



State of Ohio Environmental Protection Agency

STREET ADDRESS:

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50 W. Town St., Suite 700  
Columbus, Ohio 43215

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P.O. Box 1049  
Columbus, OH 43216-1049

11/25/2008

Certified Mail

Delauna Pack  
Middletown Coke Company  
11400 Parkside Drive  
Knoxville, TN 37943

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 1409011031  
Permit Number: 14-06023  
Permit Type: Initial Installation  
County: Butler

No	TOXIC REVIEW
No	PSD
Yes	SYNTHETIC MINOR
Yes	CEMS
Yes	MACT
Yes	NSPS
Yes	NESHAPS
Yes	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described missions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully.

**I also want to bring to your attention one issue of concern. Ohio EPA issued the final permit because we believe it meets all air pollution rules and requirements. However, U.S. EPA is currently reviewing one item and they may or may not agree with our determination. As of the date of issuance of the permit, U.S. EPA has not yet provided a final determination. Therefore, it is Ohio EPA's recommendation and request that before beginning construction of this facility, Middletown Coke Company wait until Ohio EPA obtains additional guidance from U.S. EPA. Ohio EPA is hopeful that this guidance will be forthcoming in the near future. Ohio EPA will promptly relay any additional information from U.S. EPA.**

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of \$70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC at the following address:

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, OH 43215

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. If you have any questions regarding this permit, please contact the Hamilton County Dept. of Environmental Services. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page <http://www.epa.state.oh.us/dapc>.

Sincerely,

*Michael W. Ahern*

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 *Via E-Mail Notification*  
Hamilton County Dept. of Environmental Services

Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director



**State of Ohio Environmental Protection Agency  
Division of Air Pollution Control**

**FINAL**

**Air Pollution Permit-to-Install  
for  
Middletown Coke Company**

Facility ID: 1409011031  
Permit Number: 14-06023  
Permit Type: Initial Installation  
Issued: 11/25/2008  
Effective: 11/25/2008



**Air Pollution Permit-to-Install**  
for  
Middletown Coke Company

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State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**  
**Permit Number:** 14-06023  
**Facility ID:** 1409011031  
**Effective Date:** 11/25/2008

## Authorization

Facility ID: 1409011031  
Facility Description: Heat recovery coke plant  
Application Number(s): A0010156  
Permit Number: 14-06023  
Permit Description: Heat Recovery Coke Plant - 100 Ovens.  
Permit Type: Initial Installation  
Permit Fee: \$5,400.00  
Issue Date: 11/25/2008  
Effective Date: 11/25/2008

This document constitutes issuance to:

Middletown Coke Company  
7014 Hamilton Middletown Road  
Middletown, OH 45044

Of a Permit-to-Install for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Hamilton County Dept. of Environmental Services  
250 William Howard Taft Pkwy.  
Cincinnati, OH 45219-2660  
(513)946-7777

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski  
Director



## Authorization (continued)

Permit Number: 14-06023  
 Permit Description: Heat Recovery Coke Plant - 100 Ovens.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

<b>Emissions Unit ID:</b>	<b>F001</b>
Company Equipment ID:	Paved Roadways and Parking Areas
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>F002</b>
Company Equipment ID:	Coal and Coke Storage Piles
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>F003</b>
Company Equipment ID:	Coal Handling, Processing and Transfer
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>F004</b>
Company Equipment ID:	Coke and breeze handling and processing
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P001</b>
Company Equipment ID:	Quench Tower
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P901</b>
Company Equipment ID:	Heat Recovery Coke Battery
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**  
**Permit Number:** 14-06023  
**Facility ID:** 1409011031  
**Effective Date:** 11/25/2008

## **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. 2.a), Severability Clause
  - (2) Standard Term and Condition A. 3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A. 6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A. 9., Reporting Requirements
  - (5) Standard Term and Condition A. 10., Applicability
  - (6) Standard Term and Condition A. 11.b) through A. 11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A. 14., Public Disclosure
  - (8) Standard Term and Condition A. 15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A. 16., Fees
  - (10) Standard Term and Condition A. 17., Permit Transfers

## 2. Severability Clause

- a) 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.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any 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 and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

## 3. General Requirements

- a) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.
- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

- c) This permit may be modified, revoked, or revoked and reissued, for cause. 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 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.

#### **4. Monitoring and Related Record Keeping and Reporting Requirements**

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - (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.
- 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, 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.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Hamilton County Dept. of Environmental Services.
  - (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures



taken, shall be made to the Hamilton County Dept. of Environmental Services. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

(3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Hamilton County Dept. of Environmental Services every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

(4) This permit is for an emissions unit located at a Title V facility. 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 are true, accurate, and complete.

d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

## **5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Hamilton County Dept. of Environmental Services in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to 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 emission unit(s) that is (are) served by such control system(s).

## **6. Compliance Requirements**

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

b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this 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.

c) 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 ORC section 3704.08.
  - (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.
- d) The permittee shall submit progress reports to the Hamilton County Dept. of Environmental Services 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.

## **7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

## **8. 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.

## **9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Hamilton County Dept. of Environmental Services.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Hamilton County Dept. of Environmental Services. 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 (i.e., postmarked) 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.)



## 10. Applicability

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

## 11. Construction of New Sources(s) and Authorization to Install

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit 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) by submitting a certification from the authorized 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 authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed through completion of the annual PER covering the last period of operation of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit 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). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the PER covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.



- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a PER, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

**12. Permit-To-Operate Application**

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

**13. Construction Compliance Certification**

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

**14. Public Disclosure**

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

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

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly (i.e., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**16. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.



**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Hamilton County Dept. of Environmental Services must be notified in writing of any transfer of this permit.

**18. Risk Management Plans**

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

**19. 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.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**  
**Permit Number:** 14-06023  
**Facility ID:** 1409011031  
**Effective Date:** 11/25/2008

## **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) None.
2. The following emissions units contained in this permit are subject to MACT Subpart L and Subpart CCCCC: P001 and P901 and Subpart CCCCC: P901. The complete MACT requirements, including the MACT 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 appropriate Ohio EPA District office or local air agency.
3. As part of this application Middletown Coke is using emission credits for the installation of pilot flame safety burners at the Number 2 Boiler House at the AK Steel Middletown facility (Premise Number 1409010006). AK Steel shall operate and maintain the pilot flame safety burners on emissions units B007, B008, B009, and B010 in order to ensure the emission reduction credit noted below.

Coke Plant Allowable in tons per year

Emissions unit	PM	PM10	PM2.5	SO2	NOx	CO	VOC	Pb	H2SO4(a)
F001 – (Roadways)	21.57	4.21	1.05						
F002- (Coal and coke storage piles)	7.51	3.64	1.29						
F003 – (Coal handling, processing and transfer)	6.05	2.88	0.9						
F004 – (Coke breeze handling and processing)	21.47	18.07	15.98						
P001 – (Coke quenching)	54.75	20.08	12.32					0.048	
P901 - Heat recovery coke plant									
Charging (stack)	3.4	3.4	3.4	0.14		1.28	0.91	0.00005	
Charging (fugitive)	1.23	0.37	0.18						
Total Charging	4.63	3.77	3.58	0.14					
Coking operations - main stack	46.93	46.93	46.93	1091.4	471.0	95.54	20.47	0.12	11.13
Waste gas from coking processing bypassing lime spray dryer	18.9	18.9	18.9	448.5		3.93	0.84	0.103	22.88
Pushing operations with flat push hot car vented to multiclone dust collector	13.09	13.09	13.1	44.71	8.67	28.74	9.13	0.008	2.28
Total	194.9	131.6	114.05	1584.75	479.7	129.49	31.35	0.28	36.29

Emission credits from AK Steel

Emissions unit	PM	PM10	PM2.5	SO2	NOx	CO	VOC	Pb	H2SO4(a)



Raw materials unloading (emissions unit F009)	-52.28	-26.14	-9.27						
Windbox (emissions unit P908)*	-117.12	-112.43	-104.24	-1615.4	-394.6	-14536.19	-167.6	-2.58	-48.5
Breaker end (emissions unit P936) *	-155.23	-49.67	-17.08						
Cold sinter screening (emissions unit F007) *	-68.66	-10.30	-3.43						
Subtotal	-393.3	-198.5	-134.0	-1615.4	-394.6	-14536.2	-167.6	-2.58	-48.5
No.2 boiler house flame safety management project#					-45.9				
Increases minus reductions	-198.3	-66.8	-20.0	-30.7	39.2	-14406.7	-136.3	-2.3	-12.2
Significant emission trigger level values	25	15	10	40	40	100	40	0.6	7
Significant Impact	No	No	No	No	No	No	No	No	No

\* The two year period within the last ten years, as allowed in OAC rule 3745-31-01, is from June 1999 thru May 2001 based upon production and operating hours as denoted in the Middletown Coke Company's air permit to install application dated July 2008, under the AK Steel's Emission Reduction tab.

# the NOx credits have been calculated by the difference in the pilot burner sizes before the project compared to the reduction in the pilot flame safety burner sizes after the project has been implemented multiplied times the average pilot flame safety operating hours for the four boilers during the 24 consecutive months from June 4, 2005 through June 3, 2007 as denoted in the Middletown Coke Company's air permit to install application dated February 2008, under the AK Steel's Emission Reduction tab.

[a] Estimated as 3% of SO2.

- As part of this application, Middletown Coke is using emission credits for the installation of pilot flame safety burners at the Number 2 Boiler House at the AK Steel Middletown facility (Premise Number 1409010006). AK Steel shall operate and maintain the pilot flame safety burners on emissions units B007, B008, B009, and B010 in order to ensure the emission reduction credit noted above. AK Steel shall record the gas usage of the Number 2 Boiler House pilot burners on a monthly basis and submit annual reports summarizing the usage covering the previous calendar year to Hamilton County Department of Environmental Services by February 15 of each year.



