in b)(1)a. above.
- e. The hourly emission limitations reflect potential to emit for this emissions unit based upon the maximum tons of wet coal charged per hour in emissions unit P901.
- f. The throughput from this emission unit is limited by the wet coal throughput limitation on emissions unit P901.

c) Operational Restrictions

- (1) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart CCCC, including the following sections:

63.7295(a)(2)	Use of acceptable makeup water, as defined in 63.7352, as makeup water for quenching.
63.7295(b)	Quench tower design, operation, inspection, and maintenance requirements.



63.7295(c)	Requests for alternative work practice standards.
63.7300(a)	General duty to minimize emissions
63.7310(c)	Startup, shutdown, and malfunction plan

(Authority for term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63, Subpart CCCCC)

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall comply with the applicable monitoring and record keeping requirements required under 40 CFR Part 63, Subpart CCCCC, including the following sections:

63.7333(f)	Continuous compliance demonstration requirements for TDS content
63.7334(e)	Continuous compliance demonstration requirements for work practice standards (baffles and makeup water)
63.7342(a) and (d)	Required overall records to be maintained
63.7343(a)-(c)	Format and retention of records

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63, Subpart CCCCC)

- (2) The permittee shall maintain monthly records of the following information:
- a. the wet coal usage rate, in tons, for each month in emissions unit P901;
  - b. the rolling, 12-month summation of the wet coal usage rate, in tons, for emissions unit P901;
  - c. the rolling, 12-month summation of the PE, PM<sub>10</sub>, PM<sub>2.5</sub> emissions, in tons, for this emissions unit;
  - d. the rolling, 12-month summation of the lead emissions, in tons, for emissions units P001 and P901 combined; and



- e. the HAP (excluding HCl) and HCl emissions, in tons, for emissions units P001 and P901 combined.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rule 3745-31-05(E), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (3) The permittee shall conduct weekly visible emission readings of the stack emissions and fugitive emissions from this emissions unit and shall maintain records of the readings. The visible emission readings shall be performed by certified readers in accordance with procedures contained in 40 CFR Part 60, Appendix A, Method 9, and OAC rule 3745-17-03(B)(3), with the exception that observations shall be conducted for a period of at least 12 consecutive minutes. If visible emissions exceed the allowable limitations specified in this permit for this emissions unit, the permittee shall document any corrective actions taken to eliminate the exceedance(s).

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-07(A), and OAC rule 3745-17-07(B))

- (4) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #P0104768, issued on 2/9/2010:d)(1) - d)(3). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. any exceedances of the rolling, 12-month emission limitations for PE, PM<sub>10</sub>, and PM<sub>2.5</sub> for this emissions unit specified in b)(1)a. and b)(1)b.; and
  - b. any exceedance of the rolling, 12-month emission limitation for lead for emissions units P001 and P901, combined, as specified in b)(1)h.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rule 3745-31-05(E), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (2) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 63, Subpart CCCCC, including the following sections:



63.7336(a)	Deviation reporting
63.7340(a)	Overall notification reporting requirements
63.7340(c)	Initial notification reports
63.7340(e)	Notification of compliance status
63.7341(a)	Compliance report due dates
63.7341(c)	Compliance report contents
63.7341(d)	Immediate startup, shutdown, and malfunction reports
63.7341(e)	Title V monitoring report allowance

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63, Subpart CCCCC)

- (3) The permittee shall submit semiannual written reports that identify:
- a. all days during which visible particulate emissions from the stack serving this emissions unit exceeded the allowable emission limitation specified in b)(1)d.;
  - b. all days during which visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit exceeded the allowable emission limitation specified in b)(1)g.; and
  - c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.

These reports shall be submitted to the Southwest Ohio Air Quality Agency by January 31 and July 31 of each year and shall cover the previous 6-month period.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-17-07(A), and OAC rule 3745-17-07(B))

- (4) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #P0104768, issued on 2/9/2010:e)(1) - e)(3). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

f) Testing Requirements

- (1) Compliance with the Emission Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:



a. Emission Limitation:

Filterable PE from this emissions unit shall not exceed 0.12 pound per ton of coal charged and 60 pounds per hour.

Applicable Compliance Method:

The 0.12 lb/ton emission factor was obtained from AP-42 5th edition, Section 12.2, Table 12.2-12 (0.448 lb PE/ton emission factor for quenching with baffles and water with a TDS concentration of 1100 mg/L) times (1-0.73) control efficiency for improved baffle design documented by the applicant in the permit application for PTI P0104768.

The pound per hour emission limit reflects the emissions unit's potential to emit and was calculated by multiplying the emission rate of 0.12 lb PE/wet ton coal charged times the maximum capacity of wet coal charged per hour in emissions unit P901 (500 tons/hr).

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

b. Emission Limitation:

Filterable PM<sub>10</sub> from this emissions unit shall not exceed 0.044 pound per ton of coal charged and 22.0 pounds per hour.

Applicable Compliance Method:

The 0.044 lb/ton emission factor was obtained from AP-42 5th edition, Section 12.2, Table 12.2-12 (the PM emission factor for quenching with baffles and water with a TDS concentration of 1100 mg/L is 0.448 lb PM/ton of coal charged per AP42 table 12.2-12, 5/2008, multiplied by 9.8% as the percentage of PM that is PM<sub>10</sub> per AP-42, Table 12.2-4, 1/95).

The pound per hour emission limit reflects the emissions unit's potential to emit and was calculated by multiplying the emission rate of 0.044 lb PM<sub>10</sub>/wet ton coal charged times the maximum capacity of wet coal charged per hour in emissions unit P901 (500 tons/hr).

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

c. Emission Limitation:

Filterable PM<sub>2.5</sub> from this emissions unit shall not exceed 0.027 pound per ton of coal charged and 13.5 pounds per hour.

Applicable Compliance Method:

The 0.027 lb/ton emission factor was obtained from AP-42 5th edition, Section 12.2, Table 12.2-12 (the PM emission factor for quenching with baffles and water



with a TDS concentration of 1100 mg/L is 0.448 lb PM/ton of coal charged per AP42 table 12.2-12, 5/2008, multiplied by 6% as the percentage of PM that is PM<sub>2.5</sub> per AP-42, Table 12.2-4, 1/95).

The pound per hour emission limit reflects the emissions unit's potential to emit and was calculated by multiplying the emission rate of 0.027 lb PM<sub>2.5</sub>/wet ton coal charged times the maximum capacity of wet coal charged per hour in emissions unit P901 (500 tons/hr).

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-21 through 27)

d. Emission Limitation:

Filterable PE from this emissions unit shall not exceed 54.75 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements in d)(2). Monthly emissions shall be determined by multiplying the emission rate of 0.12 pound per ton times the wet tons of coal charged per month in emissions unit P901, and dividing by 2,000 pounds/ton. The current month's emissions shall be added to the emissions for the preceding eleven calendar months to determine the 12-month rolling emissions.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

e. Emission Limitation:

Filterable PM<sub>10</sub> from this emissions unit shall not exceed 20.08 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements in d)(2). Monthly emissions shall be determined by multiplying the emission rate of 0.044 pound per ton times the wet tons of coal charged per month in emissions unit P901, and dividing by 2,000 pounds/ton. The current month's emissions shall be added to the emissions for the preceding eleven calendar months to determine the 12-month rolling emissions.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

f. Emission Limitation:

Filterable PM<sub>2.5</sub> from this emissions unit shall not exceed 12.32 TPY as a rolling, 12-month summation.



Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements in d)(2). Monthly emissions shall be determined by multiplying the emission rate of 0.027 pound per ton times the wet tons of coal charged per month in emissions unit P901, and dividing by 2,000 pounds/ton. The current month's emissions shall be added to the emissions for the preceding eleven calendar months to determine the 12-month rolling emissions.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-21 through 27)

g. Emission Limitation:

Visible particulate stack emissions from the quench tower shall not exceed 20 percent opacity as a 6-minute average.

Applicable Compliance Method:

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

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27, and OAC rule 3745-17-07(A)(1))

h. Emission Limitation:

The concentration of total dissolved solids (TDS) in the water used for quenching must not exceed 1,100 milligrams per liter (mg/L).

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) and the testing requirements specified in f)(2) below. In accordance with 63.7325(a), compliance with the TDS limitation shall be demonstrated using the following procedures:

- i. Collect the quench water sample from a location that provides a representative sample of the quench water as applied to the coke (e.g., from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions.
- ii. Determine the TDS concentration of the sample using Method 160.1 in 40 CFR part 136.3 (see [residue - filterable]), except that you must dry the total filterable residue at 103 to 105C (degrees Centigrade) instead of 180C.



(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart CCCCC)

i. Emission Limitation:

Lead emissions shall not exceed 0.28 TPY as a rolling, 12-month summation for emissions units P901 and P001 combined.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements in d)(2). The current month's emissions shall be added to the emissions for the preceding eleven calendar months to determine the 12-month rolling emissions. Monthly emissions shall be determined by calculating the sum of i. through iv. below:

i. Heat Recovery Steam Generator (HRSG) bypass stacks and coking emission control system main stack

Monthly emissions shall be determined by multiplying the lead emission factor, in pounds/ton, times the wet tons of coal charged per month, divided by 2,000 pounds/ton. The lead emission factor shall be calculated from the results of the most recent stack test which demonstrated compliance.

ii. Charging control system-baghouse stack

Monthly emissions shall be determined by multiplying the lead emission factor of 0.0000001 pound/ton, times the wet tons of coal charged per month, divided by 2,000 pounds/ton. The lead emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, revised 7/2007.

iii. Pushing stack

Monthly emissions shall be determined by multiplying the lead emission factor, in pounds/ton, times the wet tons of coal charged per month, divided by 2,000 pounds/ton. The lead emission factor shall be calculated from the results of the most recent stack test which demonstrated compliance.

iv. Quench tower

Monthly emissions shall be determined by multiplying the lead emission factor, in pounds/ton, times the wet tons of coal charged per month, divided by 2,000 pounds/ton. The lead emission factor shall be calculated from the results of the most recent water analysis which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1) and 3745-31-05(E))



j. Emission Limitations:

HAP emissions, excluding HCl, for emissions units P001 and P901 combined shall not exceed 3.6 TPY.

HCl emissions for emissions units P001 and P901 combined shall not exceed 118.04 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by calculating the sum of i. through v. below:

i. Coking emission control system main stack

Annual emissions shall be determined by multiplying the summation of the individual HAP pollutant pound per ton emission factors [Table 12.2-20 of AP-42 Section 12.2 dated May 2008] by the maximum annual coal charge rate divided by 2000 lbs/ton. Metals are then multiplied by 5% to reflect the 95% control efficiency of the main stack spray dryer except for mercury. Testing of the main stack spray dryer will determine the mercury control efficiency of the main stack spray dryer (see terms for emissions unit P901).

ii. Pushing stack

Annual emissions shall be determined by multiplying the emission factor of 0.00024 lb total combined HAPs/wet ton coal charged, multiplying the emission factor of each of the following: 0.00021 lb Benzene Soluble Compounds (BSO)/wet ton coal charged, 0.000012 lb Arsenic/wet ton coal charged, 0.000015 lb lead/wet ton coal charged, and 0.0000021 lb manganese/wet ton coal charged by the wet tons of coal charged per year divided by 2000 lbs per ton. Emissions factors are from October 1989 Jewell Stack Test except for lead obtained from AP-42, table 12.2-10 dated May 2008.

iii. Charging control system-baghouse stack

Annual emissions shall be determined by multiplying the emission factor, in pounds/ton, times the maximum tons of coal charged per year, divided by 2,000 pounds/ton. The HAPs emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated May 2008.

iv. Quench tower

Annual emissions shall be determined by multiplying the summation of the HAP emission factor, in pounds/ton, times the wet tons of coal charged per year, and divide by 2000 pounds/ton. The HAPs emission factor shall be calculated from the results of the most recent quench water analysis which demonstrated compliance.

v. HRSG and Spray Dryer (SD) bypass stacks



Annual emissions shall be determined by multiplying the summation of the individual HAP pollutant pound per ton emission factors [Table 12.2-20 of AP-42 Section 12.2 dated May 2008 and the Haverhill April 2006 stack test for lead] by the tons of coal charged per year multiplied by an estimated percentage of total waste gas venting through the 5 vent stacks divided by 2,000 lbs/ton.

(Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

k. Emission Limitation:

Visible particulate fugitive emissions shall not exceed 20 percent opacity as a three-minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Method 9 and the methods and procedures required in OAC rule 3745-17-03(B)(3).

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and OAC rule 3745-17-07(B))

(2) The permittee shall comply with the applicable performance testing and compliance requirements required under 40 CFR Part 63, Subpart CCCCC, including the following sections:

63.7310(a)	Compliance at all times, except for periods of startup, shutdown, and malfunction
63.7320(b) 63.7326(c)	Initial performance tests and compliance demonstration for TDS limit
63.7320(c) 63.7327(e) and (f) 63.7328(a) and (d)	Initial compliance demonstration for work practice standards and operation and maintenance requirements
63.7325(a)	Test methods and procedures for TDS limitation
63.7334(e)	Continuous compliance demonstration for work practice standards

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63, Subpart CCCCC)



(3) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #P0104768, issued on 2/9/2010:f(1) – f(2). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

g) Miscellaneous Requirements

(1) None.