5. Based upon the information submitted in permit to install application 14-06023, AK Steel Corporation (Premise Number 1409010006) was considered one facility for new source review purposes with Middletown Coke (Premise Number 1409011031). This permit to install contains requirements which are applicable to AK Steel and will be incorporated into their Title V operating permit.
6. The permittee shall purchase in coordination with the Hamilton County Department of Environmental Services two Particulate Matter 10 Microns and Smaller in Diameter (PM10) monitors, four Particulate Matter 2.5 Microns and Smaller in Diameter (PM2.5) monitors and two Volatile Organic Hazardous Air Pollutant monitors. These monitors will be sited and operated by the Hamilton County Department of Environmental Services. All sitting costs shall be paid for by the permittee. All air quality monitors installed as required by this permit will be sited and 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. All monitors required by this permit shall be operational no later than the start-up date of the emissions unit. The PM10 monitor shall be operated on a one-day-in-six schedule. The PM2.5 monitor shall be operated on a one-day-in-three schedule. The volatile organic hazardous air pollutant monitor shall be operated on a one-day-in-twelve schedule. The permittee shall reimburse the Hamilton County Department of Environmental Services for ongoing operational and analysis costs for the monitors.
7. The PM10 and PM2.5 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.
8. U.S. EPA Netting Credit Review

Ohio EPA issued this final permit because we believe it meets all air pollution rules and requirements. However, U.S. EPA is reviewing the validity of the netting credits and they may or may not agree with our determination. As such, Ohio EPA recommends and requests that Middletown Coke Company not begin actual construction until U.S. EPA has completed their review and advised us of their final determination on this issue.



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



**1. F001, F001**

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

F001- Paved Roadways and Parking Areas

a) 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:

(1) b)(1)b.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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)	Particulate emissions (PE) shall not exceed 21.57 TPY.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)a.
c.	OAC rule 3745-31-05(D)	Particulate emissions with a diameter of 10 microns and less (PM10) shall not exceed 4.21 TPY (filterable PM10).  Particulate emissions with a diameter of 2.5 microns and less (PM2.5) shall not exceed 1.05 TPY (filterable PM2.5).
d.	OAC rule 3745-17-07(B)	There shall be no visible particulate emissions except for 6 minutes during any 60-minute period.
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)b. through b.(2)g.

(2) Additional Terms and Conditions

a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to particulate matter emissions 10 microns and less in diameter (PM10) or to particulate matter emissions 2.5 microns and less in diameter (PM2.5) from this air contaminant source since the uncontrolled potential to emit for PM10 and PM2.5 is less than 10 tons per year.



- b. 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.
- c. 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.
- d. 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.
- e. 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.
- f. 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.
- g. Implementation of the above-mentioned control measures for particulate emissions in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-31-05.

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:

paved roadways	minimum inspection frequency
All	Daily



paved parking areas	minimum inspection frequency
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.

- (2) 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 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)(3)d. shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

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.

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

f) Testing Requirements

- (1) Compliance with the emission limitation(s) in section b) of these terms and conditions shall be determined in accordance with the following method(s):



a. Emission Limitation:

PE shall not exceed 21.57 TPY.

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 pounds/VMT emission factor and divide by 2,000 pounds/ton.

The particulate emission factors were calculated using AP-42 Section 13.2.1, Equation (1), dated 12/03.

b. Emission Limitation:

There shall be no visible particulate emissions except for 6 minutes 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.

c. Emission Limitation:

PM10 emissions shall not exceed 4.21 TPY.

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 pounds/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 (1), dated 12/03.

d. Emission Limitation:

Filterable PM2.5 emissions shall not exceed 1.05 TPY.

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 pounds/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 (1), dated 12/03.



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g) Miscellaneous Requirements

(1) None.



**2. F002, F002**

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

F002 - Coal and Coke Storage Piles

a) 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:

(1) b)(1)e.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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)	Particulate emissions (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 ton/year.
b.	OAC rule 3745-31-05(D)	Particulate emissions with a diameter of 10 microns and less (PM10) shall not exceed 3.64 TPY (filterable PM10).  Particulate emissions with a diameter of 2.5 microns and less (PM2.5) shall not exceed 1.29 TPY (filterable PM2.5).
c.	OAC rule 3745-17-07(B)	There shall be no visible particulate emissions except for 13 minutes during any 60-minute period.
d.	OAC rule 3745-17-08(B)	See b)(2)a. through b)(2)e.
e.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)f.

(2) Additional Terms and Conditions

a. The storage piles that are covered by this permit and subject to the requirements of OAC rule 3745-31-05 are listed below:

coal storage pile(s)

coke storage pile(s)



- b. 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:
- c. 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.
- d. 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.
- e. 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.
- f. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply the particulate matter emissions 10 microns and less in diameter (PM10) and particulate matter emissions 2.5 microns and less in diameter (PM2.5) from this air contaminant source since the uncontrolled potential to emit for PM10 and PM 2.5 is less than 10 tons per year.

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:

storage pile identification	minimum load-in inspection frequency
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All

Daily



- (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:

storage pile identification	minimum load-out inspection frequency
All	Daily

- (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:

storage pile identification	minimum wind erosion inspection frequency
All	Daily

- (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.

- (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.

- (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.

- (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.

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

f) Testing Requirements

- (1) Compliance with the emission limitation(s) in b) of these terms and conditions shall be determined in accordance with the following method(s):

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 tons/year.

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 1/95.

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 1/80.

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 1/95. 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 1/95. 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 1/95.

b. Emission Limitation:

PM<sub>10</sub> 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.

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 1/95.



ii. coal pile wind erosion -  $PM_{10}$

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  $PM_{10}$  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 1/80.

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 1/95. 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 1/95. 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 1/95. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.



c. Emission Limitation:

Filterable PM<sub>2.5</sub> 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.

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 1/95.

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 1/80.

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 1/95. 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 1/95. 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 1/95. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

- d. Emission Limitation:

There shall be no visible emissions except for 13 minutes 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.

- g) Miscellaneous Requirements

- (1) None.



**3. F003, F003**

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

F003 - Coal Handling, Processing and Transfer

a) 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:

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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)	Particulate emissions (PE) that are fugitive shall not exceed 6.05 tons/year as a rolling, 12-month summation.
b.	OAC rule 3745-31-05(D)	Particulate emissions with a diameter of 10 microns and less (PM10) that are fugitive shall not exceed 2.88 tons/year as a rolling, 12-month summation.  Filterable particulate emissions with a diameter of 2.5 microns and less (PM2.5) that are fugitive shall not exceed 0.90 ton/year as a rolling, 12-month summation.
c.	OAC rule 3745-17-07(B)(1)	Visible particulate emissions shall not exceed 20% opacity, as a 3-minute average.
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)b through (2)e.
e.	40 CFR Part 60, Subpart Y	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-17-07(B)(1).

(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 belt conveyor
- coal transfer points via belt conveyor to belt conveyor
- coal crushing.

b. 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 has committed to 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 (12)	total 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 other control measures to ensure compliance.

- c. 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.
- d. 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 rule 3745-31-05.
- e. 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) 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.

To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the wet coal usage levels specified in the following table:

Month	Maximum Allowable Cumulative Production
1	77,500
1-2	152,083
1-3	228,125
1-4	304,167
1-5	380,208
1-6	456,250
1-7	532,292
1-8	608,333
1-9	684,375
1-10	760,417
1-11	836,458
1-12	912,500

After the first 12 calendar months of operation, compliance with the annual wet coal usage rate limitation shall be based upon a rolling, 12-month summation of the wet coal usage rates.

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.
  - b. Beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the wet coal usage rates.

Also, during the first 12 calendar months of operation, the permittee shall record the cumulative wet coal usage rate for each calendar month.

- (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:



material handling operation(s)	minimum inspection frequency
unenclosed transfer conveyors	daily
coal pile load-in	daily
unenclosed transfer to trippers	daily
unenclosed trippers	daily

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

- (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.

e) Reporting Requirements

- (1) Pursuant to the NSPS, the permittee is hereby advised of the requirement to report the following at the appropriate times:
  - Construction date (no later than 30 days after such date);
  - Actual start-up date (within 15 days of such date); and
  - Date of performance testing (if required, at least 30 days prior to testing).
 Reports are to be sent to:
  - Hamilton County Department of Environmental Services
  - 250 William Howard Taft Road
  - Cincinnati, Ohio 45219
- (2) 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; 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 General Terms and Conditions of this permit.

f) Testing Requirements

- (1) Compliance with the emission limitation(s) in b) of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:

PE that are fugitive shall not exceed 6.05 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:

Multiply the maximum tons of coal unloaded per year, times the 0.0017 pound/ton emission factor times 0.30, assuming a 70% control efficiency for wet suppression and 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 handled per year, times 12, the number of transfer points, times the 0.0017 pound/ton emission factor times 0.05, assuming a 95% control efficiency for 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. uncontrolled coal transfer points:

Multiply the maximum tons of coal handled per year, times 6, the number of transfer points, times the 0.0017 pound/ton emission factor 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. coal screening/crushing with enclosure and wet suppression:

Multiply the maximum tons of coal handled per year times the 0.16 pound/ton emission factor times 0.01, assuming a 99% control efficiency for enclosed transfer points and wet suppression, 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.



b. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity as a 3-minute average

Applicable Compliance Method:

If required, 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.

c. Emission Limitation:

PM<sub>10</sub> that are fugitive shall not exceed 2.88 tons/year 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

Multiply the maximum tons of coal unloaded per month, times the 0.0008 pound/ton emission factor times 0.30, assuming a 70% control efficiency for wet suppression and 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 12, the number of controlled transfer points, times the 0.0008 pound/ton emission factor times 0.05, assuming a 95% control efficiency for 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. uncontrolled coal transfer points

Multiply the maximum tons of coal handled per month, times 6, the number of uncontrolled transfer points, 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.



- iv. coal screening/crushing with enclosure and wet suppression:

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 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 AP-40 and Ohio RACM.

- d. Emission Limitation:

PM<sub>2.5</sub> that are fugitive shall not exceed 0.90 ton/year 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

Multiply the maximum tons of coal unloaded per month, times the 0.00025 pound/ton emission factor times 0.30, assuming a 70% control efficiency for wet suppression and 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 12, the number of controlled transfer points, times the 0.00025 pound/ton emission factor times 0.05, assuming a 95% control efficiency for 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. uncontrolled coal transfer points

Multiply the maximum tons of coal handled per month, times 6, the number of uncontrolled transfer points, times the 0.00025 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.

- iv. coal screening/crushing with enclosure and wet suppression:

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 enclosed transfer points and wet suppression, and divide by 2,000



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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.

- g) Miscellaneous Requirements
  - (1) None.



**4. F004, F004**

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

F004 - Coke and breeze handling and processing

a) 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:

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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)  OAC rule 3745-31-05(D)* * = This rule is applicable to the rolling, 12-month summation limits.	Particulate emissions (PE), particulate matter emissions with a diameter of 10 microns and less (PM10) and particulate matter emissions with a diameter of 2.5 microns and less (PM2.5) from the crushing/screening baghouse shall not exceed 3.43 pounds per hour.  Particulate emissions from the crushing/screening baghouse shall not exceed 0.008 grains per dry standard cubic foot of exhaust gases.  PE from the coke and breeze handling and processing shall not exceed 21.47 TPY as a rolling, 12-month summation.  Particulate matter emissions with a diameter of 10 microns and less (PM10) from the coke and breeze handling and processing shall not exceed 18.07 TPY as a rolling, 12-month summation.  Particulate matter emissions with a diameter of 2.5 microns and less (PM2.5) from the coke and breeze handling and processing shall not exceed 15.98 TPY as a rolling, 12-month summation.  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), 3745-17-07(B) and OAC rule 3745-17-08(B).
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-07(B)(1)	Visible particulate emissions of fugitive dust from this emissions unit shall not exceed 20% opacity as a 3-minute average.
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)b through b)(2)d.

(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 screening  
 coke loading to trucks or railcars  
 coke conveying via belt conveyor  
 coke transfer points - enclosed  
 coke transfer points - unenclosed

- b. 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 has committed to perform the following control measure(s) to ensure compliance:

<u>Material handling operation(s)</u>	<u>Control measure(s)</u>
coke screening	fabric filter baghouse
coke conveying via belt conveyors	enclosure, wet material
coke transfer points (belt conveyor to belt conveyor and crusher to belt conveyor)	enclosure, wet material
coke loading of railcars and trucks	wet material



(alternative to conveyor transport)

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

- c. 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.
- d. 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 OAC rule 3745-31-05.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly install, 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 appropriate Ohio EPA District Office or local air 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.

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:

Material-handling operation(s)	Minimum inspection frequency
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.



- (2) 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.

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).

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.

- (2) 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; and,
  - b. each instance when a control measure, that was to be performed as a result of an inspection, was not implemented.

These deviation (excursion) reports are due by the dates described in Part 1 - General Terms and Conditions of this permit under section (A).



f) Testing Requirements

(1) Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for the crushing/screening baghouse in accordance with the following requirements:

- a. The emission testing shall be conducted within 60 days after achieving the maximum production rate but no later than 180 days after initial startup of the emissions unit.
- b. The emission testing shall be conducted to demonstrate compliance with the PM emissions limits.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

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

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

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

(2) Compliance with the emission limitation(s) in b) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

PE/PM10/PM2.5 emissions from the crushing/screening baghouse shall not exceed 3.43 pounds per hour.



Applicable Compliance Method:

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).

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 PM10 and PM2.5 where PM10 and PM2.5 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.

b. Emission Limitation:

Particulate matter emissions (PE) that shall not exceed 21.47 tons/year as a rolling, 12-month summation.

Applicable Compliance Method:

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

i. 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 0.30, assuming a 70% control efficiency for the enclosures, 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. uncontrolled coke transfer points

Multiply the maximum tons of coke handled per year per each transfer point 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, Section 13.2.4, Equation (1), dated 11/06.

iii. coke load-out

Multiply the maximum tons of coke handled per year times the 0.00169 pound/ton emission factor times 0.30, assuming a 70% control efficiency for the partial enclosure, 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.

iv. 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 0.30, assuming a 70% control efficiency



for the 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.

v. crushing/screening baghouse

The hourly rate of particulate emissions shall be determined 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). Multiply the hourly emissions rate in pounds times the hours of operation and divide by 2,000 pounds per ton.

c. Emission limitation:

Visible particulate emissions of fugitive dust from this emissions unit shall not exceed 20% 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).

d. Emission Limitation:

Visible particulate emissions from the crushing/screening baghouse 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).

e. Emission Limitation:

Particulate emissions from the crushing/screening baghouse shall not exceed 0.008 grains per dry standard cubic foot of exhaust gases.

Applicable Compliance Method:

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).

f. Emission Limitation:

Particulate matter emissions with a diameter of 10 microns and less (PM10) shall not exceed 18.07 tons/year 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. 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 0.30, assuming a 70% control efficiency for the enclosures, 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. uncontrolled coke transfer points

Multiply the maximum tons of coke handled per year per each transfer point times the 0.0008 pound/ton emission factor, 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. coke load-out

Multiply the maximum tons of coke handled per year times the 0.0008 pound/ton emission factor times 0.30, assuming a 70% 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. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iv. 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 0.30, assuming a 70% control efficiency for the 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.

v. crushing/screening baghouse

The hourly rate of particulate emissions shall be determined 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). Multiply the hourly emissions rate in pounds times the hours of operation and divide by 2,000 pounds per ton.



g. Emission Limitation:

Particulate matter emissions with a diameter of 2.5 microns and less (PM<sub>2.5</sub>) shall not exceed 15.98 tons/year 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. 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 0.30, assuming a 70% control efficiency for the enclosures, and divide by 2,000 pounds per ton.

The PM<sub>2.5</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. uncontrolled coke transfer points

Multiply the maximum tons of coke handled per year per each transfer point times the 0.00025 pound/ton emission factor, 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. coke load-out

Multiply the maximum tons of coke handled per year times the 0.00025 pound/ton emission factor times 0.30, assuming a 70% 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. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iv. 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 0.30, assuming a 70% control efficiency for the 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.

v. crushing/screening baghouse

The hourly rate of particulate emissions shall be determined in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in



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OAC rule 3745-17-03(B)(10). Multiply the hourly emissions rate in pounds times the hours of operation and divide by 2,000 pounds per ton.

g) Miscellaneous Requirements

(1) None



**5. P001, P001**

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

P001 - Quench Tower

- a) 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:
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operations(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. 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)  OAC rule 3745-31-05(D)* * = This rule is applicable to the rolling, 12-month summation limits.	Filterable particulate emissions (PE) from this emissions unit shall not exceed 60 pounds per hour and 54.75 tons per year as a rolling, 12-month summation.  Filterable particulate matter emissions 10 microns and less (PM10) from this emissions unit shall not exceed 22.0 pounds per hour and 20.08 tons per year as a rolling, 12-month summation.  Filterable particulate matter emissions 2.5 microns and less (PM2.5) from this emissions unit shall not exceed 13.5 pounds per hour and 12.32 tons per year as a rolling, 12-month summation.  Hazardous Air Pollutant (HAP) emissions (excluding HCl) for emissions units P001 and P901 shall not exceed 3.6 tons per year.  HCl emissions for emissions units P001 and P901 shall not exceed 118.04 tons per year.  See b)(2)b.  The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-17-



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		07(B)(1), 3745-31-05(D) and 40 CFR Part 63, Subpart CCCCC.
b.	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.
c.	40 CFR Part 63, Subpart CCCCC	See b)(2)a below.
d.	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.
e.	OAC rule 3745-17-07(B)(1)	Visible particulate fugitive emissions from this emissions unit shall not exceed 20 per cent opacity as a three-minute average, except as specified by rule.
f.	OAC rule 3745-31-05(E)	Lead emissions shall not exceed 0.28 ton per year 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).

[40 CFR 63.7295 (a)(1)(i) or (ii)]

- 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. These hourly emission limitations were established for permit-to-install (PTI) purposes to reflect potential to emit for this emissions unit based upon the maximum tons of wet coal charged per hour. Therefore, it is not necessary to develop monitoring, record keeping, and/or reporting requirements to ensure compliance with these limitations.
- d. The throughput from this emission unit is limited by the coke throughput limitation on emission unit P901.

c) Operational Restrictions

- (1) See 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280-7352).

d) Monitoring and/or Recordkeeping Requirements

- (1) See 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280 -7352).



- (2) The permittee shall maintain monthly records of the following information:
  - a. the wet coal usage rate for each month; and,
  - b. beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the wet coal usage rates.
  - c. the rolling, 12-month summation of the PM, PM10, PM2.5 and lead emissions for this emissions unit.

Also, during the first 12 calendar months of operation, the permittee shall record the cumulative wet coal usage rate for each calendar month.

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports which identify all exceedances of any of the 54.75 tons per year of PE, the 20.08 tons per year of PM10, the 12.32 tons per year of PM2.5 and the 0.28 ton per year of lead from P001 and P901 combined, as a rolling, 12-month summation emission limitations.
- (2) These reports are due by the date described in the Standard Terms and Conditions of this permit under Section A.
- (3) See 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280 -7352).
- (4) The permittee shall submit semiannual written reports that (a) identify all days during which visible emissions from the egress points (i.e. building windows, doors, roof monitors, etc.) serving this emissions unit exceeded the allowable emission rate specified in b)(1)e. of this permit, and (b) describe any corrective actions taken to minimize or eliminate visible emissions.

f) Testing Requirements

- (1) Compliance with the emission limitation(s) in b) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

Hazardous Air Pollutant (HAP) emissions for emissions units P001 and P901 shall not exceed 121.7 tons per year.