**6. P901, Coke Battery**

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

Heat Recovery Coke Battery including Charging, Main Stack, Bypass Stack, and Pushing emissions

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)c., d)(4)e., e)(3)f., and f)(1)a.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	40 CFR Part 63, Subpart A (40 CFR 63.1-15)	The following citations of the General Provisions of 40 CFR Part 63 apply to operations subject to 40 CFR Part 63 Subpart L: 40 CFR 63.1-6, 63.8, 63.10, and 63.12-15.  Table 1 to 40 CFR Part 63 Subpart CCCCC shows which parts of the General Provisions of 40 CFR Part 63 apply to operations subject to 40 CFR Part 63 Subpart CCCCC.
b.	40 CFR Part 64 (40 CFR 64.1-10)  Compliance Assurance Monitoring (CAM)	See c)(12), d)(1), d)(16)-d)(19), e)(1), e)(10), and f)(2).
c.	OAC rule 3745-31-05(E)	Lead emissions shall not exceed 0.28 TPY as a rolling 12-month summation for emissions units P001 and P901 combined.
<b><i>(Coal charging operations with baghouse and traveling hood)</i></b>		
d.	OAC rules 3745-31-10 through 20  <i>Prevention of Significant Deterioration</i>	PE and filterable PM <sub>10</sub> shall not exceed 0.0081 pound per ton of dry coal charged, 3.7 pounds per hour, and 3.4 TPY as a rolling, 12-month summation from the charging baghouse.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	<p>OAC rule 3745-31-05(A)(3)  <i>Best Available Technology</i>            (these limits are the same as the BACT limits)</p> <p>[PTI P0117561, issued 1/20/2015]</p>	<p>Fugitive PE from charging shall not exceed 1.35pounds per hour and 1.23 TPY as a rolling, 12-month summation.</p> <p>Fugitive PM<sub>10</sub> emissions from charging shall not exceed 0.41 pound per hour and 0.37 TPY as a rolling, 12-month summation.</p> <p>SO<sub>2</sub> emissions from the charging baghouse shall not exceed 0.0003 pound per ton of coal charged, 0.15 lb/hr, and 0.14 TPY as a rolling, 12-month summation.</p> <p>CO emissions from the charging baghouse shall not exceed 0.0028 pound per ton of coal charged, 1.4 lb/hr, and 1.28 TPY as a rolling, 12-month summation.</p> <p>Visible particulate emissions from the charging baghouse stack shall not exceed 10% opacity as a 6-minute average.</p> <p>Visible particulate emissions of fugitive dust from charging operations shall not exceed 20% opacity, as an average of five consecutive charges.</p> <p>See b)(2)b. – b)(2)e.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-17-07(B), 3745-17-08(B) and 40 CFR Part 63, Subpart L.</p>
e.	<p>OAC rules 3745-31-21 through 27  <i>Nonattainment New Source Review</i>            OAC rule 3745-31-05(A)(3)  <i>Best Available Technology</i>            (these limits are the same as the</p>	<p>Filterable PM<sub>2.5</sub> shall not exceed 0.0081 pound per ton of dry coal charged, 3.7 pounds per hour, and 3.4 TPY as a rolling, 12-month summation from the charging baghouse.</p> <p>Fugitive PM<sub>2.5</sub> emissions from charging shall not exceed 0.20 pound per hour and</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	LAER limits)  [PTI P0117561, issued 1/20/2015]	0.18 TPY as a rolling, 12-month summation.  SO <sub>2</sub> emissions from the charging baghouse shall not exceed 0.0003 pound per ton of coal charged, 0.15 lb/hr, and 0.14 TPY as a rolling, 12-month summation.  Visible particulate emissions from the charging baghouse stack shall not exceed 10% opacity as a 6-minute average.  Visible particulate emissions of fugitive dust from charging operations shall not exceed 20% opacity, as an average of five consecutive charges.  See b)(2)a.  The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-17-07(B), 3745-17-08(B) and 40 CFR Part 63, Subpart L.
f.	OAC rule 3745-31-05(A)(3)  <i>Best Available Technology</i>  [PTI P0117561, issued 1/20/2015]	VOC emissions from the charging baghouse shall not exceed 1.0 lb/hr and 0.91 TPY.  The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, OAC rule 3745-17-08(B), and 40 CFR Part 63, Subpart L.
g.	OAC rule 3745-17-07(A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
h.	OAC rule 3745-17-07(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
i.	OAC rule 3745-17-08(B)	The permittee shall minimize visible emissions of fugitive dust



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
j.	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).
k.	<p>40 CFR Part 63, Subpart L (40 CFR 63.300-313)</p> <p><i>National Emission Standards for Coke Oven Batteries</i></p> <p>[In accordance with 40 CFR 63.300(b) and 63.301, this emissions unit is a greenfield nonrecovery coke oven battery subject to the emission limitations/control measures specified in this section.]</p>	<p>PE emissions from the charging baghouse stack shall not exceed 0.0081 pound per ton (lb/ton) of dry coal charged as determined by the procedures in 40 CFR 63.309(k).</p> <p>For each day of operation, the permittee shall implement the work practices specified in 40 CFR 63.306(b)(6) and record the performance of the work practices as required in 40 CFR 63.306(b)(7).</p> <p>Except as provided in 40 CFR 63.304, the permittee shall observe the exhaust stack of each charging emissions control device at least once each day of operation during charging to determine if visible emissions are present and shall record the results of each daily observation or the reason why conditions did not permit a daily observation. If any visible emissions are observed, the permittee must follow the procedures specified in 40 CFR 63.303(d)(3).</p> <p>The permittee shall develop and implement written procedures for adjusting the oven uptake damper to maximize oven draft during charging and for monitoring the oven damper setting during each charge to ensure that the damper is full open.</p> <p>See b)(2)f. through b)(2)h.</p>
<p><b><i>(Coking operations with heat recovery steam generators and lime spray dryer/baghousesystem)</i></b></p>		
l.	<p>OAC rules 3745-31-10 through 20</p> <p><i>Prevention of Significant Deterioration</i></p>	<p>Filterable PM and PM<sub>10</sub> shall not exceed 0.0050 gr/dscf, 10.7 pounds per hour, and 46.9 TPY as a rolling, 12-month summation.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	<p>OAC rule 3745-31-05(A)(3)</p> <p><i>Best Available Technology</i>            (these limits are the same as the BACT limits)</p> <p>[PTI P0117561, issued 1/20/2015]</p> <p>These limits are applicable during normal operation (non-bypass of the lime spray dryer/baghouse system) and apply to the exhaust from the main stack.<sup>1</sup></p>	<p>SO<sub>2</sub> emissions shall not exceed 300 lbs/hr (based on a 3-hour block average); 192.0 lbs/hr (based on a 24-hour block average); and 700.8 TPY (1.54 lbs of SO<sub>2</sub>/wet ton of coal) as a rolling, 12-month summation.</p> <p>CO emissions shall not exceed 20 ppm, 21.81 lbs/hr and 95.54 TPY as a rolling, 12-month summation.</p> <p>NOx emissions shall not exceed 1 pound per ton of coal, 104.2 lbs/hr and 456.25 TPY as a rolling, 12-month summation. The annual emission limitation shall include NOx emissions from the main stack after passing through the lime spray dryer/fabric filter and during maintenance of the lime spray dryer/fabric filter, combined.</p> <p>Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 0.024 pound per ton of coal, 2.5 lbs/hr, and 11.13 TPY as a rolling 12-month summation.</p> <p>Visible particulate emissions from the lime spray dryer baghouse stack shall not exceed 10% opacity as a 6-minute average.</p> <p>No visible emissions shall be permitted from the common battery tunnel or its associated piping.</p> <p>The requirements of this rule also include compliance with the requirements of 40 CFR Part 63, Subparts L and CCCCC.</p> <p>See b)(2)b. through b)(2)e., b)(2)l., b)(2)n., b)(2)o., and c)(1) through c)(10), c)(13), c)(14).</p>

<sup>1</sup> The "main stack" is the lime spray dryer/baghouse main stack. During normal operations, the emissions have been controlled by the lime spray dryer/baghouse system. During maintenance of the lime spray dryer/baghouse system, the lime spray dryer/baghouse system is bypassed, but a portion of the exhaust is still routed to the "main stack".



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
m.	<p>OAC rules 3745-31-10 through 20</p> <p><i>Prevention of Significant Deterioration</i></p> <p>OAC rule 3745-31-05(A)(3)</p> <p><i>Best Available Technology</i> (these limits are the same as the BACT limits)</p> <p>[PTI P0117561, issued 1/20/2015]</p> <p>These limits are applicable during bypass of the lime spray dryer/baghouse system and apply to the exhaust from the main stack and the HRSG bypass stacks.</p>	<p>Filterable PM and PM<sub>10</sub> shall not exceed 0.049 gr/dscf and 6.3 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer/baghouse is bypassed.</p> <p>SO<sub>2</sub> emissions shall not exceed 1794 lbs/hour and 107.64 TPY as a rolling, 12-month summation when the lime spray dryer/baghouse is bypassed.</p> <p>CO emissions shall not exceed 20 ppm and 1.31 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer/baghouse is bypassed.</p> <p>NOx emissions shall not exceed 1 lb/ton of coal and 6.25 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer/baghouse is bypassed.</p> <p>Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 91.5 lbs/hour and 5.49 TPY as a rolling 12-month summation the main stack when the lime spray dryer/baghouse is bypassed.</p> <p>Visible particulate emissions from the main stack shall not exceed 20% opacity as a 6-minute average when the lime spray dryer/baghouse is bypassed.</p> <p>No visible emissions shall be permitted from the common battery tunnel or its associated piping.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), 40 CFR Part 63, Subparts L and CCCCC.</p> <p>See b)(2)b. through b)(2)e., b)(2)l., b)(2)n., b)(2)o., and c)(1) through c)(10), c)(13), c)(14).</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
n.	<p>OAC rules 3745-31-21 through 27 <i>Nonattainment New Source Review</i></p> <p>OAC rule 3745-31-05(A)(3) <i>Best Available Technology</i> (these limits are the same as the LAER limits)</p> <p>[PTI P0117561, issued 1/20/2015]</p> <p>These limits are applicable during normal operation (non-bypass of the lime spray dryer/baghouse system) and apply to the exhaust from the main stack.</p>	<p>Filterable PM<sub>2.5</sub> shall not exceed 0.005 gr/dscf, 10.7 pounds per hour, and 46.9 TPY as a rolling, 12-month summation.</p> <p>SO<sub>2</sub> emissions shall not exceed 300 lbs/hr (based on a 3-hour block average); 192.0 lbs/hr (based on a 24-hour block average); and 700.8 TPY as a rolling, 12-month summation (1.54 lbs/wet ton of coal as an annual average).</p> <p>NOx emissions shall not exceed 1 pound per ton of coal, 104.2 lbs/hr and 456.25 TPY as a rolling, 12-month summation. The annual emission limitation shall include NOx emissions from the main stack after passing through the lime spray dryer/fabric filter and during maintenance of the lime spray dryer/fabric filter, combined.</p> <p>Visible particulate emissions from the lime spray dryer baghouse stack shall not exceed 10% opacity as a 6-minute average.</p> <p>No visible emissions shall be permitted from the common battery tunnel or its associated piping.</p> <p>The requirements of this rule also include compliance with the requirements of 40 CFR Part 63, Subparts L and CCCCC.</p> <p>See b)(2)a., b)(2)l., b)(2)n., b)(2)o., and c)(1) through c)(10), c)(13), c)(14).</p>
o.	<p>OAC rules 3745-31-21 through 27 <i>Nonattainment New Source Review</i></p> <p>OAC rule 3745-31-05(A)(3) <i>Best Available Technology</i> (these limits are the same as the LAER limits)</p> <p>[PTI P0117561, issued 1/20/2015]</p>	<p>Filterable PM<sub>2.5</sub> shall not exceed 0.049 gr/dscf and 6.3 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer/baghouse is bypassed.</p> <p>SO<sub>2</sub> emissions shall not exceed 1794 lbs/hour and 107.64 TPY as a rolling, 12-month summation when the lime spray dryer/baghouse is bypassed.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	<p>These limits are applicable during bypass of the lime spray dryer/baghouse system and apply to the exhaust from the main stack and the HRSG bypass stacks.</p>	<p>NOx emissions shall not exceed 1 lb/ton of coal and 6.25 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer/baghouse is bypassed.</p> <p>Visible particulate emissions from the main stack shall not exceed 20% opacity as a 6-minute average when the lime spray dryer/baghouse is bypassed.</p> <p>No visible emissions shall be permitted from the common battery tunnel or its associated piping.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), 40 CFR Part 63, Subparts L and CCCCC.</p> <p>See b)(2)a., b)(2)l., b)(2)n., b)(2)o., and c)(1) through c)(10), c)(13), c)(14).</p>
p.	<p>OAC rule 3745-31-05(A)(3) [PTI P0117561, issued 1/20/2015]</p> <p><i>Best Available Technology</i></p> <p>These limits are applicable during normal operation (non-bypass of the lime spray dryer/baghouse system) and apply to the exhaust from the main stack.</p>	<p>VOC emissions shall not exceed 4.67 lbs/hr and 20.47 TPY.</p> <p>Hydrochloric acid (HCl) emissions shall not exceed 14.8 lbs/hr and 64.79 TPY.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, OAC rule 3745-17-08(B), and 40 CFR Part 63, Subparts L and CCCCC.</p> <p>Mercury emissions shall not exceed 0.01 pounds per hour as a 1-month average and 55.5 pounds per rolling, 12-month summation period from the main stack, except when the lime spray dryer/baghouse is bypassed.</p> <p>See b)(2)k. and b)(2)m.</p>
q.	<p>OAC rule 3745-31-05(A)(3) [PTI P0117561, issued 1/20/2015]</p>	<p>VOC emissions shall not exceed 0.28 TPY from the main stack when the lime spray dryer is bypassed.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	<p><i>Best Available Technology</i></p> <p>These limits are applicable during bypass of the lime spray dryer/baghouse system and apply to the exhaust from the main stack.</p>	<p>Hydrochloric acid (HCl) emissions shall not exceed 17.75 TPY from the main stack when the lime spray dryer is bypassed.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, OAC rule 3745-17-08(B), and 40 CFR Part 63, Subparts L and CCCCC.</p> <p>See b)(2)k.</p>
r.	OAC rule 3745-17-07(A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
s.	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).
t.	OAC rule 3745-18-06(E)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
u.	<p>40 CFR Part 63, Subpart L (40 CFR 63.300-313)</p> <p><i>National Emission Standards for Coke Oven Batteries</i></p> <p>[In accordance with 40 CFR 63.300(b) and 63.301, this emissions unit is a greenfield nonrecovery coke oven battery subject to the emission limitations/control measures specified in this section.]</p>	See b)(2)f. through b)(2)h.
v.	<p>40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280 -7352)</p> <p><i>National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks</i></p> <p>[In accordance with 40 CFR</p>	See b)(2)j.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	63.7282, this emissions unit is a new coke oven battery subject to the emission limitations/control measures specified in this section.]	
<b>Waste gas from the coking process HRSG bypass stacks<sup>2</sup></b>		
w.	<p>OAC rules 3745-31-10 through 20</p> <p><i>Prevention of Significant Deterioration</i></p> <p>OAC rule 3745-31-05(A)(3)</p> <p><i>Best Available Technology</i> (these limits are the same as the BACT limits)</p> <p>[PTI P0117561, issued 1/20/2015]</p>	<p>Filterable PE and PM<sub>10</sub> emissions shall not exceed 21.0 pounds per hour from a single HRSG bypass stack (0.049 gr/dscf), and 10.1 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation.</p> <p>SO<sub>2</sub> emissions shall not exceed 498.33 pounds per hour from a single HRSG bypass stack as a 3 hour block average(23.92 lbs/ton of coal),and 239.2 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation.</p> <p>NOx emissions shall not exceed 20.8 pounds per hour from a single HRSG bypass stack (1 lb/ ton of coal), and 10.0 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation.</p> <p>CO emissions shall not exceed 4.36 pounds per hour from a single HRSG bypass stack (20 ppm), and 2.09 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation.</p> <p>Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 25.4 lbs/hr from a single HRSG bypass stack, and 12.20 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation.</p> <p>See b)(2)b. – b)(2)e.</p>

<sup>2</sup> The “HRSG bypass stacks” are the stacks located just prior to the HRSGs. These stacks are used during maintenance of the HRSGs or are used to safely vent gasses under an emergency situation. Under normal operation, they are closed such that no gas is vented.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), 40 CFR Part 63, Subparts L and CCCCC.</p>
<p>x.</p>	<p>OAC rules 3745-31-21 through 27</p> <p><i>Nonattainment New Source Review</i></p> <p>OAC rule 3745-31-05(A)(3)</p> <p><i>Best Available Technology</i> (these limits are the same as the LAER limits)</p> <p>[PTI P0117561, issued 1/20/2015]</p>	<p>Filterable PM<sub>2.5</sub> emissions shall not exceed 21.0 pounds per hour from a single HRSG bypass stack (0.049 gr/dscf), and 10.1 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation.</p> <p>SO<sub>2</sub> emissions shall not exceed 498.33 pounds per hour from a single HRSG bypass stack as a 3 hour block average(23.92 lb/ton of coal),and 239.2 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation.</p> <p>NOx emissions shall not exceed 20.8 pounds per hour from a single HRSG bypass stack (1 lb/ ton of coal), and 10.0 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation.</p> <p>See b)(2)a.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), 40 CFR Part 63, Subparts L and CCCCC.</p>
<p>y.</p>	<p>OAC rule 3745-31-05(A)(3)</p> <p>[PTI P0117561, issued 1/20/2015]</p> <p><i>Best Available Technology</i></p>	<p>VOC emissions shall not exceed 0.93 pound per hour from a single HRSG bypass stack and 0.45 TPY from all HRSG bypass stacks combined.</p> <p>Hydrochloric acid (HCl) emissions shall not exceed 59.17 pounds per hour from a single HRSG bypass stack and 28.4 TPY from all HRSG bypass stacks combined.</p> <p>Lead (Pb) emissions shall not exceed 0.055 TPY from all HRSG bypass stacks combined.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Mercury (Hg) emissions shall not exceed 0.0069 pound per hour from a single HRSG bypass stack. Mercury emissions shall not exceed 12.4 pounds per rolling, 12-month summation period from all HRSG bypass stacks and from the main stack during bypass of the lime spray dryer/baghouse, combined.</p> <p>Mercury emissions during hydrated activated carbon (HAC) maintenance and downtime shall be included in the rolling, 12-month summation total.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, OAC rule 3745-17-08(B), and 40 CFR Part 63, Subparts L and CCCCC.</p>
z.	OAC rule 3745-17-07(A)	Visible particulate emissions from each bypass stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
aa.	OAC rule 3745-17-11(B)	The emission limitation specified by this rules is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
bb.	OAC rule 3745-18-06(E)(2)	The emission limitation specified by this rules is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
cc.	<p>40 CFR Part 63, Subpart L (40 CFR 63.300-313)</p> <p><i>National Emission Standards for Coke Oven Batteries</i></p> <p>[In accordance with 40 CFR 63.300(b) and 64.301, this emissions unit is a greenfield nonrecovery coke oven battery subject to the emission limitations/control measures specified in this section.]</p>	See b)(2)f. through b)(2)h.
dd.	40 CFR Part 63, Subpart CCCCC	See b)(2)j.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	<p>(40 CFR 63.7280-7352)</p> <p><i>National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks</i></p> <p>[In accordance with 40 CFR 63.7282, this emissions unit is a new coke oven battery subject to the emission limitations/control measures specified in this section.]</p>	
<p><b><i>Pushing operations with flat push hot car vented to multiclone dust collector</i></b></p>		
ee.	<p>OAC rules 3745-31-10 through 20</p> <p><i>Prevention of Significant Deterioration</i></p> <p>OAC rule 3745-31-05(A)(3)</p> <p><i>Best Available Technology</i> (these limits are the same as the BACT limits)</p> <p>[PTI P0117561, issued 1/20/2015]</p>	<p>Filterable PE and PM<sub>10</sub> emissions shall not exceed 0.04 pound per ton of coke pushed, 14.3 pounds per hour and 13.09 TPY as a rolling, 12-month summation.</p> <p>SO<sub>2</sub> emissions shall not exceed 0.098 pound per ton of coal charged, 49.0 pounds per hour, and 44.71 TPY as a rolling, 12-month summation.</p> <p>NOx emissions shall not exceed 0.019 pound per ton of coal charged, 9.5 pounds per hour, and 8.67 TPY as a rolling, 12-month summation.</p> <p>CO emissions shall not exceed 0.063 pound per ton of coal charged, 31.5 pounds per hour, and 28.74 TPY as a rolling, 12-month summation.</p> <p>Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 0.005 pound per ton of coal charged, 2.5 pounds per hour, and 2.28 TPY as a rolling 12-month summation.</p> <p>See b)(2)b. – b)(2)e.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-07(B), 3745-17-08(B), and 40 CFR Part 63, Subpart CCCCC.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
ff.	<p>OAC rules 3745-31-21 through 27</p> <p><i>Nonattainment New Source Review</i></p> <p>OAC rule 3745-31-05(A)(3)</p> <p><i>Best Available Technology</i> (these limits are the same as the LAER limits)</p> <p>[PTI P0117561, issued 1/20/2015]</p>	<p>Filterable PM<sub>2.5</sub> emissions shall not exceed 0.04 pound per ton of coke pushed, 14.3 pounds per hour, and 13.09 TPY as a rolling, 12-month summation.</p> <p>SO<sub>2</sub> emissions shall not exceed 0.098 pound per ton of coal charged, 49.0 pounds per hour, and 44.71 TPY as a rolling, 12-month summation.</p> <p>NOx emissions shall not exceed 0.019 pound per ton of coal charged, 9.5 pounds per hour, and 8.67 TPY as a rolling, 12-month summation.</p> <p>See b)(2)a.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-07(B), 3745-17-08(B), and 40 CFR Part 63, Subpart CCCCC.</p>
gg.	<p>OAC rule 3745-31-05(A)(3)</p> <p>[PTI P0117561, issued 1/20/2015]</p> <p><i>Best Available Technology</i></p>	<p>VOC emissions shall not exceed 10.0 pounds per hour and 9.13 TPY.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, OAC rule 3745-17-08(B), and 40 CFR Part 63, Subpart CCCCC.</p>
hh.	<p>OAC rule 3745-17-07(A)</p>	<p>Visible particulate emissions from the flat push hot car vented to multiclone dust collector stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.</p>
ii.	<p>OAC rule 3745-17-08(B)</p>	<p>The permittee shall minimize visible emissions of fugitive dust.</p>
jj.	<p>OAC rule 3745-17-11</p>	<p>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).</p>
kk.	<p>40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280-7352)</p>	<p>Particulate emissions from the flat push hot car vented to multiclone dust collector exhaust shall not exceed 0.04 lb of PE/ton of coke per 40 CFR 63.7290(a)(4).</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	<p><i>National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks</i></p> <p>[In accordance with 40 CFR 63.7282, this emissions unit is a new coke oven battery subject to the emission limitations/control measures specified in this section.]</p>	<p>Maintain daily average fan motor amperes at or above minimum motor amperes established during the initial performance test per 40 CFR 63.7290(b)(3)(i) or maintain the daily average volumetric flow rate at the inlet of the control device at or above the minimum level established during the initial performance test per 40 CFR 63.7290(b)(3).</p> <p>Maintain the daily average pressure drop of the multiclone at or below the minimum level established during the initial performance test per 40 CFR 63.7290(b)(4).</p> <p>See b)(2)j.</p>

(2) Additional Terms and Conditions

- a. The permittee has performed a Lowest Achievable Emission Rate (LAER) review for PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. The emission limitations based on the LAER requirements are listed in b)(1)e., b)(1)n., b)(1)o., b)(1)x. and b)(1)ff. above. The controls and practices that constitute LAER also meet the BAT requirements of 3745-31-05(A)(3).
  - i. It has been determined that the following control measures constitute LAER for PM<sub>2.5</sub> from this emissions unit.
    - (a) PM<sub>2.5</sub> emissions from the main stack shall be controlled with a fabric filter. The filter material in the filter system for the main stack shall be a membrane material, micro-fiber material, micro-fiber capped composite material or other similar filter material that has enhanced performance for collection of fine particulate.
    - (b) PM<sub>2.5</sub> emissions from coking during Heat Recovery Steam Generator (HRSG) maintenance shall be minimized by limiting the HRSG maintenance to one HRSG at a time, except during the annual shut down of the spray dryer/fabric filter when the permittee shall perform preventive maintenance of up to two HRSG during the same maintenance period as for the spray dryer/fabric filter; by limiting the time when coking gases are not controlled by the spray dryer/fabric filter system to 1560 stack-



hours<sup>3</sup> per 12-month rolling period; and by following good work practices defined as the combustion of flue gases in sole flues and the common battery tunnel.

- (c) PM<sub>2.5</sub> emissions from coking during lime spray dryer/fabric filter control maintenance shall be minimized by limiting the annual maintenance to no more than five days per year; and by following good work practices defined as the combustion of flue gases in sole flues and the common battery tunnel.
  - (d) PM<sub>2.5</sub> emissions from coke pushing shall be controlled through a flat pushing operation controlled by a multiclone.
  - (e) PM<sub>2.5</sub> emissions from coal charging shall be controlled by the use of a travelling hood and a fabric filter.
- ii. It has been determined that the following control measures constitute LAER for SO<sub>2</sub> emissions from this emissions unit.
- (a) SO<sub>2</sub> emissions from the main stack shall be controlled with the use of a lime spray dryer/fabric filter with a manufacturer's design control efficiency of 92% on a 24-hour basis for SO<sub>2</sub> control.
  - (b) SO<sub>2</sub> emissions from coking during Heat Recovery Steam Generator (HRSG) maintenance shall be minimized by limiting the HRSG maintenance to one HRSG at a time, except during the annual shut down of the spray dryer/fabric filter when the permittee shall perform preventive maintenance of up to two HRSGs during the same maintenance period as for the spray dryer/fabric filter; and by limiting the time when coking gases are not controlled by the spray dryer/fabric filter system to 1560 stack-hours per 12-month rolling period. The SO<sub>2</sub> emissions from the coke ovens affected by the shutdown of a HRSG during planned HRSG maintenance shall be reduced by 28 percent consistent with the facility's Startup Shutdown and Malfunction (SSM) plan for the spray dryer/fabric filter maintenance.
  - (c) SO<sub>2</sub> emissions from coking during lime spray dryer/fabric filter control maintenance shall be minimized by limiting the annual maintenance to no more than five days per year; and by following good work practices defined as minimizing coal sulfur and reducing production which shall reduce SO<sub>2</sub> emissions by 28 percent of design capacity as detailed in the facility's Startup Shutdown and Malfunction (SSM) plan.
  - (d) SO<sub>2</sub> emissions from coke pushing shall be minimized through work practices as described in 40 CFR 63.7293(a).

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<sup>3</sup> One stack-hour is equivalent to the exhaust from one HRSG being emitted to the atmosphere without being controlled by the scrubber/baghouse control system for one hour.



- (e) SO<sub>2</sub> emissions from coal charging shall be minimized through work practices as described in 40 CFR 63.303(d).
  - iii. It has been determined that the following control measures constitute LAER for NO<sub>x</sub> emissions from this emissions unit.
    - (a) NO<sub>x</sub> emissions from the main stack shall be controlled through the battery design which includes staged combustion.
    - (b) NO<sub>x</sub> emissions from coking during Heat Recovery Steam Generator (HRSG) maintenance shall be controlled through the battery design which includes staged combustion.
    - (c) NO<sub>x</sub> emissions from coking during lime spray dryer/baghouse control maintenance shall be controlled through the battery design which includes staged combustion.
    - (d) NO<sub>x</sub> emissions from coke pushing shall be minimized through work practices as described in 40 CFR 63.7293(a).
  - b. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the following control measures constitute BACT for PE and PM<sub>10</sub> from this emissions unit.
    - i. The waste gas from coking shall be processed by the use of a lime spray dryer with a baghouse for PE/PM<sub>10</sub> control.
    - ii. Combustion during the coking process shall be optimized by monitoring the temperature in each oven crown and sole flue and adding air as needed through dampers in each oven.
    - iii. The flat car for coke pushing shall be equipped with a multiclone for PE control.
    - iv. The charging machine shall be equipped with a traveling hood and fabric filter for PE/PM<sub>10</sub> control.
    - v. PE/PM<sub>10</sub> emissions from coking during Heat Recovery Steam Generator (HRSG) maintenance shall be minimized by limiting the HRSG maintenance to one HRSG at a time, except during the annual shut down of the spray dryer/fabric filter when the permittee shall perform preventive maintenance of up to two HRSG during the same maintenance period as for the spray dryer/fabric filter; by limiting the time when coking gases are not controlled by the spray dryer/fabric filter system to 1560 stack-hours per 12-month rolling period; and by following good work practices defined as the combustion of flue gases in sole flues and the common battery tunnel.
    - vi. PE/PM<sub>10</sub> emissions from coking during lime spray dryer/fabric filter control maintenance shall be minimized by limiting the annual maintenance to no



more than five days per year; and by following good work practices defined as the combustion of flue gases in sole flues and the common battery tunnel.

The emission limits based on the BACT requirements are listed in b)(1)d., b)(1)l., b)(1)m., b)(1)w. and b)(1)ee. above. The controls and practices that constitute BACT also meet the BAT requirements of 3745-31-05(A)(3).

- c. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the following control measures constitute BACT for SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> from this emissions unit.
- i. SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> emissions from the main stack shall be controlled with the use of a lime spray dryer/fabric filter with a manufacturer's design control efficiency of 92% on a 24-hour basis for SO<sub>2</sub> control and greater than 95% on a 24-hour basis for H<sub>2</sub>SO<sub>4</sub> control.
  - ii. SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> emissions from coking during Heat Recovery Steam Generator (HRSG) maintenance shall be minimized by limiting the HRSG maintenance to one HRSG at a time, except during the annual shut down of the spray dryer/fabric filter when the permittee shall perform preventive maintenance of up to two HRSG during the same maintenance period as for the spray dryer/fabric filter; and by limiting the time when coking gases are not controlled by the spray dryer/fabric filter system to 1560 stack-hours per 12-month rolling period. The SO<sub>2</sub> emissions from the coke ovens affected by the shutdown of a HRSG during planned HRSG maintenance shall be reduced by 28 percent consistent with the facility's Startup Shutdown and Malfunction (SSM) plan for the spray dryer/fabric filter maintenance.
  - iii. SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> emissions from coking during lime spray dryer/fabric filter control maintenance shall be minimized by limiting the annual maintenance to no more than five days per year; and by following good work practices defined as minimizing coal sulfur and reducing production which shall reduce SO<sub>2</sub> emissions by 28 percent of design capacity as detailed in the facility's SSM plan.
  - iv. SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> emissions from coke pushing shall be minimized through work practices as described in 40 CFR 63.7293(a).
  - v. SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> emissions from coal charging shall be minimized through work practices as described in 40 CFR 63.303(d).

The emission limits based on the BACT requirements are listed in b)(1)d., b)(1)l., b)(1)m., b)(1)w. and b)(1)ee. above. The controls and practices that constitute BACT also meet the BAT requirements of 3745-31-05(A)(3).

- d. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has



been determined that the following control measures constitute BACT for CO from this emissions unit.

- i. Combustion during the coking process and during maintenance of the HRSG and lime spray dryer/fabric filter shall be optimized by monitoring the temperature in each oven crown and sole flue and adding air as needed through dampers in each oven.
- ii. CO emissions from coke pushing shall be minimized through work practices as described in 40 CFR 63.7293(a).

The emission limits based on the BACT requirements are listed in b)(1)d., b)(1)l., b)(1)m., b)(1)w. and b)(1)ee. above. The controls and practices that constitute BACT also meet the BAT requirements of 3745-31-05(A)(3).

- e. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the following control measures constitute BACT for NOx from this emissions unit:
  - i. NOx emissions from the main stack shall be controlled through the battery design which includes staged combustion.
  - ii. NOx emissions from coking during HRSG maintenance shall be controlled through the battery design which includes staged combustion.
  - iii. NOx emissions from coking during lime spray dryer/baghouse control maintenance shall be controlled through the battery design which includes staged combustion.
  - iv. NOx emissions from coke pushing shall be minimized through work practices as described in 40 CFR 63.7293(a).