Applicable Compliance Method:

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

i. Coking emission control system - Main Stack:

Compliance shall be demonstrated 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.

ii. Pushing Stack:

Compliance 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, (emission factors from October 1989 Jewell stack test) by the wet tons of coal charged per year divided by 2000 lbs per ton.

iii. Charging control system-baghouse stack: Compliance shall be demonstrated 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: Compliance 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. Heat Recovery Steam Generator (HRSG) and Spray Dryer (SD) bypass Stacks: Compliance shall be demonstrated 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 tons of coal charged per day multiplied by an estimated percentage of total waste gas venting through the 5 vent stacks divided by 2,000 lbs/ton.

b. Emission Limitation:

PE from this emissions unit shall not exceed 60 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.448 lb PE/wet ton coal charged times the maximum wet tons of coal charged per hour. The PE 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) times (1-0.73) control efficiency for improved baffle design documented by the applicant in the permit application.

c. Emission Limitation:

PM10 from this emissions unit shall not exceed 22.0 pounds per hour.



Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.0439 lb PM<sub>10</sub>/wet ton coal charged times the maximum wet tons of coal charged per hour. The PM<sub>10</sub> 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 and 9.8% of PM is PM<sub>10</sub> per Table 12.2-12).

d. Emission Limitation:

PM<sub>2.5</sub> from this emissions unit shall not exceed 13.5 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.027 lb PM<sub>2.5</sub>/wet ton coal charged times the maximum wet tons of coal charged per hour. The PM<sub>2.5</sub> 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 and 6 % of PM is PM<sub>2.5</sub> per table 12.2-12).

e. Emission Limitation:

PE from this emissions unit shall not exceed 54.75 tons per year as a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be demonstrated by adding the current month's emissions to the emission for the preceding eleven calendar months. Monthly emissions shall be determined by multiplying the emission factor of 0.448 pounds per ton times the maximum wet tons of coal charged per month, and divide by 2,000 pounds/ton.

The PE emission factor was obtained from AP-42 5th edition, Section 12.2, Table 12.2-12 (the PE 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

f. Emission Limitation:

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

Applicable Compliance Method:

Compliance shall be demonstrated by adding the current month's emissions to the emission for the preceding eleven calendar months. Monthly emissions shall be determined by multiplying the PM<sub>10</sub> emission factor of 0.044 pounds/ton coal charged, times the tons of coal charged per month, divided by 2,000 pounds/ton.



The PM<sub>10</sub> 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 and 9.8% of PM is PM<sub>10</sub>).

g. Emission Limitation:

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

Applicable Compliance Method:

Compliance shall be demonstrated by adding the current month's emissions to the emission for the preceding eleven calendar months. Monthly emissions shall be determined by multiplying the PM<sub>2.5</sub> emission factor of 0.027 pounds/ton coal charged, times the tons of coal charged per month, divided by 2,000 pounds/ton. The PM<sub>2.5</sub> 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 and 6 % of PM is PM<sub>2.5</sub>).

h. Emission Limitation:

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

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures required in OAC rule 3745-17-03(B)(3).

i. Emission Limitation:

[40 CFR 63.7295 (a)(1)(i)]

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:

[40 CFR 63.7325(a)(1)]

Take 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.

[40 CFR 63.7325(a)(2)]

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 105 °C (degrees Centigrade) instead of 180 °C.



j. Emission Limitation:

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

Applicable Compliance Method:

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

i. bypass stacks and coking emission control system main stack

Compliance shall be demonstrated by adding the current month's emissions to the emission for the preceding eleven calendar months. 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

Compliance shall be demonstrated by adding the current month's emissions to the emission for the preceding eleven calendar months. Monthly emissions shall be determined by multiplying the lead emission factor of 0.0000001 pounds/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

Compliance shall be demonstrated by adding the current month's emissions to the emission for the preceding eleven calendar months. 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

Compliance shall be demonstrated by adding the current month's emissions to the emission for the preceding eleven calendar months. 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

k. Emission Limitation:

Visible particulate fugitive emissions shall not exceed 20 percent opacity as a three-minute average, except as specified by rule.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**  
**Permit Number:** 14-06023  
**Facility ID:** 1409011031  
**Effective Date:** 11/25/2008

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Method 9.

- g) Miscellaneous Requirements
  - (1) None.



**6. P901, P901**

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

P901 - Heat Recovery Coke Battery

- a) 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:
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operations(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. 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)	<p>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.</p> <p>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.</p>
b.	<p>Coal charging operations with baghouse and traveling hood</p> <p>OAC rule 3745-31-05(A)(3)</p> <p>OAC rule 3745-31-05(D)*</p> <p>* = This rule is applicable to the rolling, 12-month summation limits.</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>Particulate emissions (PE), filterable particulate matter emissions 10 microns and less in diameter (PM10) and filterable particulate matter emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 3.7 pounds per hour and 3.4 tons per year (TPY) as a rolling, 12-month summation from the charging baghouse.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Fugitive PE from charging shall not exceed 1.35 pounds per hour and 1.23 TPY as a rolling, 12-month summation.</p> <p>Fugitive PM10 emissions from charging shall not exceed 0.41 pound per hour and 0.37 TPY as a rolling, 12-month summation.</p> <p>Fugitive PM2.5 emissions from charging shall not exceed 0.20 pound per hour and 0.18 TPY as a rolling, 12-month summation.</p> <p>Sulfur dioxide (SO<sub>2</sub>) emissions from the charging baghouse shall not exceed 0.15 lb/hr and 0.14 TPY as a rolling, 12-month summation.</p> <p>Carbon monoxide (CO) emissions from the charging baghouse shall not exceed 1.4 lb/hr and 1.28 TPY as a rolling, 12-month summation.</p> <p>Volatile organic compound (VOC) emissions from the charging baghouse shall not exceed 1.0 lb/hr and 0.91 TPY as a rolling, 12-month summation.</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>
c.	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).
d.	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).
e.	OAC rule 3745-17-08(B)	The permittee shall minimize visible emissions of fugitive dust.
f.	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		rule 3745-31-05(A)(3).
g.	OAC rule 3745-21-08(B)	See b)(2)b.
h.	<p>40 CFR Part 63, Subpart L (40 CFR 63.300 -313) [In accordance with 40 CFR 63.300(b), this emissions unit is a greenfield coke oven battery subject to the emission limitations/control measures specified in this section.]</p>	<p>Particulate matter (PE) emissions from the charging baghouse stack shall not exceed 0.0081 pounds per ton (lbs/ton) of dry coal charged as determined by the procedures in 40 CFR 63.309(k). 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 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 following 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)e and b)(2)g.</p>
i.	<p>Coking operations with heat recovery steam generators and lime spray dryer - main stack</p> <p>OAC rule 3745-31-05(A)(3)</p>	<p>Filterable PM, PM10 and PM2.5 shall not exceed 10.7 pounds per hour and 46.9 TPY as a rolling, 12-month summation.</p> <p>SO2 emissions shall not exceed 300.0 lbs/hr (based on a 3-hour block average) and 1091.4 TPY as a rolling, 12-month summation.</p> <p>See b)(2)m.</p> <p>CO emissions shall not exceed 21.81</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>lbs/hr and 95.54 TPY as a rolling, 12-month summation.</p> <p>VOC emissions shall not exceed 4.67 lbs/hr and 20.47 TPY as a rolling, 12-month summation.</p> <p>NOx emissions shall not exceed 104.2 lbs./hr. Annual emissions shall not exceed 471.0 TPY when combined with emissions from the waste gas bypass stacks as a rolling 12-month summation.</p> <p>Hydrochloric acid (HCl) emissions shall not exceed 14.8 lbs/hr and 64.8 TPY as a rolling, 12-month summation.</p> <p>Hazardous air pollutants (HAP), excluding HCl from emission units P001 and P901 combined, shall not exceed 3.6 TPY as a rolling, 12-month summation.</p> <p>Sulfuric acid mist (H2SO4) emissions shall not exceed 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 OAC rules 3745-17-07(A)(1), 3745-21-08(B), 40 CFR Part 63, Subparts L and CCCCC.</p> <p>See b)(2)c, b)(2)j through b)(2)m, and c)(1) through c)(12).</p>
j.	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).
k.	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emission



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		limitation established pursuant to OAC rule 3745-31-05(A)(3).
l.	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).
m.	OAC rule 3745-21-08(B)	See b)(2)b. below.
n.	40 CFR Part 63, Subpart L (40 CFR 63.300 -313) [In accordance with 40 CFR 63.300(b), this emissions unit is a greenfield coke oven battery subject to the emission limitations/control measures specified in this section.]	See b)(2)e and b)(2)f.
o.	40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280 -7352)  [In accordance with 40 CFR 63.7282(b), this emissions unit is a coke oven battery subject to the emission limitations/control measures specified in this section.]	See b)(2)h and b)(2)i.
p.	Waste gas from the coking process bypassing lime spray dryer  OAC rule 3745-31-05(A)(3)  OAC rule 3745-31-05(D)* * = This rule is applicable to the rolling, 12-month summation limits.	Filterable PE, PM10 and PM2.5 emissions shall not exceed 21.0 pounds per hour from each individual waste gas bypass stack and 18.9 TPY from all waste gas bypass stacks as a rolling, 12-month summation.  SO2 emissions shall not exceed 498.33 pounds per hour from a single waste gas bypass stack as a 3 hour block average and 448.5 TPY from all the waste gas bypass stacks as a rolling, 12-month summation.  NOx emissions shall not exceed 20.8 pounds per hour. Annual emissions shall not exceed 471.0 TPY from waste gas bypass stacks when combined with emissions from the main stack as a rolling, 12-month summation.  Hydrochloric acid (HCl) emissions shall not exceed 59.17 pounds per hour from a single waste gas bypass stack and 53.25 TPY from all waste gas stacks.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Carbon monoxide (CO) emissions shall not exceed 4.36 pounds per hour from a single waste gas bypass stack and 3.93 TPY as a rolling, 12-month summation from all waste gas bypass stacks.</p> <p>Volatile organic compound (VOC) emissions shall not exceed 0.93 pounds per hour from a single waste gas bypass stack and 0.84 ton per year (TPY) from all waste gas bypass stacks as a rolling, 12-month summation.</p> <p>Lead (Pb) emissions shall not exceed 0.103 TPY as a rolling, 12-month summation.</p> <p>Mercury (Hg) emissions shall not exceed 0.0069 pound per hour from a single waste gas bypass stack and 12.4 pounds per year from all waste gas bypass stacks.</p> <p>Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 25.4 lbs/hr from a single waste gas bypass stack and 22.88 TPY as a rolling 12-month summation.</p> <p>Visible particulate emissions from the waste gas bypass stack(s) shall not exceed 20% 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 OAC rules 3745-17-07(A)(1), 3745-21-08(B) and 40 CFR Part 63, Subparts L and CCCCC.</p>
q.	OAC rule 3745-17-07(A)	The emission limitation specified by this rules is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
r.	OAC rule 3745-17-11(B)	The emission limitation specified by this