The emission limits based on the BACT requirements are listed in b)(1)d., b)(1)l., b)(1)m., b)(1)w. and b)(1)ee. above. The controls and practices that constitute BACT also meet the BAT requirements of 3745-31-05(A)(3).

- f. The emission limitations set forth in 40 CFR Part 63, Subpart L shall apply at all times except during a period of startup, shutdown, or malfunction. The startup period shall be determined by the Administrator and shall not exceed 180 days.
- g. The coke oven emissions from the nonrecovery coke oven batteries shall not exceed 0.0 percent leaking coke oven doors, as determined by the procedures in 40 CFR Part 63, Section 63.309(d)(1); or

The permittee shall monitor and record, once per day of operation, the pressure in each oven or in a common battery tunnel to ensure that the ovens are operated under a negative pressure.

- h. For charging operations, the permittee shall install, operate and maintain an emission control system for the capture and collection of emissions in a manner



consistent with good air pollution control practices for minimizing emissions from the charging operation.

- i. As required by 40 CFR 63.6(e)(1)(i), the permittee must always operate and maintain the affected source, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this subpart.
- j. The permittee must prepare and operate at all times according to a written operation and maintenance plan for each capture system and control device applied to pushing emissions from a new or existing coke oven battery. Each plan must address at a minimum the elements in paragraphs (i) and (ii) below.
  - i. Monthly inspections of the equipment that are important to the performance of the total capture system (e.g., pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). The operation and maintenance plan must also include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection in accordance with 40 CFR 63.7300(c)(1).
  - ii. Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
- k. Hazardous Air Pollutant (HAPs) emissions (not including HCl) shall not exceed 3.6 tons per year for emissions units P001 and P901, combined. HCl emissions for emissions units P001 and P901, combined, shall not exceed 118.04 tons per year.
- l. When coking coal having a sulfur content greater than or equal to 1.3 weight percent sulfur, the permittee shall either:
  - i. adjust operating parameters of the lime spray dryer as needed to increase the control efficiency for SO<sub>2</sub> emissions to comply with the pound per hour and rolling 12-month SO<sub>2</sub> emission limitations; or
  - ii. reduce production as needed to comply with the pound per hour and rolling 12-month SO<sub>2</sub> emission limitations.

The sulfur content (per cent) shall be determined in accordance with the most recent version of the following ASTM methods: ASTM method D3177, Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods. Alternative, equivalent methods may be used upon written approval from the Southwest Ohio Air Quality Agency.



m. Control of Mercury Emissions

- i. The Permittee shall install, operate, and maintain a hydrated activated carbon (HAC) injection system or equivalent to control mercury emissions from the main stack. The HAC injection system shall be operated to comply with the following requirements for control of mercury emissions from the main stack. The system shall be designed for a HAC injection rate of at least 60 pounds per hour. A reduced HAC injection rate may later be established by the Ohio EPA, if the Permittee demonstrates to the Director's satisfaction that a lower HAC injection rate can achieve the mercury emissions limitations.
- ii. This HAC injection system shall be operated at all times when the spray dryer/fabric filter system is operated (except during the startup and shutdown of the spray dryer/fabric filter system or during periods of routine maintenance on the HAC injection system), either at a HAC injection rate of at least 60 pounds per hour, or to achieve emissions rates of 0.01 pounds per hour (as a 1-month average) and 55.5 pounds per year (as a rolling, 12-month summation) of mercury from the main stack excluding the bypass events. That is, the Permittee may operate the system at a HAC or HAC-equivalent injection rate that is lower than 60 pounds per hour when the system complies with the emissions rates of 0.01 pounds per hour (as a 1-month average) and 55.5 pounds per year (as a rolling, 12-month summation) of mercury.

The requirement to operate the HAC injection system and the mercury emission limit(s) established under this section shall not apply during the startup and shutdown of the spray dryer/fabric filter, during periods of routine maintenance on the HAC system, or during spray dryer/fabric filter system bypass events.

The Permittee may elect to meet the mercury emissions limitation by a combination of carbon injection and other methods, including the injection of other sorbents or additives, coal specifications, and operational practices for the spray dryer.

- n. The filter material in the filter system for the main stack shall be a membrane material, micro-fiber material, micro-fiber capped composite material or other similar filter material that has enhanced performance for collection of fine particulate as compared to conventional woven or felt filter material.
- o. The pound per hour SO<sub>2</sub> emission limitation and minimum 92% SO<sub>2</sub> control efficiency requirement do not apply during maintenance of the lime spray dryer, as, for example, during atomizer replacement.
- p. The hourly emissions of VOC outlined above are based on the emission unit's potential to emit. Therefore no hourly records are required to demonstrate compliance with these limitations.



- q. For the purpose of assuring compliance with the amount of NO<sub>x</sub> emissions offsets required under the initial PTI P0104768 and the most recent PTI modification P0117561, the total NO<sub>x</sub> emissions from all permitted operating scenarios for this emissions unit, including normal coking operations, pushing operations, lime spray dryer/baghouse maintenance, and emissions from the HRSG bypass stack(s) during heat recovery steam generator(s) maintenance, shall not exceed 477.4 TPY as a rolling, 12-month summation.
- r. Emission limit clarification
  - i. The emission limits listed under b)(1)m., b)(1)o., and b)(1)q. in the above table apply to all emissions associated with bypassing the lime spray dryer/baghouse system. These include any emissions emitted from the HRSG bypass stacks and emissions emitted from the dryer/baghouse system main stack during bypassing of the lime spray dryer/baghouse system.
  - ii. Emissions from the HRSG bypass stacks during bypassing of the lime spray dryer/baghouse shall be excluded when determining compliance with the limits under b)(1)w., b)(1)x., and b)(1)y. in the table above.
- c) Operational Restrictions
  - (1) The emissions from this emissions unit shall be vented to the waste gas exhaust baghouse at all times the emissions unit is in operation, except during bypassing of the lime spray dryer and heat recovery steam generators as allowed in this permit.  
  
(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)
  - (2) The emissions from this emissions unit associated with charging of coal operations shall be vented to the charging baghouse at all times the emissions unit is in operation.  
  
(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart L)
  - (3) The maximum hourly charging and pushing rate for this emissions unit shall not exceed 10 ovens charged per hour and 10 ovens pushed per hour.  
  
(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)
  - (4) The maximum annual wet coal usage rate for this emissions unit shall not exceed 912,500 tons, based upon a rolling, 12-month summation of the wet coal usage rates.  
  
(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)
  - (5) The permittee shall comply with the applicable operational restrictions required under 40 CFR Part 63, Subpart L, including the following sections:



63.303(b)(3), 63.306(b)(6), 63.306(b)(7)	Work practices for charging operations
63.303(c)	Work practices for any nonrecovery coke oven battery
63.303(d)(4)	Work practices for new nonrecovery coke oven batteries
63.310(a)	General duty to minimize emissions
63.310(b), 63.310(g) – (j)	Startup, shutdown, malfunction plan
63.310(c)	Malfunctions

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart L)

- (6) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart CCCCC, including the following sections:

63.7293(a)-(b)	Work practices (inspections) for fugitive pushing emissions
63.7300(a)	General duty to minimize emissions
63.7300(c)	Operation and maintenance plan for pushing
63.7310(c)	Startup, shutdown, and malfunction plan
63.7323(c) and (e)	Site-specific operating limit procedures for pushing capture system(s)
63.7323(d) and (e)	Site-specific operating limit procedures for pushing multicyclone(s)

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart CCCCC)

- (7) Combustion gases from the coking process shall be routed to the HRSGs controlled by the spray dryer/fabric filter system, except (1) during inspection and maintenance of HRSGs; (2) during inspection and maintenance of the spray dryer/fabric filter system, the combustion gases will be routed directly to the main stack after passing through the HRSGs; and (3) monthly verification of operability of the lids for the HRSG bypass stacks. The total duration of the venting, with coking gases not controlled by the spray dryer/fabric filter system, shall not exceed 1560 stack-hours per 12-month rolling period and shall not exceed 960 stack-hours per 12-month rolling period for HRSG



maintenance (excluding time when HRSG maintenance is performed during lime spray dryer maintenance). These bypass periods and appropriate operation during periods of bypass shall also be addressed by the Startup Shutdown and Malfunction (SSM) Plan required for the plant by 40 CFR 63.6(e). The SSM Plan shall contain provisions that the permittee shall implement during the maintenance bypass of the lime spray dryer/fabric filter periods which will result in a 28 percent of design capacity reduction of SO<sub>2</sub> emissions.

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (8) The permittee shall ensure that the common battery tunnel(s), oven exhaust ductwork, waste heat ductwork, heat recovery steam generators, ductwork from the heat recovery steam generators to the lime spray dryer, lime spray dryer, baghouse and fan capacity are designed and installed to handle peak gassing periods.

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (9) It is recognized that soot formation can occur on the heat transfer surfaces of the heat recovery steam generators and reduce the heat transfer efficiency. The permittee shall implement maintenance procedures that allow for removal of soot from the heat transfer surfaces of the heat recovery steam generators without shutdown of the heat recovery steam generator(s). These maintenance procedures can include, but are not limited to, installation of sootblowers on the heat recovery steam generators to allow for periodic cleaning of the heat transfer surfaces.

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (10) The permittee shall maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of SO<sub>2</sub> emissions from the continuous monitor(s), in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous SO<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60, Appendix F; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60, Appendix F.

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, 40 CFR 60.13, and 40 CFR 60, Appendix F)



- (11) The continuous emission monitoring systems consist of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

(Authority for Term: OAC rule 3745-77-07(A)(1), 40 CFR 60.2, 40 CFR 63.2, and 40 CFR 60, Appendix F)

- (12) At all times, the permittee shall maintain the monitoring equipment, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64)

- (13) The permittee shall operate and maintain common battery tunnel duct temperature at a minimum of 1400 degrees Fahrenheit to ensure emissions limits for the waste gas exhaust are not exceeded.

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (14) In accordance with OAC rule 3745-15-06(A), the permittee shall submit requests to Ohio EPA at least two weeks prior to the scheduled maintenance of the lime spray dryer and fabric filter.

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and OAC rule 3745-15-06(A))

d) **Monitoring and/or Recordkeeping Requirements**

- (1) Except during bypass of the lime spray dryer and heat recovery steam generators as allowed in this permit, the permittee shall operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the fabric filter following the lime spray dryer when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the fabric filter on a once per shift basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). Whenever the monitored value for the pressure drop deviates from the limit or range specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.



In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The range or limit of 2 to 12 inches of water on the pressure drop across fabric filter serving the lime spray dryer is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Southwest Ohio Air Quality Agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 64)

- (2) The permittee shall operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across each charging baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across each charging baghouse on a once per shift basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). Whenever the monitored value for the pressure drop deviates from the limit or range specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
  - a. the date and time the deviation began;
  - b. the magnitude of the deviation at that time;



- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

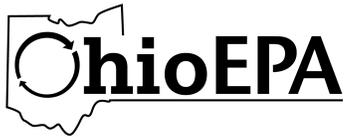
The range or limit of 2 to 12 inches of water on the pressure drop across each charging baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Southwest Ohio Air Quality Agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (3) The permittee shall maintain hourly records of the charging/pushing rate, in number of charges/pushes per hour, for this emissions unit.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (4) The permittee shall maintain monthly records of the following information:



- a. the wet coal usage rate for each month;
- b. the rolling, 12-month summation of the wet coal usage rates;
- c. the rolling, 12-month summation of the PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, CO, NO<sub>x</sub> and H<sub>2</sub>SO<sub>4</sub> emissions, except as denoted in d)(14);
- d. the VOC, lead, HCl and HAP emission rates; and
- e. the rolling, 12-month summation of the lead emissions, in tons, for emissions units P001 and P901 combined; and
- f. the HAP (excluding HCl) and HCl emissions, in tons, for emissions units P001 and P901 combined.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(E), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (5) The permittee shall maintain on-site, the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous SO<sub>2</sub> monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6. The letter(s)/document(s) of certification shall be made available to the Southwest Ohio Air Quality Agency upon request.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, 40 CFR 60.13, and 40 CFR Part 60, Appendix B)

- (6) The permittee shall operate, and maintain equipment to continuously monitor and record SO<sub>2</sub> emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the applicable requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous SO<sub>2</sub> monitoring system including, but not limited to:

- a. emissions of SO<sub>2</sub> in parts per million on an instantaneous (one-minute) basis;
- b. emissions of SO<sub>2</sub> in pounds per hour and in all units of the applicable standard(s) in the appropriate averaging period;
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);



- f. hours of operation of the emissions unit, continuous SO<sub>2</sub> monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous SO<sub>2</sub> monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous SO<sub>2</sub> monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).

(Authority for Term: OAC rule 3745-77-07(C)(1) OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, 40 CFR 60.13, and 40 CFR Part 60, Appendices B and F)

- (7) The permittee shall comply with the applicable monitoring and record keeping requirements required under 40 CFR Part 63, Subpart L, including the following sections:

63.303(d)(3), 63.309(m) if required	Daily visible emission monitoring requirements
63.309(j)	Weekly performance test requirements
63.309(l)	Subsequent performance test requirements
63.310(f)	Malfunction records
63.311(f)	Listing of records to be maintained
63.311(g)	Availability of records

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart L)

- (8) The permittee shall comply with the applicable monitoring and record keeping requirements required under 40 CFR Part 63, Subpart CCCCC, including the following sections:

63.7330(d), 63.7331(g), or 63.7331(h), or 63.7331(i)	Capture system monitoring requirements for pushing
63.7330(f), 63.7331(k)	Multicyclone monitoring requirements for pushing



63.7331(b)-(d)	Site-specific monitoring plan and continuous parametric monitoring system (CPMS) requirements
63.7332(a)-(b)	Continuous monitoring and data collection requirements
63.7333(d)	Continuous compliance demonstration requirements for capture system(s)
63.7333(h)	Continuous compliance demonstration requirements for multicyclone(s)
63.7334(c)	Continuous compliance demonstration requirements for work practice standards (inspections)
63.7335(b) and (d)	Continuous compliance demonstration requirements for operation and maintenance requirements
63.7342(a), (c), and (d)	Required overall records to be maintained
63.7343(a)-(c)	Format and retention of records

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart CCCCC)

- (9) The permittee shall maintain records for each waste gas by-pass event of the date and time each event began, an identification of the stack venting, and the duration in hours.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (10) The permittee shall collect monthly composite samples of the coal charged in this emissions unit. The permittee shall also collect a composite sample of the coal charged in this emissions unit each time the coal blend is changed. The individual samples for each monthly composite shall be collected from the primary conveyor belt that feeds the coke oven batteries or other location mutually agreeable by the permittee and Ohio EPA. A sufficient number of individual samples shall be collected so that each composite sample is representative of the average quality of coal charged in this emissions unit during each calendar month. The coal sampling shall be performed in accordance with ASTM method D2234, Collection of a Gross Sample of Coal.

Each monthly composite sample of coal shall be analyzed for sulfur content (percent), mercury content (percent) and chlorine content (percent). The analytical methods for sulfur content, mercury content and chlorine content shall be: ASTM method D3177, Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods; D6722-01 Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by Direct Combustion Analysis; D6721-01 Standard Test Method for Determination of Chlorine in Coal by Oxidation Hydrolysis Microcoulometry.