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		rules is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
s.	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).
t.	OAC rule 3745-21-08(B)	See b)(2)b. below.
u.	40 CFR Part 63, Subpart L (40 CFR 63.300 -313) [In accordance with 40 CFR 63.300(b), this emissions unit is a greenfield coke oven battery subject to the emission limitations/control measures specified in this section.]	See b)(2)e and b)(2)f.
v.	40 CFR Part 63, Subpart CCCC (40 CFR 63.7280 -7352)  [In accordance with 40 CFR 63.7282(b), this emissions unit is a coke oven battery subject to the emission limitations/control measures specified in this section.]	See b)(2)h and b)(2)i.
w.	Pushing operations with flat push hot car vented to multiclone dust collector  OAC rule 3745-31-05(A)(3)  OAC rule 3745-31-05(D)* * = This rule is applicable to the rolling, 12-month summation limits.	Filterable PE, PM10 and PM2.5 emissions shall not exceed 14.3 pounds per hour and 13.09 TPY as a rolling, 12-month summation.  SO2 emissions shall not exceed 49.0 pounds per hour and 44.71 TPY as a rolling, 12-month summation.  NOx emissions shall not exceed 9.5 pounds per hour and 8.67 TPY as a rolling, 12-month summation.  CO emissions shall not exceed 31.5 pounds per hour and 28.74 TPY as a rolling, 12-month summation.  VOC emissions shall not exceed 10.0 pounds per hour and 9.13 TPY as a rolling, 12-month summation.  Sulfuric acid mist (H2SO4) emissions shall not exceed 2.5 lbs/hr and 2.28 TPY as a rolling 12-month summation.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		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 3745-21-08(B).
x.	OAC rule 3745-17-07(A)	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.
y.	OAC rule 3745-17-08(B)	The permittee shall minimize visible emissions of fugitive dust.
z.	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).
aa.	OAC rule 3745-21-08(B)	See b)(2)b. below.
bb.	<p>40 CFR Part 63, subpart CCCCC (40 CFR 63.7280 -7352)</p> <p>[In accordance with 40 CFR 63.7282(b), this emissions unit is a coke oven battery at a coke oven plant subject to the emission limitations/control measures specified in this section.]</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> <p>Maintain daily average fan motor amperes at or above minimum motor amperes establish 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)(ii).</p> <p>Maintain the daily average pressure drop of the multicyclone at or below the minimum level established during the initial performance test per 40 CFR 63.7290(b)(4).</p> <p>See b)(2)h., b)(2)i. and b)(2)j.</p>

(2) Additional Terms and Conditions

- a. Under OAC rule 3745-31-05, the following best available technologies shall be required:



- i. The waste gas from coking shall be processed by the use of a lime spray dryer with a manufacturer's design control efficiency of 90% for SO<sub>2</sub> control, staged combustion for NO<sub>x</sub> control, combustion optimization for CO and VOC control, and a baghouse for PE control.

See b)(2)m.

- ii. The pushing operations shall employ a mobile hood with a multiclone dust collector for PE control and work practices for CO and VOC control.
- iii. The emissions control system for the pushing operation(s) shall maintain a minimum capture efficiency of 98%.
- iv. The charging operations shall employ a baghouse with a traveling hood for PE control.

- b. The permittee shall satisfy the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. On June 24, 2003, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- c. Lead emissions shall not exceed 0.28 ton per year as a rolling, 12-month summation for emissions units P901 and P001 combined.
- d. 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. [40 CFR 63.300(e)]
- e. 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. [40 CFR 63.303(b)(1)]

- f. 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. [40 CFR 63.303(b)(2)]



- g. As required by §63.6(e)(1)(i), the permittee must always operate and maintain your 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.
- h. 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.
  - 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.

[40 CFR 63.7300(c)(1) through (3)]

- i. 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 shall not exceed 118.04 tons per year.
- j. 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 appropriate Ohio EPA District Office or local air agency.

- k. Control of Mercury Emissions
  - i. The Permittee shall install, operate, and maintain an activated carbon injection system on the main stack for control of mercury emissions, which system shall be operated to comply with the following requirements for control of mercury emissions from the main stack. This system shall



be designed to inject up to 10 pounds of activated carbon per million actual cubic feet of exhaust gases.

- ii. This activated carbon injection system shall be operated at all times when the spray dryer/fabric filter system is operated, either at a maximum activated carbon injection rate of 10 pounds per million actual cubic feet of exhaust gases or to achieve an overall mercury control efficiency equivalent to 90 percent, in conjunction with other control measures for the batteries. That is, the Permittee may operate the system at an activated carbon injection rate lower than 10 pounds per million actual cubic feet when the system is used to comply with an emission rate equivalent to 90 percent control. Once such an emission rate has been established, the Permittee may also elect to meet such rate by a combination of carbon injection and other measures including injection of other sorbents or additives, coal specifications, and operational practices for the spray dryer.

Mercury emission limitations will be set by the Ohio EPA once initial testing and monitoring for emissions of mercury are completed and at least six months worth of data for mercury emissions and mercury content of coal are collected.

- l. 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.
- m. The pound per hour SO<sub>2</sub> emission limitation and minimum 90% SO<sub>2</sub> control efficiency requirement do not apply during maintenance of the lime spray dryer as per example during atomizer replacement.

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

To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the wet coal usage levels specified in the following table:

Month	Maximum Allowable Cumulative Wet Coal Usage
1	77,500



1-2	152,083
1-3	228,125
1-4	304,167
1-5	380,208
1-6	456,250
1-7	532,292
1-8	608,333
1-9	684,375
1-10	760,417
1-11	836,458
1-12	912,500

After the first 12 calendar months of operation, compliance with the annual wet coal usage rate limitation shall be based upon a rolling, 12-month summation of the wet coal usage rates.

- (5) The lime spray dryer and baghouse associated with the battery waste gas exhaust shall begin operation within forty (40) days after start-up of this emission unit.
- (6) See 40 CFR Part 63, Subpart L (40 CFR 63.300-313).
- (7) See 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280-7352).
- (8) 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, and (3) monthly verification of operability of the lids for the waste heat stacks. The total duration of venting through waste heat stacks, with coking gases not controlled by the spray dryer/fabric filter system, shall not exceed 1800 stack-hours per 12-month rolling period (a maximum of 360 hours for any of the five waste heat bypass stacks). 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).

During bypass of the spray dryer/fabric filter system charge rates to the ovens shall be reduced in accordance with the SSM Plan.

- (9) 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.



- (10) 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.
- (11) Each continuous SO<sub>2</sub> monitoring system shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6. At least 45 days before commencing certification testing of the continuous SO<sub>2</sub> monitoring system(s), the permittee shall develop and 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; 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.

- (12) The permittee shall operate and maintain common duct temperature at a minimum of 1400° F to ensure emissions limits for the waste gas exhaust are not exceeded.
- (13) In accordance with OAC rule 3745-15-06, 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.

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

- (1) The permittee shall properly install and, except during bypassing of the lime spray dryer and heat recovery steam generators as allowed in this permit, operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the waste gas exhaust 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 waste gas exhaust baghouse on 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 3 to 12 inches of water on the pressure drop across the waste gas exhaust baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency, except during bypassing of the lime spray dryer and heat recovery steam generators as allowed in this permit. 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.

- (2) The permittee shall properly install, 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 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 3 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 appropriate Ohio EPA District Office or local air 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.

- (3) The permittee shall maintain hourly records of the charging/pushing rate, in number of charges/pushes per hour, for this emissions unit.
- (4) The permittee shall maintain monthly records of the following information:
  - a. the wet coal usage rate for each month; and,
  - b. beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the wet coal usage rates.



- c. the rolling, 12-month summation of the PM, PM10, PM2.5, SO<sub>2</sub>, CO, NO<sub>x</sub>, VOC, lead and H<sub>2</sub>SO<sub>4</sub> emission, except as denoted in d)(14).

Also, during the first 12 calendar months of operation, the permittee shall record the cumulative wet coal usage rate for each calendar month.

- (5) Prior to the installation of the continuous SO<sub>2</sub> monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous SO<sub>2</sub> monitoring system meets the requirements of Performance Specifications 2 and 6. Once received, the letter(s)/document(s) of certification shall be maintained on-site and shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software. [40 CFR 60.13] and [40 CFR Part 60, Appendix B]

- (6) The permittee shall install, 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).



- (7) See 40 CFR Part 63, Subpart L (40 CFR 63.300 -313).
- (8) See 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280 -7352).
- (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.
- (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 battery 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 appropriate Ohio EPA District Office or local air agency.