Alternative, equivalent methods may be used upon written approval from the Southwest Ohio Air Quality Agency.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (11) The permittee shall maintain monthly records of the results of the analyses for sulfur content, mercury content, and chlorine content of the coal charged.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (12) All HRSG bypass stacks shall be equipped with sensors that detect when the HRSG bypass stacks are open, or partially opened, either due to relieving system pressure or manual opening of the HRSG bypass stacks by the operator. These sensors shall be instrumented to the operator and an alarm indicated when there is stack gas flow to any of the HRSG bypass stacks. The permittee shall record and maintain daily records for each HRSG bypass stack the time periods that there was flow through the HRSG bypass stack(s).

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (13) The permittee shall install, calibrate, operate and maintain a monitoring system for mercury emissions from the main stack at all times when the spray dryer/fabric filter system is operated (except during startup or shutdown of the spray dryer/fabric filter system or during periods of routine maintenance on the HAC injection system).

a. This monitoring shall be conducted with a mercury sorbent trap monitoring system in accordance with 40 CFR 75.15 (as adopted by USEPA, even if subsequently vacated) or, alternatively, with an approved continuous mercury emissions monitoring system in accordance with 40 CFR 75.81 (as adopted by USEPA, even if subsequently vacated). In addition to other applicable requirements of 40 CFR Part 75, the permittee shall submit semi-annual monitoring reports to the Ohio EPA for this monitoring in accordance with relevant reporting requirements of 40 CFR Part 75.

b. After the initial period of data collection needed to set emission limits for mercury, this monitoring system shall continue to be operated to verify compliance with such limit unless the Ohio EPA determines either that this monitoring system would still provide accurate, reliable data to verify compliance with the applicable limits for mercury emissions if operated on a periodic basis, or, if monitoring was initially conducted with sorbent traps, for ongoing monitoring to verify compliance with mercury emission limits to be effective, such monitoring should be conducted with a continuous emissions monitoring system in accordance with 40 CFR 75, Subpart H.

In the event that adverse weather conditions prohibit timely change-out of the mercury sorbent traps, the permittee shall meet the following conditions:



- i. The permittee shall document the dates when it was determined that adverse weather conditions prohibited safe access to the stack platform for mercury sorbent trap change-out. These dates shall be documented in the semi-annual monitoring report. The sorbent traps shall be changed-out as soon as possible after weather conditions improve; and
- ii. The mercury sorbent trap monitoring plan shall include provisions for alternate tube change-out procedures in the event of adverse weather conditions that pose safety concerns for plant personnel.

On August 29, 2014, the permittee submitted an application for PTI modification P0117561 to include limits for mercury emissions, which limits reflect emission rates that are achievable with effective control by the combination of the spray dryer, HAC injection system and baghouse and are based on the emission data that has been collected and relevant information about the mercury content of the coal supply to the plant and operation of control devices, including the HAC injection system. With this application, the permittee submitted a detailed report to the Ohio EPA that provide an assessment of the mercury emissions of the plant and the effectiveness of the control system that at a minimum included: the data that has been collected for mercury emissions; information confirming proper design of the HAC injection system for control of mercury; information confirming proper operation of the control system for effective control of mercury emissions while emissions data was being collected; the results of the analyses of coal for mercury content required by d)(11) with estimates of the theoretical emissions of mercury in the absence of any control; and other information that the permittee considered relevant, together with the permittee's recommended emission limits for mercury, with the specific data, calculations and rationale for those limits.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

- (14) The permittee shall maintain monthly records of all the following information for all periods when waste gas emissions are vented to the HRSG bypass stacks:
- a. the date, time, and duration of each bypass event;
  - b. the identification of each bypass vent stack in use;
  - c. the reason for the bypass event;
  - d. the rolling, 12-month summation of the number of bypass hours;
  - e. the rolling, 12-month summation of the PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, CO, NO<sub>x</sub> and H<sub>2</sub>SO<sub>4</sub> emissions; and
  - f. the VOC, lead, HCl and HAP emission rates.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)



- (15) The permittee shall monitor and record the temperature of the common battery tunnel on a once per shift basis.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (16) Except during bypassing of the lime spray dryer and heat recovery steam generators as allowed in this permit, the permittee shall operate and maintain a Bag Leak Detector System (BLDS) to continuously monitor the coke oven baghouse vented to the main stack when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The BLDS shall be installed, operated and maintained in a manner that is consistent with the manufacturer's recommendations.

- a. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 0.005 grain per actual cubic foot or less.
- b. The bag leak detection system sensor shall produce an output of relative particulate emissions.
- c. The bag leak detection system shall be equipped with an alarm system that will activate automatically when an increase in relative PM emissions over a preset level is detected and the alarm shall be located such that it can be seen or heard by the appropriate plant personnel.
- d. The bag leak detection system shall be installed downstream of the lime spray dryer baghouse.
- e. Initial adjustment of the system shall at a minimum consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
- f. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm setpoints or alarm delay except as detailed in the compliance assurance monitoring (CAM) plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies by written report the baghouse has been inspected and found to be in good operating condition.

The permittee shall maintain, and make available to agency personnel, records of any bag leak detection system alarms, including the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective action taken and when the cause of the alarm was corrected.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 64)



- (17) The CAM plan for this emissions unit has been developed for particulate emissions during the coking operations. The CAM performance indicators for particulate are the pressure drop in the lime spray dryer baghouse and the broken bag leak detection system (BLDS) as measured and recorded by the monitoring equipment and the associated record keeping requirements specified in d)(1) and d)(16).

When the monitored value for pressure drop is outside of the range specified in d)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and baghouse) will be required.

When the monitored value for bag leak detection is outside of the range specified in d)(16), corrective action (including, but not limited to, an evaluation of the emissions unit and baghouse) will be required.

Upon detecting an excursion of the baghouse pressure drop range and/or a bag leak detection range, the permittee shall restore operation of the emissions unit (including the control device) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

(Authority for Term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64)

- (18) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring under 40 CFR Part 64 did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Southwest Ohio Air Quality Agency and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. Approved revisions to the monitoring will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64)

- (19) If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64)



- (20) The permittee shall maintain records of the following information, pursuant to the mercury emissions limitations in paragraphs b)(1)p. and b)(1)y.:
- a. The 1-month average mercury emissions in lbs/hr from the main stack, excluding periods when the lime spray dryer/baghouse is bypassed;
  - b. The rolling, 12-month summation of mercury emissions in lbs/yr from the main stack, excluding periods when the lime spray dryer/baghouse is bypassed; and
  - c. The rolling, 12-month summation of mercury emissions in lbs/yr from the combined HRSG bypass stacks and the main stack during periods when the lime spray dryer/baghouse is bypassed.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

- (21) The permittee shall monitor the HAC injection system's hourly HAC injection amounts and maintain records of the following information, pursuant to the HAC injection system's operational requirements in paragraph b)(2)m.:
- a. The HAC injection system's hourly HAC injection amounts, in lbs/hr, and
  - b. The date/time, duration, and cause for each injection system downtime and routine maintenance event.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

- (22) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #P0117561, issued on 1/20/2015:d)(1) - d)(21). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

e) Reporting Requirements

- (1) The permittee shall submit quarterly reports that identify the following information concerning the operation of the waste gas baghouse during the operation of the emissions unit(s), except during bypassing of the lime spray dryer and heat recovery steam generators as allowed in this permit:
- a. each period of time when the pressure drop was outside of the permitted range as specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
  - b. an identification of each incident of deviation described in "a." (above) where a prompt investigation was not conducted;



- c. an identification of each incident of deviation described in "a." where prompt corrective action, that would bring the unit into compliance with the acceptable range, was determined to be necessary and was not taken; and
- d. an identification of each incident of deviation described in "a." where proper records were not maintained for the investigation and/or the corrective action(s).

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 64)

- (2) The permittee shall submit quarterly reports that identify the following information concerning the operation of each charging baghouse during the operation of the emissions unit(s):
  - a. each period of time when the pressure drop across the baghouse was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
  - b. an identification of each incident of deviation described in "a." (above) where a prompt investigation was not conducted;
  - c. an identification of each incident of deviation described in "a." where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
  - d. an identification of each incident of deviation described in "a." where proper records were not maintained for the investigation and/or the corrective action(s).

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all exceedances of the hourly charging/pushing rate limitation specified in c)(3);
  - b. all exceedances of the rolling, 12-month wet coal usage rate specified in c)(4);
  - c. all exceedances of the HRSG bypass stack usage limitations specified in c)(7);
  - d. all exceedances of the rolling, 12-month PE, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, CO, NO<sub>x</sub> and H<sub>2</sub>SO<sub>4</sub> emission limitations;



- e. all exceedances of the annual lead and VOC emission limitations;
- f. any exceedance of the rolling, 12-month emission limitation for lead for emissions units P001 and P901, combined, as specified in b)(1)c.;
- g. all exceedances of the 1-month average Hg emission limitation;
- h. all exceedances of the rolling, 12-month emission limitation for Hg from the main stack, as specified in b)(1)p.;
- i. all exceedances of the rolling, 12-month emission limitation for Hg from bypass stacks and main stack during bypass, as specified in b)(1)y.;
- j. all non-conformances with the HAC injection system's operating parameter limitations;
- k. all exceedances of the common battery tunnel temperature restriction specified in c)(13), including the time of the temperature deviation, the duration of the exceedance, and the corrective action taken;

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(E), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (4) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO<sub>2</sub> monitoring system:
  - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Southwest Ohio Air Quality Agency, documenting all instances of SO<sub>2</sub> emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapter 3745-18, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.
  - b. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall include the following:
    - i. the facility name and address;
    - ii. the manufacturer and model number of the continuous SO<sub>2</sub> and other associated monitors;



- iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
- iv. the excess emissions report (EER), i.e., a summary of any exceedances during the calendar quarter, as specified above;
- v. the total SO<sub>2</sub> emissions for the calendar quarter (tons);
- vi. the total operating time (hours) of the emissions unit;
- vii. the total operating time of the continuous SO<sub>2</sub> monitoring system while the emissions unit was in operation;
- viii. results and date of quarterly cylinder gas audits;
- ix. unless previously submitted, results and date of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- x. unless previously submitted, the results of any relative accuracy test audit showing the continuous SO<sub>2</sub> monitor out-of-control and the compliant results following any corrective actions;
- xi. the date, time and duration of any/each malfunction\* of the continuous SO<sub>2</sub> monitoring system;
- xii. the date, time and duration of any/each malfunction of the emissions unit and/or control equipment that causes the emission of air contaminants in violation of any applicable limit; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

\* SO<sub>2</sub> monitoring system downtime attributed to permit-allowed main stack bypass events shall not be counted against the facility for enforcement purposes, but must be reported.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR 60.7)

- (5) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 63, Subpart L, including the following sections:



63.310(d)-(e)	Notifications of startup, shutdown, malfunction
63.311(a)	Report submission
63.311(b)	Initial compliance certification requirements
63.311(c)	Notification requirements
63.311(d)	Semiannual compliance certification requirements
63.311€	Report requirement for venting of coke oven gas

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart L)

- (6) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 63, Subpart CCCCC, including the following sections:

63.7336(a)	Deviation reporting
63.7340(a)	Overall notification reporting requirements
63.7340(c)	Initial notification reports
63.7340(d)	Notification of intent to test
63.7340(e)	Notification of compliance status
63.7341(a)	Compliance report due dates
63.7341(c)	Compliance report contents
63.7341(d)	Immediate startup, shutdown, and malfunction reports
63.7341(e)	Title V monitoring report allowance

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart CCCCC)

- (7) The permittee shall submit semi-annual written reports which identify the date, time, and duration of each waste gas bypass event.

These semi-annual reports shall be submitted by the dates described in the Standard Terms and Conditions of this permit.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)



- (8) The permittee shall submit to the Southwest Ohio Air Quality Agency quarterly deviation (excursion) reports that identify all periods during which visual inspections of the enclosed flat push hot car, conducted pursuant to 63.7300(c), identified areas potentially needing repair to minimize visible emissions of fugitive dust. The report shall include the repair methods of each attempt to repair, and the date of successful repair. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during the quarter. These reports are due by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart CCCCC)

- (9) The permittee shall submit to the Southwest Ohio Air Quality Agency quarterly reports concerning the quality and quantity of the coal in this emissions unit. These reports shall include the following information for the emissions unit for each day during the calendar quarter:
- a. the total quantity of wet coal charged (tons);
  - b. the average mercury content (percent) of the coal charged;
  - c. the average chlorine content (percent) of the coal charged; and
  - d. the average sulfur content (weight percent) of the coal charged.

These reports are due by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (10) If the permittee is required under 40 CFR Part 64.8 and d)(19) of this permit to develop a QIP, the permittee shall submit quarterly reports in accordance with 40 CFR 64.9(a)(2)(iii) that contain a description of the actions taken to implement a QIP during the reporting period. Upon completion of a QIP, the permittee shall include documentation that the implementation of the plan has been completed and reduced the likelihood of excursions.

(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64)

- (11) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #P0117561, issued on 1/20/2015:e)(1) - e)(10). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.



f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Lead emissions shall not exceed 0.28 TPY as a rolling, 12-month summation for emissions units P901 and P001 combined.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements in d)(4). The current month's emissions shall be added to the emissions for the preceding eleven calendar months to determine the 12-month rolling emissions. Monthly emissions shall be determined by calculating the sum of i. through iv. below:

i. Heat Recovery Steam Generator (HRSG) bypass stacks and coking emission control system main stack

Monthly emissions shall be determined by multiplying the lead emission factor, in pounds/ton, times the wet tons of coal charged per month, divided by 2,000 pounds/ton. The lead emission factor shall be calculated from the results of the most recent stack test which demonstrated compliance.

ii. Charging control system-baghouse stack

Monthly emissions shall be determined by multiplying the lead emission factor of 0.0000001 pound/ton, times the wet tons of coal charged per month, divided by 2,000 pounds/ton. The lead emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, revised 7/2007.

iii. Pushing stack

Monthly emissions shall be determined by multiplying the lead emission factor, in pounds/ton, times the wet tons of coal charged per month, divided by 2,000 pounds/ton. The lead emission factor shall be calculated from the results of the most recent stack test which demonstrated compliance.



iv. Quench tower

Monthly emissions shall be determined by multiplying the lead emission factor, in pounds/ton, times the wet tons of coal charged per month, divided by 2,000 pounds/ton. The lead emission factor shall be calculated from the results of the most recent water analysis which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1) and 3745-31-05(E))

b. Emission Limitations – Coal Charging Operations:

PE, filterable PM<sub>10</sub> and filterable PM<sub>2.5</sub> shall not exceed 0.0081 pound per ton of dry coal charged and 3.7 pounds per hour from the charging baghouse.

Applicable Compliance Method:

Subpart L, 63.303(d)(2) restricts particulate matter emissions from a charging emissions control device to 0.0081 pound per ton of dry coal charged. The pound per hour emission limitation reflects the potential to emit at the maximum capacity of 460 tons of dry coal charged per hour (46 tons dry coal per charge at 10 charges per hour).

The actual PE, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rate in pounds per ton of coal and pounds per hour shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall conduct emission testing in accordance with Method 5 of 40 CFR Part 60, Appendix A and the procedures in 40 CFR 63.309(k). See f)(3).

The PE rate is used as a surrogate for PM<sub>10</sub> and PM<sub>2.5</sub> where PM<sub>10</sub> and PM<sub>2.5</sub> emission factors are not available.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR 63, Subpart L)

c. Emission Limitation – Coal Charging Operations:

PE, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions shall not exceed 3.4 tons per year as a rolling, 12-month summation from the charging baghouse.

Applicable Compliance Method:

The annual emission limitation is based upon the emission limitation in Subpart L, 63.303(d)(2), at 0.0081 pound of particulate per ton of dry coal charged, and the operational restriction in c)(4) which equates to a maximum annual volume of 839,500 TPY of dry coal charged. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. The actual PE, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rates, in pound of particulate per ton of dry coal charged, shall be calculated from the



results of the most recent stack test which demonstrated compliance. The PE rate is used as a surrogate for PM<sub>10</sub> and PM<sub>2.5</sub> where PM<sub>10</sub> and PM<sub>2.5</sub> emission factors are not available.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

d. Emission Limitations – Coal Charging Operations:

Fugitive PE from charging shall not exceed 1.35 pounds per hour and 1.23 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the pound per hour fugitive PE limitation shall be demonstrated by multiplying the uncontrolled particulate emission factor of 0.027 pound per ton of coal charged, as found in AP-42 Section 12.2, Table 12.2-21(5/2008), by the maximum tons of wet coal charged per hour (500 tons) and the capture factor of 0.1 (90% capture rate) as provided in the application for PTI P0104768.

Compliance with the 12-month rolling fugitive PE limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by multiplying the uncontrolled particulate emission factor of 0.027 pound per ton of coal charged, as found in AP-42 Section 12.2, Table 12.2-21(5/2008), by the tons of wet coal charged per month and the capture factor of 0.1 (90% capture rate), divided by 2,000 pounds/ton.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

e. Emission Limitations – Coal Charging Operations:

Fugitive PM<sub>10</sub> emissions from charging shall not exceed 0.41 pound per hour and 0.37 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the pound per hour fugitive PM<sub>10</sub> limitation shall be demonstrated by multiplying the uncontrolled particulate emission factor of 0.027 pound per ton of coal charged, as found in AP-42 Section 12.2, Table 12.2-21(5/2008), by the maximum tons of wet coal charged per hour (500 tons) and the capture factor of 0.1 (90% capture rate), then multiplying the value by 0.30 as the fraction of total suspended particulate estimated to be PM<sub>10</sub> as provided in the application for PTI P0104768.

Compliance with the 12-month rolling fugitive PM<sub>10</sub> limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by multiplying the uncontrolled particulate emission factor of 0.027 pound per ton of coal charged, as found in



AP-42 Section 12.2, Table 12.2-21(5/2008), by the tons of wet coal charged per month and the capture factor of 0.1 (90% capture rate), multiplying the value by 0.30 as the fraction of total suspended particulate estimated to be  $PM_{10}$ , and dividing by 2,000 pounds/ton.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

f. Emission Limitations – Coal Charging Operations:

Fugitive  $PM_{2.5}$  emissions from charging shall not exceed 0.20 pound per hour and 0.18 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the pound per hour fugitive  $PM_{2.5}$  limitation shall be demonstrated by multiplying the uncontrolled particulate emission factor of 0.027 pound per ton of coal charged, as found in AP-42 Section 12.2, Table 12.2-21(5/2008), by the maximum tons of wet coal charged per hour (500 tons) and the capture factor of 0.1 (90% capture rate), then multiplying the value by 0.15 as the fraction of total suspended particulate estimated to be  $PM_{2.5}$  as provided in the application for PTI P0104768.

Compliance with the 12-month rolling fugitive  $PM_{2.5}$  limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by multiplying the uncontrolled particulate emission factor of 0.027 pound per ton of coal charged, as found in AP-42 Section 12.2, Table 12.2-21(5/2008), by the tons of wet coal charged per month and the capture factor of 0.1 (90% capture rate), multiplying the value by 0.150 as the fraction of total suspended particulate estimated to be  $PM_{2.5}$ , and dividing by 2,000 pounds/ton.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-21 through 27)

g. Emission Limitations – Coal Charging Operations:

$SO_2$  emissions from the charging baghouse shall not exceed 0.0003 pound per ton of coal charged, 0.15 pound per hour, and 0.14 TPY as a rolling, 12-month summation;

CO emissions from the charging baghouse shall not exceed 0.0028 pound per ton of coal charged, 1.4 pounds per hour, and 1.28 TPY as a rolling, 12-month summation; and,

VOC emissions from the charging baghouse shall not exceed 1.0 pound per hour and 0.91 TPY.



**Applicable Compliance Methods:**

The SO<sub>2</sub> and CO emission rates, in pound per ton of coal charged and pound per hour, reflect the potential to emit based upon the results of an October 1989 emission stack test performed at Jewell Coal and Coke Company as supplied with the application for PTI P0104768, and the maximum capacity of 500 tons of wet coal charged per hour (50 tons wet coal per charge at 10 charges per hour). Compliance with the 12-month rolling emission limitations for SO<sub>2</sub> and CO shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the pound per ton of coal charged emission rates above. If required, the permittee shall demonstrate compliance with the pound per ton of coal charged emission rates for SO<sub>2</sub> and CO by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, 6C, and 10.

The VOC emission rate, in pound per hour, reflects the potential to emit based upon an emission factor of 0.0020 pound VOC per ton of coal charged from an October 1989 emission stack test performed at Jewell Coal and Coke Company as supplied with the application for PTI P0104768, and the maximum capacity of 500 tons of wet coal charged per hour (50 tons wet coal per charge at 10 charges per hour). Compliance with the annual emission limitation for VOC shall be demonstrated under the record keeping requirements in d)(4) by adding the monthly emissions over the calendar year. Monthly emissions shall be calculated by using the pound VOC per ton of coal charged emission factor above. If required, the permittee shall demonstrate compliance with the pound per hour emission rate for VOC by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, and 25 or 25A.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

h. **Emission Limitation - Coal Charging Operations:**

Visible particulate emissions from the charging baghouse stack shall not exceed 10% opacity as a 6-minute average.

**Applicable Compliance Method:**

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR 63.303(d)(3), 63.309(m), and 40 CFR Part 60, Appendix A, Method 9.

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart L)



i. Emission Limitation - Coal Charging Operations:

Visible particulate emissions of fugitive dust from charging operations shall not exceed 20% opacity as an average of five consecutive charges.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR 63.303(d)(1) and 63.309(j).

(Authority for Term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart L)

j. Emission Limitations – Coking Operations:

Filterable PM, PM<sub>10</sub>, and PM<sub>2.5</sub> shall not exceed 0.0050 gr/dscf and 10.7 pounds per hour from the main stack during normal operation.

Applicable Compliance Method:

The 0.0050 gr/dscf emission limitation for PM is a controlled emission factor considered Best Available Control Technology (BACT) for the Gateway Energy and Coke Company, Granite City, Illinois, Permit to Construct issued March 13, 2008. The pound per hour limitation above was determined by multiplying the emission factor (grain loading) of 0.0050 gr/dscf times 1 pound divided by 7000 grains times the airflow of 250,000 scfm times 60 minutes per hour.

The actual PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rate shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall conduct emission testing in accordance with Method 5 of 40 CFR Part 60, Appendix A. See f)(2).

The PM rate is used as a surrogate for PM<sub>10</sub> and PM<sub>2.5</sub> where PM<sub>10</sub> and PM<sub>2.5</sub> emission factors are not available.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

k. Emission Limitation - Coking Operations:

Filterable PM, PM<sub>10</sub>, and PM<sub>2.5</sub> shall not exceed 46.9 TPY as a rolling, 12-month summation from the main stack during normal operation.

Applicable Compliance Method:

The annual emission limitation is based upon the hourly emission limitation of 10.7 pounds per hour above, assuming 8,760 hours per year. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be



calculated by using the actual PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance. The PM rate is used as a surrogate for PM<sub>10</sub> and PM<sub>2.5</sub> where PM<sub>10</sub> and PM<sub>2.5</sub> emission factors are not available.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

I. Emission Limitations – Coking Operations:

SO<sub>2</sub> emissions shall not exceed 300 lbs/hr (based on a 3-hour block average); 192.0 lbs/hr (based on a 24-hour block average); and 700.8 TPY (1.54 lbs of SO<sub>2</sub>/wet ton of coal) as a rolling, 12-month summation from the main stack during normal operation.

Applicable Compliance Method:

Ongoing compliance with the SO<sub>2</sub> emission limitations above, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months.

If required, compliance with the pound per ton emission rate for SO<sub>2</sub> shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4, and 6.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, 40 CFR 60.13, and 40 CFR Part 60, Appendices B and F)

m. Emission Limitations – Coking Operations:

CO emissions shall not exceed 20 ppm, 21.81 pounds per hour, and 95.54 TPY as a rolling, 12-month summation from the main stack during normal operation.

Applicable Compliance Method:

The CO emission rate of 20 ppm is based upon the Haverhill North Coke Company, Franklin Furnace, Ohio, emission test data provided by the permittee in the application for PTI P0104768. The pounds per hour emission limit was derived by multiplying the CO emission rate of 20 ppm, times 28, the molecular weight of CO, divided by the 385,100,000 conversion factor, times the maximum waste gas flow through the coking operation main stack of 250,000 dscf/min, times 60 minutes/hour.



The actual CO emission rates, in ppm and pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall demonstrate compliance with the emission limitations for CO by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, and 10. See f)(3).

The annual emission limitation is based upon the hourly emission limitation of 21.81 pounds per hour above, assuming 8,760 hours per year. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual CO emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

n. Emission Limitations – Coking Operations:

NOx emissions shall not exceed 1 pound per ton of coal, 104.2 pounds per hour, and 456.25 TPY as a rolling, 12-month summation from the main stack during normal operation. The annual emission limitation shall include NOx emissions from the main stack after passing through the lime spray dryer/fabric filter and during maintenance of the lime spray dryer/fabric filter, combined.

Applicable Compliance Method:

The NOx emission factor of 1 pound/ton of coal was provided by the permittee in the application for PTI P0104768. The pounds per hour emission limit was derived by multiplying the NOx emission factor of 1 pound/ton of coal by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day.

The actual NOx emission rates, in pound/ton of coal and pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall demonstrate compliance with the emission limitations for NOx by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, and 7E. See f)(2).

The annual emission limitation is based upon the hourly emission limitation of 104.2 pounds per hour above, assuming 8,760 hours per year. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual NOx emission rates, in pound/ton of coal and pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)



o. Emission Limitations – Coking Operations:

Sulfuric acid mist ( $H_2SO_4$ ) emissions shall not exceed 0.024 pound per ton of coal, 2.5 lbs/hr, and 11.13 TPY as a rolling 12-month summation from the main stack during normal operation.

Applicable Compliance Method:

Compliance with the pound per hour  $H_2SO_4$  limit shall be demonstrated by multiplying the uncontrolled  $H_2SO_4$  emission factor of 1.22 pound per ton of coal charged by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day, and multiplying by a control efficiency factor of 0.02 (1 - 98% control efficiency for the lime spray dryer with fabric filter) as provided in the application for PTI P0104768. The uncontrolled  $H_2SO_4$  emission factor was based on emission testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio.

The actual  $H_2SO_4$  emission rates, in pound/ton of coal and pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall demonstrate compliance with the emission limitations for  $H_2SO_4$  by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, and 8, or an alternate method approved by Ohio EPA. See f)(3).

The annual emission limitation is based upon the hourly emission limitation of 2.5 pounds per hour above, assuming 8,760 hours per year. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual  $H_2SO_4$  emission rates, in pound/ton of coal and pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

p. Emission Limitation – Coking Operations:

Mercury emissions shall not exceed 0.01 pound per hour from the main stack, as a 1-month average, except when the lime spray dryer/baghouse is bypassed.

Applicable Compliance Method:

Data obtained from the main stack's mercury sorbent trap monitoring system shall be used to demonstrate compliance with this emissions limit.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))



q. Emission Limitation – Coking Operations:

Mercury emissions shall not exceed 55.5 pounds per year from the main stack, as a rolling, 12-month summation, except when the lime spray dryer/baghouse is bypassed.

Applicable Compliance Method:

As appropriate for each emissions egress point: 40 CFR 60 Appendix A, Method 29; ASTM D6784-02, Standard Test Method for Elemental, Oxidized Particle-Bound, and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (also known as the Ontario Hydro Method) or any other applicable method approved by OEPA shall be used to demonstrate compliance.

Data obtained from the main stack's mercury sorbent trap monitoring system shall be used to demonstrate compliance with this emission limitation.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

r. Emission Limitations – Coking Operations:

Visible particulate emissions from the lime spray dryer baghouse stack shall not exceed 10% opacity as a 6-minute average.

Visible particulate emissions from the main stack shall not exceed 20% opacity as a 6-minute average when the lime spray dryer baghouse is bypassed.

Applicable Compliance Method:

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

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

s. Emission Limitation – Coking Operations:

No visible emissions shall be permitted from the common battery tunnel or its associated piping.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the work practices and visible emission inspection requirements as specified in 40 CFR Part 63, Subpart L.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63, Subpart L)



t. Emission Limitations – Coking Operations:

Filterable PM, PM<sub>10</sub>, and PM<sub>2.5</sub> shall not exceed 0.049 gr/dscf and 6.3 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer is bypassed. The spray dryer bypass limit includes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.

Applicable Compliance Method:

The 0.049 gr/dscf emission limitation for PM is an uncontrolled emission factor based upon engineering estimates provided by the permittee in the application for PTI P0104768.

The actual PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rate, in gr/dscf and pound per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. If required, the permittee shall conduct subsequent emission testing in accordance with Method 5 of 40 CFR Part 60, Appendix A.

The PM rate is used as a surrogate for PM<sub>10</sub> and PM<sub>2.5</sub> where PM<sub>10</sub> and PM<sub>2.5</sub> emission factors are not available.

The annual emission limitation was determined by multiplying the equivalent hourly uncontrolled particulate emission rate of 21.0 pounds per hour by 120 hours/year, the number of hours that flue gases are routed around the FGD system to allow for inspection/maintenance of the spray dryer/baghouse. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) and d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

u. Emission Limitations – Coking Operations:

SO<sub>2</sub> emissions shall not exceed 1794 lbs/hour and 107.64 TPY as a rolling, 12-month summation when the lime spray dryer is bypassed.

Applicable Compliance Method:

The pound per hour SO<sub>2</sub> emission limitation is calculated by multiplying an emissions factor of 23.92 pounds of SO<sub>2</sub> per ton of coal charged as determined by material balance calculations, by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day, and multiplying the value by a SO<sub>2</sub> reduction factor of 0.72 (1 - 28%, the reduction effected by reduction of charge size and/or coal sulfur in the coal charge per the SSM plan) as provided in the application for PTI P0104768. If required, compliance with the lb/hr



emission limitation shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 6.

The annual emission limitation was determined by multiplying the hourly emission rate of 1794 pounds per hour by 120 hours/year, the number of hours that flue gases are routed around the FGD system to allow for inspection/maintenance of the spray dryer/baghouse. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) and d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

v. Emission Limitations – Coking Operations:

CO emissions shall not exceed 20 ppm and 1.31 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer is bypassed. The spray dryer bypass limit includes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.