- (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.
- (12) All bypass vent stacks shall be equipped with sensors that detect when the bypass stacks are open, or partially opened, either due to relieving system pressure or manual opening of the bypass vent 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 by-pass vent stacks. The permittee shall record and maintain daily records for each bypass vent stack the time periods that there was flow through the bypass vent stack(s).
- (13) The Permittee shall install, calibrate, operate and maintain a monitoring system for mercury emissions from the main stack.
  - 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.

- c. After completion of initial monitoring for emissions of mercury but not later than nine months after beginning operation of the monitoring system, the Permittee shall apply for a revision to this permit to include limits for mercury emissions, which limits reflect emission rates that are achievable with effective control by the combination of the spray dryer, carbon 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 activated carbon injection system. With this application, the Permittee shall submit a detailed report to the Ohio EPA that provides an assessment of the mercury emissions of the plant and the effectiveness of the control system that at a minimum includes: the data that has been collected for mercury emissions; information confirming proper design of the activated carbon injection system for control of mercury; information confirming proper operation of the control system for effective control of mercury emissions while emission 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 considers relevant, together with the Permittee's recommended emission limits for mercury, with the specific data, calculations and the rationale for those limits.
  - d. The Permittee may inject activated carbon at a rate less than 10 pounds per million actual cubic feet, provided that such operation occurs in accordance with an evaluation plan that the Permittee has provided to the Ohio EPA at least 30 days in advance and the data and findings from such operation are included in the above report.
- (14) The permittee shall maintain monthly records of all the following information for all periods when waste gas emissions are vented to the bypass vent 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; and
  - d. the rolling, 12-month summation of the hourly rates.
  - e. the rolling, 12-month summation of the PM, PM10, PM2.5, SO2, CO, NOx, VOC, lead and H2SO4 emissions.
- (15) The permittee shall monitor and record the temperature of the common battery tunnel on a once per shift basis.



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 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.

- (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.

- (3) The permittee shall submit deviation (excursion) reports which identify all exceedances of the hourly charging/pushing rate limitation.
- (4) The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month wet coal usage rate, the hourly bypass, PE, PM10, PM2.5, SO2, CO, NOx, Hg, H2SO4, and lead mass emission limitations and, for the first 12 calendar



months of operation, all exceedances of the maximum allowable cumulative wet coal usage levels.

- (5) 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 appropriate Ohio EPA District Office or local air 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 30, April 30, July 30, and October 30 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;



- x. the date, time, and duration of any/each malfunction\* of the continuous SO<sub>2</sub> monitoring system, emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime\* of the continuous SO<sub>2</sub> monitoring system and/or control equipment while the emissions unit was in operation; 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.

\* each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit.

- (6) The permittee shall submit common battery tunnel temperature deviation (excursion) reports that identify all periods of during which the temperature in the common battery tunnel did not comply with the allowable range specified above. These reports shall include the time of the temperature deviation, the duration of the exceedance and the corrective action taken.
- (7) See 40 CFR Part 63, Subpart L (40 CFR 63.300 -313).
- (8) See 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280 -7352).
- (9) The permittee shall submit semi-annual written reports which identify the date, time, and duration of each waste gas by-pass event.
- (10) These reports are due by the date described in the Standard Terms and Conditions of this permit under Section A.
- (11) The permittee shall submit to the Local Air Agency quarterly deviation (excursion) reports that identify all periods during which visual inspections of the enclosed flat push hot car 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.
- (12) The permittee shall submit to the Local Air 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.

- (13) The permittee shall submit to the Local Air Agency quarterly deviation (excursion) reports that identify all exceedances of the bypass vent stack usage limitations. 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.

f) Testing Requirements

- (1) 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 60 days after achieving the maximum production rate but no later than 180 days after initial startup of the emissions unit for: the waste gas stacks, charging baghouse stacks and the pushing multiclone stack. The emission testing for the waste gas stacks shall be conducted during one of the first four scheduled by-passes of a heat recovery steam generator for purposes of the annual heat recovery steam generator inspection and maintenance. The waste gas stack initial 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. Waste gas main stacks: PE, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC\*, Lead, and mercury.
  - ii. Charging baghouse stacks: PE.
  - iii. Pushing multiclone stacks: PE, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC\*, Lead.
  - iv. Waste gas bypass stacks: PE, SO<sub>2</sub>, Lead and Mercury
- c. The emission testing shall be conducted to determine the emissions of dioxins, furans, and acid gases from the main stack.
- d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

Pollutant	Method of 40 CFR Part 60, Appendix A
Particulate	Methods 1 through 4 and 5
PM10	Methods 1 through 4 and 5
SO <sub>2</sub>	Methods 1 through 4 and 6C
NO <sub>x</sub>	Methods 1 through 4 and 7E
CO	Methods 1 through 4 and 10



VOC Methods 1 through 4, 25 or 25A, and if necessary Method 18

Lead Methods 1 through 4 and 12 or 29

Mercury Method 101 A of 40 CFR Part 61, Appendix B or Method 29 of 40 CFR Part 60, Appendix A

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

\*Test Methods shall be selected to consider all species of organics in the gas stream. The results shall be total VOC.

Pollutant	Method under 40 CFR
Dioxins and furans	Method 23 of 40 CFR Part 60, Appendix A
Acid gas emissions (include HCl, HF, Cl <sub>2</sub> , etc.)	Method 26 of 40 CFR Part 60, Appendix A

- e. The following additional information shall be documented during all emission testing for PE, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, Lead, mercury, dioxins and furans, acid gases, and flow rate
  - 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) each charging baghouse when charging emissions are being tested;
    - (b) the lime spray dryer baghouse when the main stack emissions are tested;
    - (c) 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.
- f. The permittee shall provide, or cause to be provided, performance testing facilities as follows for the outlet duct for charging baghouse, the outlet duct for the main stack, and the outlet duct for the pushing multiclone:



- i. Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
  - ii. Safe sampling platform(s).
  - iii. Safe access to sampling platform(s).
  - iv. Utilities for sampling and testing equipment.
- g. The outlet duct for the charging baghouse, the outlet duct for the main stack, and the outlet duct for the pushing multiclone shall be designed in a manner that allows for emissions sampling ports to be installed according to criteria specified in Method 1 of 40 CFR Part 60, Appendix A.
  - h. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. 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 refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services 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 Hamilton County Department of Environmental Services

(2) Certification

Within 60 days after achieving the maximum production rate, the permittee shall conduct certification tests of the continuous SO<sub>2</sub> monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(l).



Personnel from the Ohio EPA Central Office and the appropriate Ohio EPA District Office or local air agency shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the appropriate Ohio EPA District Office or local air agency and one copy to Ohio EPA Central Office and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification of the continuous SO<sub>2</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I).

Ongoing compliance with the SO<sub>2</sub> emission limitations contained in this permit, 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.

(3) Compliance with the emission limitation(s) in b) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

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 Part 60, Appendix A, Method 9.

b. Emission Limitation:

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 63.309(j)

c. Emission Limitation:

Particulate emissions (PE), particulate matter emissions 10 microns and less in diameter (PM<sub>10</sub>) and particulate matter emissions 2.5 microns and less in diameter (PM<sub>2.5</sub>) shall not exceed 3.7 pounds per hour from the charging baghouse.



Applicable Compliance Method:

The permittee shall demonstrate compliance with the emission limitation through emission testing performed in accordance with Method 5 of 40 CFR Part 60, Appendix A.

Subpart L, section 63.3.3(d)(2) restricts particulate matter emissions from a charging emissions control device to 0.0081 pounds per ton of dry coal charged.

The permittee estimates that filterable PE/PM10 is 0.0081 lb/ton.

The hourly rate from the baghouse is determined by multiplying the controlled emissions factor of 0.0081 pound per ton of coal charged times the hourly tons of coal. The PE emissions factor was used as a surrogate for PM10 and PM2.5 where PM10 and PM2.5 emissions factors were not available.

d. Emission Limitation:

PE/PM10/PM2.5 emissions shall not exceed 3.4 tons per year as a rolling, 12-month summation from the charging baghouse.

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 multiplying the PM emission factor, in pounds / ton dry coal, by the tons coal charged per month. The PM emission factor was obtained from 40 CFR Part 63, Subpart L, section 63.303(d)(2), dated April 15, 2005. The PE emissions factor was used as a surrogate for PM10 and PM2.5 where PM10 and PM2.5 emissions factors were not available.

Subpart L, section 63.3.3(d)(2) restricts particulate matter emissions from a charging emissions control device to 0.0081 pounds per ton of dry coal charged.

The permittee estimates that filterable PE/PM10 is 0.0081 lb/ton. The annual maximum volume of dry coal charged will be 839,500 tpy. Monthly maximum tons of coal charged will be 69958.3 tons. (69958.3 tons charged X 0.0081lb/ton = 566.66 lbs or 0.28 ton)(0.28 ton per month X 12 months per year = 3.4 tpy)

e. Emission Limitation:

PE fugitive emissions shall not exceed 1.35 lbs/hr from charging.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.027 pounds/ton coal charged times the maximum tons of wet coal charged per hour (500 tons) times the capture factor of 0.1 (90 % capture rate). The PE emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated July 2007.

f. Emission Limitation:

PE fugitive emissions shall not exceed 1.23 tpy from charging.



Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.027 pound/ton coal charged times the maximum tons of wet coal charged per year times the capture factor of 0.1 (90% capture rate), divided by 2,000 pounds/ton. The PM emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated July 2007.

g. Emission Limitation:

PM10 fugitive emissions shall not exceed 0.41 lb/hr from charging.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.027 pounds/ton coal charged, times the tons of wet coal charged per hour by the capture factor of 0.1 (100 % - 90% capture rate) by 0.30 the fraction of TSP estimated to be PM<sub>10</sub>. The emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated July 2007.

h. Emission Limitation:

PM10 fugitive emissions shall not exceed 0.37 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 multiplying the emission factor of 0.027 pounds/ton coal charged, times the tons of wet coal charged per month by the capture factor of 0.1 (90% capture rate) by 0.30 the fraction of TSP estimated to be PM<sub>10</sub>, divided by 2,000 pounds/ton. The emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated July 2007.

i. Emission Limitation:

PM2.5 fugitive emissions shall not exceed 0.20 lb/hr from charging.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.027 pounds/ton coal charged, times the tons of wet coal charged per hour by the capture factor of 0.1 (100 % - 90% capture rate) by 0.15 the fraction of TSP estimated to be PM<sub>2.5</sub>. The emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated July 2007.

j. Emission Limitation:

PM2.5 fugitive emissions shall not exceed 0.18 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 multiplying the emission factor of 0.027 pounds/ton coal charged, times the tons of wet coal charged per month by the capture factor of 0.1 (90% capture rate) by 0.15 the fraction of TSP estimated to be PM<sub>2.5</sub>, divided by 2,000 pounds/ton. The emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated July 2007.

k. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 0.15 lb/hr from the charging baghouse

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.0003 pounds/ton wet coal charged, times the tons of wet coal charged per hour. The SO<sub>2</sub> emission factor was calculated from the results of an October 1989 stack test at Jewell Coal and Coke Company located in Vansant, Virginia.

l. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 0.14 ton per year as a rolling, 12-month summation from charging baghouse.

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 multiplying the emission factor of 0.0003 pounds/ton wet coal charged, times the tons of wet coal charged per month, divided by 2,000 pounds/ton. The SO<sub>2</sub> emission factor was calculated from the results of an October 1989 stack test at Jewell Coal and Coke Company located in Vansant, Virginia.

m. Emission Limitation:

CO emissions shall not exceed 1.4 lb/hr from the charging baghouse.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.0028 pounds/ton wet coal charged times the wet tons of coal charged per hour. The CO emission factor was calculated from the results of an October 1989 stack test at Jewell Coal and Coke Company located in Vansant, Virginia.

n. Emission Limitation:

CO emissions shall not exceed 1.28 tpy as a rolling, 12-month summation from the charging baghouse.



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 multiplying the emission factor of 0.0028 pound/ton wet coal charged, times the wet tons of coal charged per month, divided by 2,000 pounds/ton. The CO emission factor was calculated from the results of an October 1989 stack test at Jewell Coal and Coke Company located in Vansant, Virginia.

o. Emission Limitation:

VOC emissions shall not exceed 1.0 lb/hr from the charging baghouse.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor of 0.0020 lb VOC/wet ton coal charged, times the wet tons of coal charged per hour. The VOC emission factor was calculated from the results of an October 1989 stack test at Jewell Coal and Coke Company located in Vansant, Virginia.

p. Emission Limitation:

VOC emissions shall not exceed 0.91 tpy as a rolling, 12-month summation from the charging baghouse.

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 multiplying the emission factor of 0.0020 lb VOC/wet ton coal charged, times the wet tons of coal charged per month, divided by 2,000 pounds/ton. The VOC emission factor was calculated from the results of an October 1989 stack test at Jewell Coal and Coke Company located in Vansant, Virginia.

q. Emission Limitation:

Particulate emissions (PE) from the charging baghouse stack shall not exceed 0.00081 pounds per ton (lbs/ton) of dry coal charged.

Applicable Compliance Method:

Compliance shall be demonstrated by the procedures in 40 CFR 63.309(k).

r. Emission Limitation:

Filterable PE/PM10/PM2.5 emissions shall not exceed 10.7 pounds per hour from the coking operation main stack.



Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Method 5.

The 10.7 pound per hour limit for PE was determined by multiplying the emission factor (grain loading) of 0.005 gr/dscf times 1 pound divided by 7000 grains times airflow of 250,000 scfm times 60 minutes per hour. The emission factor for PE was used as a surrogate for PM10 and PM2.5 where PM10 and PM2.5 factors were not available. The 0.005gr/dscf emissions factor for PE is a controlled emissions factor considered Best Available Technology for the Gateway Energy and Coke Company, Granite City, Illinois, Permit to Construct issued March 13, 2008.

s. Emission Limitation:

PE/PM10/PM2.5 emissions shall not exceed 46.9 TPY as a rolling, 12 month summation from the coking operation main stack.

Applicable Compliance Method:

The 46.9 TPY limit was determined by multiplying the hourly particulate emissions rate by 8760 hours.

t. Emission Limitation:

SO2 emissions shall not exceed 300.0 pounds per hour (based upon a 3-hour block average) from the coking operation main stack.

Applicable Compliance Method:

Compliance shall be demonstrated by the use of a continuous emissions monitor.

u. Emission Limitation:

SO2 emissions shall not exceed 1091.4 TPY as a rolling, 12 month summation from the coking operation main stack.

Applicable Compliance Method:

Compliance shall be demonstrated by the use of a continuous emissions monitor.

v. Emission Limitation:

CO emissions shall not exceed 21.81 pounds per hour from the coking operation main stack.

Applicable Compliance Method:

The emission limit was derived by multiplying the CO emission factor 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, in dscf/min, times 60 minutes/hour. The CO emission factor of 20 ppm,



was based on Haverhill North Coke Company, Franklin Furnace, Ohio test data provided by the permittee in a permit application submitted 2/13/2008.

w. Emission Limitation:

CO emissions shall not exceed 95.54 TPY as a rolling, 12 month summation from the coking operation main stack.

Applicable Compliance Method:

The emission limit was derived by multiplying the CO emission factor 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, in dscf/min, times 60 minutes/hour, times the total hours/year of coal coking, divided by 2000 pounds/ton. The CO emission factor of 20 ppm, was based on Haverhill North Coke Company, Franklin Furnace, Ohio test data provided by the permittee in a permit application submitted 2/13/2008.

x. Emission Limitation:

VOC emissions shall not exceed 4.67 pounds per hour from the coking operation main stack.

Applicable Compliance Method:

The emission limit was derived by multiplying the VOC 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, in dscf/min, times 60 minutes/hour. The VOC emission factor of 10 ppm, was based on Haverhill North Coke Company, Franklin Furnace, Ohio test data provided by the permittee in a permit application submitted 2/13/2008.

y. Emission Limitation:

VOC emissions shall not exceed 20.47 TPY as a rolling, 12 month summation from the coking operation main stack.

Applicable Compliance Method:

The emission limit was derived by multiplying the VOC 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, in dscf/min, times 60 minutes/hour, times the total hours/year of coal coking, divided by 2000 pounds/ton. The VOC emission factor of 10 ppm, was based on Haverhill North Coke Company, Franklin Furnace, Ohio test data provided by the permittee in a permit application submitted 2/13/2008.

z. Emission Limitation:

NOx emissions shall not exceed 104.2 pounds per hour from the coking operation main stack.



Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the NOx emission factor of 1.0 pound/ton times the tons of coal processed. The 1.0 pound/ton emissions factor was provided by the permittee with their permit to install application submitted February 13, 2008.

aa. Emission Limitation:

NOx emissions shall not exceed 456.3 TPY as a rolling, 12 month summation from the coking operation main stack.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the NOx emission factor of 1 pound/ton times the tons of coal processed divided by 2000 pounds per ton.

bb. Emission Limitation:

Hydrochloric acid (HCl) emissions shall not exceed 14.8 pounds per hour from the coking operation main stack.

Applicable Compliance Method:

Compliance will be demonstrated in accordance with the requirements of 40 CFR Part 60, Appendix A, Method 26.

cc. Emission Limitation:

Hydrochloric acid (HCl) emissions shall not exceed 64.8 TPY as a rolling, 12 month summation from the coking operation main stack.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the HCl emission factor in lbs/ton coal times the tons of coal processed divided by 2000 lbs/ton. The HCl emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.

dd. Emission Limitation:

Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 2.5 pounds per hour from the coking operation main stack.

Applicable compliance method:

Compliance shall be determined by multiplying the H<sub>2</sub>SO<sub>4</sub> emission factor of 1.22 lb per ton of coal processed times the tons of coal processed per hour and then multiplying by 1 minus the H<sub>2</sub>SO<sub>4</sub> control efficiency of 98% for the baghouse with fabric filter. The H<sub>2</sub>SO<sub>4</sub> emissions factor was based on testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio provided by the permittee in a permit application 2/13/08.



ee. Emission Limitation:

Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 11.13 tons per year from the coking operation main stack.

Applicable compliance method:

Compliance shall be determined by multiplying the H<sub>2</sub>SO<sub>4</sub> emission factor of 1.22 lb per ton of coal processed times the tons of coal processed per year and then multiplying by 1 minus the H<sub>2</sub>SO<sub>4</sub> control efficiency of 98% for the baghouse with fabric filter. The H<sub>2</sub>SO<sub>4</sub> emissions factor was based on testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio provided by the permittee in a permit application 2/13/08.

ff. Emission Limitation:

Hazardous Air Pollutant (HAP) emissions (excluding HCl) for emissions units P001 and P901 shall not exceed 3.6 tons per year.

Applicable Compliance Method:

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

i. Coking emission control system - Main Stack:

Compliance shall be demonstrated 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 excepting mercury are then multiplied by 5% to reflect the 95% control efficiency of the main stack spray dryer. Testing of the main stack dryer will determine the mercury control efficiency of the main stack spray dryer.

ii. Pushing Stack:

Compliance 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, (emission factors from October 1989 Jewell stack test) by the wet tons of coal charged per year divided by 2000 lbs per ton.

iii. Charging control system -baghouse stack:

Compliance shall be demonstrated 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:

Compliance 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. Heat Recovery Steam Generator (HRSG) and Spray Dryer (SD) bypass Stacks:

Compliance shall be demonstrated 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 tons of coal charged per day multiplied by the percentage of total waste gas venting through the 5 vent stacks divided by 2,000 lbs/ton.

gg. Emission Limitation:

Visible particulate emissions from the lime spray dryer 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 Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

hh. Emission Limitation:

PE, PM10 and PM2.5 shall not exceed 21.0 pounds per hour from any single waste gas stacks during bypass of the lime spray dryer and the heat recovery steam generator.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 5.