Applicable Compliance Method:

The CO emission rate of 20 ppm is based upon the Haverhill North Coke Company, Franklin Furnace, Ohio, emission test data provided by the permittee in the application for PTI P0104768.

The actual CO emission rates, in ppm and pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. See f)(1)m. and f)(3).

The annual emission limitation was determined by multiplying the equivalent hourly emission rate of 21.81 pounds per hour by 120 hours/year, the number of hours that flue gases are routed around the FGD system to allow for inspection/maintenance of the spray dryer/baghouse. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) and d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual CO emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

w. Emission Limitations – Coking Operations:

NO<sub>x</sub> emissions shall not exceed 1 pound per ton of coal and 6.25 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer is bypassed. The spray dryer bypass limit includes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.



Applicable Compliance Method:

The NO<sub>x</sub> emission factor of 1 pound/ton of coal was provided by the permittee in the application for PTI P0104768.

The actual NO<sub>x</sub> emission rates, in pound/ton of coal and pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. See f)(1)n. and f)(2).

The annual emission limitation was determined by multiplying the equivalent hourly emission rate of 104.2 pounds per hour by 120 hours/year, the number of hours that flue gases are routed around the FGD system to allow for inspection/maintenance of the spray dryer/baghouse. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) and d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual NO<sub>x</sub> emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

x. Emission Limitations – Coking Operations:

Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 91.5 lbs/hour and 5.49 TPY as a rolling 12-month summation the main stack when the lime spray dryer is bypassed.

Applicable Compliance Method:

Compliance with the pound per hour H<sub>2</sub>SO<sub>4</sub> limit shall be demonstrated by multiplying the uncontrolled H<sub>2</sub>SO<sub>4</sub> emission factor of 1.22 pound per ton of coal charged by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day, and multiplying the value by a H<sub>2</sub>SO<sub>4</sub> reduction factor of 0.72 (1 - 28%, the reduction effected by reduction of charge size and/or coal sulfur in the coal charge per the SSM plan) as provided in the application for PTI P0104768. The uncontrolled H<sub>2</sub>SO<sub>4</sub> emission factor was based on emission testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio. If required, compliance with the lb/hr emission limitation shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 8, or an alternative method approved by Ohio EPA.

The annual emission limitation was determined by multiplying the hourly emission rate of 91.5 pounds per hour by 120 hours/year, the number of hours that flue gases are routed around the FGD system to allow for inspection/maintenance of the spray dryer/baghouse. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) and d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months.



(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

y. Emission Limitations – Coking Operations:

VOC emissions shall not exceed 4.67 lbs/hr and 20.47 TPY from the main stack during normal operation.

Applicable Compliance Method:

The VOC emission limitation, in pound per hour, reflects the potential to emit based upon an emission factor of 10 ppm, times 12, the molecular weight of carbon, divided by the 385,100,000 conversion factor, times the maximum waste gas flow through the coking operation main stack of 250,000 dscf/min, times 60 minutes/hour. The VOC emission factor of 10 ppm was based on Haverhill North Coke Company, Franklin Furnace, Ohio, emission test data provided by the permittee in the application for PTI P0104768.

The actual VOC emission rate, in pound per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. If required, the permittee shall conduct subsequent emission testing in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A.

The annual emission limitation is based upon the hourly emission limitation of 4.67 pounds per hour above, assuming 8,760 hours per year. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual VOC emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

z. Emission Limitations – Coking Operations:

Hydrochloric acid (HCl) emissions shall not exceed 14.8 lbs/hr and 64.79 TPY.

Applicable Compliance Method:

The pound per hour HCl emission limitation is calculated by multiplying an uncontrolled emissions factor of 2.84 pounds of HCl per ton of coal charged, by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day, and multiplying the value by a control efficiency factor of 0.05 (1 - 95% control efficiency for the lime spray dryer with fabric filter) as provided in the application for PTI P0104768.

The actual HCl emission rate, in pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall demonstrate compliance with the emission limitations for HCl by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, and 26. See f)(3).



The annual emission limitation is based upon the hourly emission limitation of 14.8 pounds per hour above, assuming 8,760 hours per year. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual HCl emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

aa. Emission Limitation – Coking Operations:

VOC emissions shall not exceed 0.28 TPY from the main stack when the lime spray dryer is bypassed. The spray dryer bypass limit includes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.

Applicable Compliance Method:

The annual emission limitation was determined by multiplying the hourly emission rate of 4.67 pounds per hour by 120 hours/year, the number of hours that flue gases are routed around the FGD system to allow for inspection/maintenance of the spray dryer/baghouse. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) and d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual VOC emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

bb. Emission Limitation – Coking Operations:

Hydrochloric acid (HCl) emissions shall not exceed 17.75 TPY from the main stack when the lime spray dryer is bypassed.

Applicable Compliance Method:

The annual emission limitation was determined by multiplying the uncontrolled emissions factor of 2.84 pounds of HCl per ton of coal charged, by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day, multiplying the value by 120 hours/year, the number of hours that flue gases are routed around the FGD system to allow for inspection/maintenance of the spray dryer/baghouse, and dividing by 2000 lbs/ton. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) and d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))



cc. Emission Limitations – HRSG Bypass Stacks:

Filterable PE, PM<sub>10</sub> and PM<sub>2.5</sub> emissions shall not exceed 21.0 pounds per hour from a single HRSG bypass stack (0.049 gr/dscf), and 10.1 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation. The annual limit excludes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.

Applicable Compliance Method:

The 0.049 gr/dscf emission limitation for PM is an uncontrolled emission factor based upon engineering estimates provided by the permittee in the application for PTI P0104768. The pound per hour emission limitation for PM was determined by multiplying the emission factor (grain loading) of 0.049 gr/dscf times 1 pound divided by 7000 grains times the airflow of 250,000 scfm times 60 minutes per hour to show hourly emissions from all five HRSG bypass stacks and dividing by five to show hourly emissions from a single HRSG stack.

The actual PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rate, in gr/dscf and pound per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall conduct emission testing in accordance with Method 5 of 40 CFR Part 60, Appendix A. See f)(3).

The PM rate is used as a surrogate for PM<sub>10</sub> and PM<sub>2.5</sub> where PM<sub>10</sub> and PM<sub>2.5</sub> emission factors are not available.

The annual emission limitation was determined by multiplying the hourly uncontrolled particulate emission rate of 21.0 pounds per hour by 960 hours/year, the total number of allowable HRSG bypass hours as specified in c)(7). Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

dd. Emission Limitations – HRSG Bypass Stacks:

SO<sub>2</sub> emissions shall not exceed 498.33 pounds per hour from a single HRSG bypass stack as a 3 hour block average (23.92 lbs/ton of coal), and 239.2 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation. The annual limit excludes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.



**Applicable Compliance Method:**

The SO<sub>2</sub> emission factor of 23.92 pounds/ton of coal was provided by the permittee in the application for PTI P0104768. The pound per hour SO<sub>2</sub> emission limitation is calculated by multiplying the emission factor of 23.92 pounds of SO<sub>2</sub> per ton of coal charged as determined by material balance calculations, by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day, and dividing by five to show hourly emissions from a single HRSG stack.

The actual SO<sub>2</sub> emission rate, in pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall demonstrate compliance with the emission limitations for SO<sub>2</sub> by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, and 6. See f)(3).

The annual emission limitation was determined by multiplying the hourly emission rate of 498.33 pounds per hour by 960 hours/year, the total number of allowable HRSG bypass hours as specified in c)(7). Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual SO<sub>2</sub> emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

ee. **Emission Limitations – HRSG Bypass Stacks:**

NO<sub>x</sub> emissions shall not exceed 20.8 pounds per hour from a single HRSG bypass stack (1 lb/ ton of coal), and 10.0 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation. The annual limit excludes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.

**Applicable Compliance Method:**

The NO<sub>x</sub> emission factor of 1 pound/ton of coal was provided by the permittee in the application for PTI P0104768. The pound per hour NO<sub>x</sub> emission limitation is calculated by multiplying the emission factor of 1 pound of NO<sub>x</sub> per ton of coal charged, by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day, and dividing by five to show hourly emissions from a single HRSG stack.

The actual NO<sub>x</sub> emission rates, in pound/ton and pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. See f)(1)n. and f)(2).



The annual emission limitation was determined by multiplying the hourly emission rate of 20.8 pounds per hour by 960 hours/year, the total number of allowable HRSG bypass hours as specified in c)(7). Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual NO<sub>x</sub> emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

ff. Emission Limitations – HRSG Bypass Stacks:

CO emissions shall not exceed 4.36 pounds per hour from a single HRSG bypass stack (20 ppm), and 2.09 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation. The annual limit excludes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.

Applicable Compliance Method:

The CO emission rate of 20 ppm is based upon the Haverhill North Coke Company, Franklin Furnace, Ohio, emission test data provided by the permittee in the application for PTI P0104768. The pounds per hour emission limit was derived by multiplying the CO emission rate of 20 ppm, times 28, the molecular weight of CO, divided by the 385,100,000 conversion factor, times the maximum waste gas flow through the coking operation of 250,000 dscf/min, times 60 minutes/hour, and dividing by five to show hourly emissions from a single HRSG stack.

The actual CO emission rates, in ppm and pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. See f)(1)m. and f)(3).

The annual emission limitation was determined by multiplying the hourly emission rate of 4.36 pounds per hour by 960 hours/year, the total number of allowable HRSG bypass hours as specified in c)(7). Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual CO emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)



gg. Emission Limitations – HRSG Bypass Stacks:

Sulfuric acid mist ( $H_2SO_4$ ) emissions shall not exceed 25.4 lbs/hr from a single HRSG bypass stack, and 12.20 TPY from all HRSG bypass stacks combined as a rolling, 12-month summation. The annual limit excludes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.

Applicable Compliance Method:

Compliance with the pound per hour  $H_2SO_4$  limit shall be demonstrated by multiplying the uncontrolled  $H_2SO_4$  emission factor of 1.22 pound per ton of coal charged by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day, and dividing by five to show hourly emissions from a single HRSG stack. The uncontrolled  $H_2SO_4$  emission factor was based on emission testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio, as provided in the application for PTI P0104768. If required, compliance with the lb/hr emission limitation shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 8, or an alternative method approved by Ohio EPA.

The annual emission limitation was determined by multiplying the hourly emission rate of 25.4 pounds per hour by 960 hours/year, the total number of allowable HRSG bypass hours as specified in c)(7). Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

hh. Emission Limitations – HRSG Bypass Stacks:

VOC emissions shall not exceed 0.93 pound per hour from a single HRSG bypass stack and 0.45 TPY from all HRSG bypass stacks combined. The annual limit excludes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.

Applicable Compliance Method:

The VOC emission limitation, in pound per hour, reflects the potential to emit based upon an emission factor of 10 ppm, times 12, the molecular weight of carbon, divided by the 385,100,000 conversion factor, times the maximum waste gas flow through the coking operation main stack of 250,000 dscf/min, times 60 minutes/hour, and dividing by five to show hourly emissions from a single HRSG stack. The VOC emission factor of 10 ppm was based on Haverhill North Coke Company, Franklin Furnace, Ohio, emission test data provided by the permittee in the application for PTI P0104768.



The actual VOC emission rate, in pound per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. If required, the permittee shall conduct subsequent emission testing in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A.

The annual emission limitation was determined by multiplying the hourly emission rate of 0.93 pounds per hour by 960 hours/year, the total number of allowable HRSG bypass hours as specified in c)(7). Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual VOC emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

ii. Emission Limitations – HRSG Bypass Stacks:

Hydrochloric acid (HCl) emissions shall not exceed 59.17 pounds per hour from a single HRSG bypass stack and 28.4 TPY from all HRSG bypass stacks combined. The annual limit excludes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.

Applicable Compliance Method:

The pound per hour HCl emission limitation is calculated by multiplying an uncontrolled emissions factor of 2.84 pounds of HCl per ton of coal charged, by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day, and dividing by five to show hourly emissions from a single HRSG stack. The HCl emission factor of 2.84 pounds/ton of coal is based upon the maximum coal blend specification provided by the permittee in the application for PTI P0104768.

The actual HCl emission rate, in pound per hour, shall be calculated from the results of the coal analyses and the record keeping requirements in d)(11) and d)(14).

The annual emission limitation was determined by multiplying the hourly emission rate of 59.17 pounds per hour by 960 hours/year, the total number of allowable HRSG bypass hours as specified in c)(7). Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual HCl emission rate, in pounds per hour, from the results of the monthly coal analyses.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))



jj. Emission Limitation – HRSG Bypass Stacks:

Lead (Pb) emissions shall not exceed 0.055 TPY from all HRSG bypass stacks combined. The annual limit excludes emissions from the HRSG bypass stacks that occur during maintenance of the lime spray dryer/baghouse.

Applicable Compliance Method:

The emission limitation for waste gas bypass stacks was derived by multiplying the uncontrolled emission factor of 4.56E-03 pounds of lead per ton of wet coal charged (from the Haverhill April 2006 emission stack test) by the maximum capacity of 2500 tons of wet coal charged per day, dividing by 24 hours/day, and applying a stack test variability factor of 1.2 (20%) to arrive at an hourly uncontrolled emission rate of 0.114 pounds of lead per hour.

The annual emission limitation was determined by multiplying the hourly emission rate of 0.114 pounds per hour by 960 hours/year, the total number of allowable HRSG bypass hours as specified in c)(7). Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months. Monthly emissions shall be calculated by using the actual lead emission rate, in pounds per hour, from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

kk. Emission Limitations – HRSG Bypass Stacks:

Mercury (Hg) emissions shall not exceed 0.0069 pound per hour from a single HRSG bypass stack. Mercury emissions shall not exceed 12.4 pounds per rolling, 12-month summation period from all HRSG bypass stacks and from the main stack during bypass of the lime spray dryer/baghouse, combined.

Mercury emissions during hydrated activated carbon (HAC) maintenance and downtime shall be included in the rolling, 12-month summation total.

Applicable Compliance Method:

The pound per hour mercury emission limitation is calculated by multiplying the emissions factor of 0.00033 pound of mercury per ton of coal charged, by the maximum capacity of 2500 tons of wet coal charged per day, divided by 24 hours/day, and dividing by five to show hourly emissions from a single HRSG stack. The mercury emission factor of 0.00033 pound/ton of coal is based upon AP-42 Section 12.2, Table 12.2-20, dated 5/2008.

The actual mercury emission rate, in pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall demonstrate compliance with the emission limitations for mercury by conducting emission tests in accordance with 40 CFR Part 60 Appendix A,



Methods 1 through 4, and 29, or an alternative method approved by Ohio EPA. See f)(3).

The annual emission limitation is based upon the emission factor of 0.00033 pounds/ton of coal, the operational restriction in c)(4) of 912,500 TPY of coal, and the maximum percentage of coking process emissions not exhausted through the lime spray dryer/baghouse system (4.1%).

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements in d)(9) and d)(20). Monthly emissions shall be calculated by using the actual mercury emission rate, in pounds per hour, from the results of the most recent stack test.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

II. Emission Limitation – HRSG Bypass Stacks:

Visible particulate emissions from each bypass stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

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

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and OAC rule 3745-17-03(B)(1))

mm. Emission Limitations – Pushing Operations:

Filterable PE, PM<sub>10</sub> and PM<sub>2.5</sub> emissions shall not exceed 0.04 pound per ton of coke pushed, 14.3 pounds per hour and 13.09 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Subpart CCCCC, 63.7290(a)(4) restricts particulate matter emissions from a pushing operation that employs a mobile control device that captures emissions during travel to 0.04 pound per ton of coke. The pound per hour emission limitation reflects the potential to emit at the maximum capacity of 359 tons of coke pushed per hour (35.9 tons coke per push at 10 charges per hour).

The actual PE, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rates in pounds per ton of coke and pounds per hour shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall conduct emission testing in accordance with Method 5 of 40 CFR Part 60, Appendix A and the procedures in 40 CFR 63.7322. See f)(2).



The PE rate is used as a surrogate for PM<sub>10</sub> and PM<sub>2.5</sub> where PM<sub>10</sub> and PM<sub>2.5</sub> emission factors are not available.

The annual emission limitation is based upon the emission limitation in Subpart CCCCC, section 63.7290(a)(4) at 0.04 pound of particulate per ton of coke, and the operational restriction in c)(4) which equates to a maximum annual volume of 654,449 TPY of coke. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. The actual PE, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rates, in pound of particulate per ton of coke, shall be calculated from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63 Subpart CCCCC)

nn. Emission Limitations – Pushing Operations:

SO<sub>2</sub> emissions shall not exceed 0.098 pound per ton of coal charged, 49.0 pounds per hour, and 44.71 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

The pound per hour SO<sub>2</sub> emission limitation was calculated by multiplying the emissions factor of 0.098 pound of SO<sub>2</sub> per ton of coal charged by the maximum capacity of 500 tons of coal charged per hour (50 tons wet coal per charge at 10 charges per hour). The SO<sub>2</sub> emission factor of 0.098 pound/ton of coal is based upon AP-42 Section 12.2, Table 12.2-9, dated 5/2008.

The actual SO<sub>2</sub> emission rates, in pound per ton of coal and pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall demonstrate compliance with the emission limitations for SO<sub>2</sub> by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, and 6. See f)(3).

The annual emission limitation is based upon the emission factor of 0.098 pound/ton of coal, and the operational restriction in c)(4) of 912,500 TPY of coal. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. The actual SO<sub>2</sub> emission rate, in pound per ton of coal, shall be calculated from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

oo. Emission Limitations – Pushing Operations:



NOx emissions shall not exceed 0.019 pound per ton of coal charged, 9.5 pounds per hour, and 8.67 TPY as a rolling, 12-month summation.

**Applicable Compliance Method:**

The pound per hour NOx emission limitation was calculated by multiplying the emissions factor of 0.019 pound of NOx per ton of coal charged by the maximum capacity of 500 tons of coal charged per hour (50 tons wet coal per charge at 10 charges per hour). The NOx emission factor of 0.019 pound/ton of coal is based upon AP-42 Section 12.2, Table 12.2-9, dated 5/2008.

The actual NOx emission rates, in pound per ton of coal and pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall demonstrate compliance with the emission limitations for NOx by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, and 7E. See f)(3).

The annual emission limitation is based upon the emission factor of 0.019 pound/ton of coal, and the operational restriction in c)(4) of 912,500 TPY of coal. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. The actual NOx emission rate, in pound per ton of coal, shall be calculated from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

pp. **Emission Limitations – Pushing Operations:**

CO emissions shall not exceed 0.063 pound per ton of coal charged, 31.5 pounds per hour, and 28.74 TPY as a rolling, 12-month summation.

**Applicable Compliance Method:**

The pound per hour CO emission limitation was calculated by multiplying the emissions factor of 0.063 pound of CO per ton of coal charged by the maximum capacity of 500 tons of coal charged per hour (50 tons wet coal per charge at 10 charges per hour). The CO emission factor of 0.063 pound/ton of coal is based upon AP-42 Section 12.2, Table 12.2-9, dated 5/2008.

The actual CO emission rates, in pound per ton of coal and pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall demonstrate compliance with the emission limitations for CO by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, and 10. See f)(3).

The annual emission limitation is based upon the emission factor of 0.063 pound/ton of coal, and the operational restriction in c)(4) of 912,500 TPY of coal. Compliance with the 12-month rolling emission limitation shall be demonstrated



under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months. The actual CO emission rate, in pound per ton of coal, shall be calculated from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

qq. Emission Limitations – Pushing Operations:

Sulfuric acid mist ( $H_2SO_4$ ) emissions shall not exceed 0.005 pound per ton of coal charged, 2.5 pounds per hour, and 2.28 TPY as a rolling 12-month summation.

Applicable Compliance Method:

The  $H_2SO_4$  emission factor of 0.005 pound per ton of coal charged was based on emission testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio, as provided in the application for PTI P0104768. Compliance with the pound per hour  $H_2SO_4$  limit shall be demonstrated by multiplying the  $H_2SO_4$  emission factor of 0.005 pound per ton of coal charged by the maximum capacity of 500 tons of coal charged per hour (50 tons wet coal per charge at 10 charges per hour). The uncontrolled  $H_2SO_4$  emission factor was based on emission testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio, as provided in the application for PTI P0104768. If required, compliance with the lb/hr emission limitation shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 8, or an alternative method approved by Ohio EPA.

The annual emission limitation is based upon the emission factor of 0.005 pound/ton of coal, and the operational restriction in c)(4) of 912,500 TPY of coal. Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) by adding the current month's emissions to the emissions for the preceding eleven calendar months.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-10 through 20)

rr. Emission Limitations – Pushing Operations:

VOC emissions shall not exceed 10.0 pounds per hour and 9.13 TPY.

Applicable Compliance Method:

The pound per hour VOC emission limitation was calculated by multiplying an emission factor of 0.02 pound of VOC per ton of coal charged by the maximum capacity of 500 tons of coal charged per hour (50 tons wet coal per charge at 10 charges per hour). The 0.02 lb/ton of coal charged emission factor is based upon engineering estimates provided by the permittee in the application for PTI P0104768.



The actual VOC emission rate, in pounds per hour, shall be calculated from the results of the most recent stack test which demonstrated compliance. The permittee shall demonstrate compliance with the emission limitations for VOC by conducting emission tests in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4, and 25 or 25A. See f)(3).

The annual emission limitation is based upon the emission factor of 0.02 pound/ton of coal, and the operational restriction in c)(4) of 912,500 TPY of coal. Compliance with the annual emission limitation shall be demonstrated under the record keeping requirements in d)(4). The actual VOC emission rate, in pound per ton of coal, shall be calculated from the results of the most recent stack test which demonstrated compliance.

(Authority for Term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

ss. Emission Limitations – Pushing Operations:

Visible particulate emissions from the flat push hot car vented to multiclone dust collector stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

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

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and OAC rule 3745-17-03(B)(1))

tt. Emission Limitation – Coking Operations:

The coke oven emissions from the nonrecovery coke oven batteries shall not exceed 0.0 percent leaking coke oven doors, as determined by the procedures in 40 CFR Part 63, Section 63.309(d)(1); or

The permittee shall monitor and record, once per day of operation, the pressure in each oven or in a common battery tunnel to ensure that the ovens are operated under a negative pressure.

Applicable Compliance Method:

Should the permittee elect not to monitor and record, once per day of operation, the pressure in each oven or in a common battery tunnel to ensure that the ovens are operated under a negative pressure, compliance with the limit 0.0 percent leaking coke oven doors compliance will be demonstrated in accordance with the procedures and requirements of 63.309 of Subpart L and Method 303A in Appendix A of Part 63.



(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR 63, Subpart L)

uu. Emission Limitations:

HAP emissions, excluding HCl, for emissions units P001 and P901 combined shall not exceed 3.6 TPY.

HCl emissions for emissions units P001 and P901 combined shall not exceed 118.04 TPY.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by summing the monthly emissions from the record keeping requirements in d)(4) and d)(14) for the calendar year. Monthly emissions shall be determined by calculating the sum of i. through v. below:

i. Coking emission control system main stack

Annual emissions shall be determined by multiplying the summation of the individual HAP pollutant pound per ton emission factors [Table 12.2-20 of AP-42 Section 12.2 dated May 2008] by the maximum annual coal charge rate divided by 2000 lbs/ton. Metals are then multiplied by 5% to reflect the 95% control efficiency of the main stack spray dryer except for mercury. Data obtained from the main stack's mercury sorbent trap monitoring system shall be used to determine the mercury emissions.

ii. Pushing stack

Annual emissions shall be determined by multiplying the emission factor of 0.00024 lb total combined HAPs/wet ton coal charged, multiplying the emission factor of each of the following: 0.00021 lb Benzene Soluble Compounds (BSO)/wet ton coal charged, 0.000012 lb Arsenic/wet ton coal charged, 0.000015 lb lead/wet ton coal charged, and 0.0000021 lb manganese/wet ton coal charged by the wet tons of coal charged per year divided by 2000 lbs per ton. Emissions factors are from October 1989 Jewell Stack Test except for lead obtained from AP-42, table 12.2-10 dated May 2008.

iii. Charging control system-baghouse stack

Annual emissions shall be determined by multiplying the emission factor, in pounds/ton, times the maximum tons of coal charged per year, divided by 2,000 pounds/ton. The HAPs emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated May 2008.



iv. Quench tower

Annual emissions shall be determined by multiplying the summation of the HAP emission factor, in pounds/ton, times the wet tons of coal charged per year, and divide by 2000 pounds/ton. The HAPs emission factor shall be calculated from the results of the most recent quench water analysis which demonstrated compliance.

v. HRSG and Spray Dryer (SD) bypass stacks

Annual emissions shall be determined by multiplying the summation of the individual HAP pollutant pound per ton emission factors [Table 12.2-20 of AP-42 Section 12.2 dated May 2008 and the Haverhill April 2006 stack test for lead] by the tons of coal charged per year multiplied by an estimated percentage of total waste gas venting through the 5 vent stacks divided by 2,000 lbs/ton.

(Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3))

vv. Emission Limitation:

The total NO<sub>x</sub> emissions from all permitted operating scenarios for this emissions unit, including normal coking operations, pushing operations, lime spray dryer/fabric filter maintenance, and emissions from the HRSG bypass stack(s) during heat recovery steam generator(s) maintenance, shall not exceed 477.4 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the 12-month rolling emission limitation shall be demonstrated under the record keeping requirements in d)(4) and d)(14) by adding the current month's emissions to the emissions for the preceding eleven calendar months.

(Authority for Term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), and OAC rules 3745-31-21 through 27)

(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 approximately 2.5 years after issuance of the permit (following the effective date for the Title V permit) and within 6 months prior to the permit expiration.
- b. The emission testing shall be conducted to demonstrate compliance with the following allowable limitations:
  - i. Main stack – coking operations: PE, NO<sub>x</sub>; and
  - ii. Multiclone stack – pushing operations: PE.



- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
- PE Methods 1 through 4 and 5, 40 CFR Part 60, Appendix A
- NOx Methods 1 through 4 and 7E, 40 CFR Part 60, Appendix A
- Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- The PE test method and procedures for the pushing operations shall also comply with all requirements of 40 CFR 63.7322.
- d. The following additional information shall be documented during all emission testing for PE and NOx:
- i. Hourly wet coal charge rates, in tons/hr and the number of charges per hour to allow a determination of an emission factor in pounds of pollutant per ton of coal processed;
  - ii. Hourly coke push rates, in tons/hr and the number of pushes per hour to allow a determination of an emission factor in pounds of pollutant per ton of coke produced;
  - iii. Pressure drop readings approximately every 15 minutes during the test(s) for:
    - (a) the lime spray dryer baghouse when the main stack emissions are tested; and
    - (b) each pushing multiclone when pushing emissions are being tested.
  - iv. lime spray dryer operating parameters when the main stack emissions are being tested; and
  - v. main stack baghouse cleaning cycle.
- e. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the Southwest Ohio Air Quality Agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Southwest Ohio Air Quality 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 Southwest Ohio Air Quality Agency's refusal to accept the results of the emission test(s).

- g. Personnel from the Southwest Ohio Air Quality 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.
- h. 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 Southwest Ohio Air Quality 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 Southwest Ohio Air Quality Agency.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, 40 CFR Part 64, and 40 CFR Part 63, Subpart CCCCC)

- (3) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
  - a. The emission testing shall be conducted within 6 months prior to the Title V permit expiration. The emission testing for the HRSG bypass stacks shall be conducted during the scheduled by-passes of a heat recovery steam generator for purposes of the annual heat recovery steam generator inspection and maintenance. The HRSG bypass stack testing is only required on one of the five stacks.
  - b. The emission testing shall be conducted to demonstrate compliance with the following allowable limitations:
    - i. Main stack – coking operations: CO, HCl, H<sub>2</sub>SO<sub>4</sub>;
    - ii. Baghouse stack – coal charging operations: PE;
    - iii. HRSG bypass stacks: PE, SO<sub>2</sub>, Mercury; and,
    - iv. Multiclone stack – pushing operations: SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC.
  - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) pursuant to 40 CFR Part 60, Appendix A:
    - PE Methods 1 through 4 and 5
    - CO Methods 1 through 4 and 10



NO <sub>x</sub>	Methods 1 through 4 and 7E
SO <sub>2</sub>	Methods 1 through 4 and 6C
VOC	Methods 1 through 4 and 25 or 25A
HCl	Methods 1 through 4 and 26A
H <sub>2</sub> SO <sub>4</sub>	Methods 1 through 4 and 8
Mercury	Methods 1 through 4 and 29

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

- d. The following additional information shall be documented during all emission testing for PE, CO, NO<sub>x</sub>, SO<sub>2</sub>, VOC, HCl, H<sub>2</sub>SO<sub>4</sub>, and mercury:
  - i. Hourly wet coal charge rates, in tons/hr and the number of charges per hour to allow a determination of an emission factor in pounds of pollutant per ton of coal processed;
  - ii. Hourly coke push rates, in tons/hr and the number of pushes per hour to allow a determination of an emission factor in pounds of pollutant per ton of coke produced;
  - iii. lime spray dryer operating parameters when the main stack emissions are being tested; and
  - iv. pressure drop readings approximately every 15 minutes during the test(s) for each charging baghouse when charging emissions are being tested.
- e. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the Southwest Ohio Air Quality Agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Southwest Ohio Air Quality 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 Southwest Ohio Air Quality Agency's refusal to accept the results of the emission test(s).



- g. Personnel from the Southwest Ohio Air Quality 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.
- h. 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 Southwest Ohio Air Quality 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 Southwest Ohio Air Quality Agency.

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, and OAC rules 3745-31-21 through 27)

- (4) The permittee shall comply with the applicable performance testing and compliance requirements required under 40 CFR Part 63, Subpart CCCCC, including the following sections:

63.7320(a)	Initial performance testing for pushing emissions
63.7326(a)	Initial compliance requirements for pushing emissions
63.7320(c), 63.7327(c), 63.7328(a)-(d)	Initial compliance requirements for work practice standards and operations and maintenance
63.7321	Subsequent performance test requirements [see f)(2) above]
63.7322(a) and (b)	Performance test requirements and test methods
63.7333(a)	Continuous compliance demonstration requirements

(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(A)(3), OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, and 40 CFR Part 63, Subpart CCCCC)

- (5) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #P0117561, issued on 1/20/2015:f)(1) – f)(4). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

g) Miscellaneous Requirements

- (1) None.