The 21.0 pound per hour limit for PE was determined by multiplying the emission factor (grain loading) of 0.049 gr/dscf times 1 pound divided by 7000 grains times airflow of 250,000 scfm times 60 minutes per hour to show hourly emissions from all five bypass stacks and dividing by five to show hourly emissions from a single stack. The emission factor for PE was used as a surrogate for PM10 and PM2.5 where PM10 and PM2.5 factors were not available. The 0.049 gr/dscf emission factor for PE is an uncontrolled emissions factor provided as an engineering estimate by the permittee.

ii. Emission Limitation:

PE, PM10 and PM2.5 emissions shall not exceed 18.9 tpy as a rolling, 12-month summation from the waste gas stacks during bypass of the lime spray dryer.



Applicable Compliance Method:

The annual emissions limit was determined by multiplying the hourly emissions limit from a single bypass stack times the number of bypass stacks (five) times the number of allowable bypass hours (360).

jj. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 498.33 lbs/hr from any one waste gas stack during bypass of the lime spray dryer.

Applicable Compliance Method:

Compliance with the allowable pounds per hour emission limitations shall be demonstrated by the performance testing as described in f).

kk. Emission Limitation:

448.5 tpy SO<sub>2</sub> as a rolling, 12-month summation from the bypass waste gas stacks

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the hourly SO<sub>2</sub> emission rate by the cumulative annual hours of operation of the bypass waste gas stacks.

ll. Emissions limitation:

NO<sub>x</sub> emissions shall not exceed 20.8 lbs/hr from any single waste gas bypass stack during bypass of the lime spray dryer.

Applicable Compliance Method:

Compliance shall be determined by multiplying the NO<sub>x</sub> emission factor of 1.0 pound/ton times the tons of coal processed per hour multiplied by an estimated 20% of total gas venting.

mm. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 18.75 tons per year as a rolling, 12-month summation from the waste gas bypass stacks during bypass of the lime spray dryer.

Applicable Compliance Method:

Compliance shall be determined by multiplying the NO<sub>x</sub> emission factor of 1.0 pound/ton times the tons of coal charged per year multiplied by an estimated 4.1 % of total gas bypass (360 hours allowed of control device bypass for each stack divided by 8760 hours/year) and then dividing by 2000 lb/ton.



nn. Emission Limitation:

Hydrochloric acid (HCl) emissions shall not exceed 59.17 lbs/hr from any single waste gas bypass stack during bypass of the lime spray dryer.

Applicable Compliance Method:

Compliance shall be demonstrated by material balance based on the amount of coal charged and the coal chlorine concentration using the records of tons of coal processed and coal analysis.

oo. Emission Limitation:

Hydrochloric acid (HCl) emissions shall not exceed 53.25 tons per year from waste gas bypass stacks during bypass of the lime spray dryer.

Applicable Compliance Method:

Compliance shall be demonstrated by material balance based on the amount of coal charged and the coal chlorine concentration using the records required in d) [12 month summation of coal charged] and [coal analysis].

pp. Emission Limitation:

CO emissions shall not exceed 4.36 lbs/hr from any single waste gas stack during bypass of the lime spray dryer and the heat recovery steam generator.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the CO emission factor of 20 ppm times 28, the molecular weight of CO, divided by the 385,100,000 conversion factor, times the maximum waste gas flow, in dscf/min, times 60 minutes/hour, times 0.20, the fraction of the total waste gas expected to be vented from any single by-pass stack.

qq. Emission Limitation:

CO emissions shall not exceed 3.93 tons per year as a rolling, 12-month summation from waste gas bypass stacks during bypass of the lime spray dryer.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the CO emission factor of 20 ppm times 28, the molecular weight of CO, divided by the 385,100,000 conversion factor, times the maximum waste gas flow, in dscf/min, times 60 minutes/hour, times 0.20, the fraction of the total waste gas expected to be vented from any single by-pass stack, times the total hours/year of all by-pass events, divided by 2,000 pounds/ton.

rr. Emission Limitation:

VOC emissions shall not exceed 0.93 lb/hr from any single waste gas bypass stack during bypass of the lime spray dryer.



Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC 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 in dscf/min, times 60 minutes/hour times 0.20, the fraction of the total waste gas expected to be vented from any single by-pass stack.

ss. Emission Limitation:

VOC emissions shall not exceed 0.84 ton per year as a rolling, 12-month summation from waste gas bypass stacks during bypass of the lime spray dryer.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC 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 in dscf/min, times 60 minutes/hour times 0.20, the fraction of the total waste gas expected to be vented from any single by-pass stack, times the total hours/year of all by-pass events, divided by 2000 pounds/ton.

tt. Emission Limitation:

Lead (Pb) emissions from waste gas bypass stacks shall not exceed 0.103 tons per year as a rolling, 12-month summation.

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 stack test) times the maximum volume in tons of wet coal charged annually during bypass (37500 tons).

uu. Emission Limitation:

Mercury emissions from any single waste gas bypass stack shall not exceed 0.0069 pound per hour.

Applicable Compliance Method:

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 Ontario Hydro Method) shall be used to demonstrate compliance with this emissions limit. An alternative method may be employed if approved by Ohio EPA.

vv. Emission Limitation:

Mercury emissions from waste gas bypass stacks shall not exceed 12.4 pounds per year.



Applicable Compliance Method:

The hourly mercury emissions rate as determined using the 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 Ontario Hydro Method) multiplied by the total hours use of each waste gas bypass stack shall be used to demonstrate compliance with this emissions unit. An alternative method may be employed if approved by Ohio EPA.

ww. Emission Limitation:

Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions from any single waste gas bypass stack shall not exceed 25.4 pounds per hour.

Applicable Compliance Method:

Compliance shall be determined by multiplying the H<sub>2</sub>SO<sub>4</sub> emission factor of 1.22 lb per ton of coal processed times the amount of coal processed during bypass of the lime spray dryer and then dividing by the number of waste gas bypass stacks and then dividing by the number of hours of bypass. The H<sub>2</sub>SO<sub>4</sub> emissions factor was based on testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio provided by the permittee in a permit application 2/13/08.

xx. Emission Limitation:

Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions from all waste gas bypass stacks shall not exceed 22.88 tons per year.

Applicable Compliance Method:

Compliance shall be determined by multiplying the H<sub>2</sub>SO<sub>4</sub> emission factor of 1.22 lb per ton of coal processed times the amount of coal processed during bypass of the lime spray dryer and then dividing by 2000. The H<sub>2</sub>SO<sub>4</sub> emissions factor was based on testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio provided by the permittee in a permit application 2/13/08.

yy. Emission Limitation:

Visible particulate emissions from the waste gas stacks 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).

zz. Emission Limitation:

PE/PM<sub>10</sub>/PM<sub>2.5</sub> emissions shall not exceed 14.3 lbs/hr from the flat push hot car (FPHC) vented to multiclone outlet.



Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 5.

The 14.3 pounds per hour limit for PE was determined by multiplying the uncontrolled emission factor (0.04) times the maximum tons of coke charged per charge (35.9 tons) times the maximum number of charges per hour (10). The 0.04 lb/ton emission factor for PE is a controlled emission factor provided as an engineering estimate by the permittee.

aaa. Emission Limitation:

PE/PM10/PM2.5 emissions shall not exceed 13.09 tons/yr as a rolling, 12-month summation from the flat push hot car vented to multiclone dust collector.

Applicable Compliance Method:

The 13.09 TPY emission limitation was determined by multiplying the emission factor of 0.04 lb PE/ton by the annual dry tons pushed and dividing by 2000. The emission factor for PE was used as a surrogate for PM10 and PM2.5 where PM10 and PM2.5 factors were not available. The 0.04 lb/ton emission factor for PE is a controlled emission factor provided as an engineering estimate by the permittee.

bbb. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 49.0 lbs/hr from the flat push hot car vented to multiclone dust collector

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor, in pounds/ton wet coal charged, times the maximum tons of wet coal charged per hour. The emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.

ccc. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 44.71 tpy as a rolling, 12-month summation from the flat push hot car vented to multiclone dust collector

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 multiplying the SO<sub>2</sub> emission factor, in lb/ton coal, times the tons of coal charged per month, divided by 2,000 pounds/ton. The SO<sub>2</sub> emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.



ddd. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 9.5 lbs/hr from the flat push hot car vented to multiclone dust collector.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor, in pounds/ton wet coal charged, times the maximum tons of wet coal charged per hour. The emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.

eee. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 8.67 tpy as a rolling, 12-month summation from the flat push hot car vented to multiclone dust collector.

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 multiplying the NO<sub>x</sub> emission factor, in lb/ton coal, times the tons of coal charged per month, divided by 2,000 pounds/ton. The NO<sub>x</sub> emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.

fff. Emission Limitation:

CO emissions shall not exceed 31.5 lbs/hr from the flat push hot car vented to multiclone dust collector.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor, in pounds/ton wet coal charged, times the maximum tons of wet coal charged per hour. The emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.

ggg. Emission Limitation:

CO emissions shall not exceed 28.74 tpy as a rolling, 12-month summation from the flat push hot car vented to multiclone dust collector

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 multiplying the CO emission factor, in lb/ton coal, times the tons of coal charged per month, divided by 2,000 pounds/ton. The CO emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.



hhh. Emission Limitation:

VOC shall not exceed 10.0 lbs/hr from the flat push hot car vented to multiclone dust collector

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor, in pounds/ton wet coal charged, times the maximum tons of wet coal charged per hour. The emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.

iii. Emission Limitation:

VOC shall not exceed 9.13 tpy as a rolling, 12-month summation from the flat push hot car vented to multiclone dust collector.

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 multiplying the VOC emission factor, in lb/ton coal, times the tons of coal charged per month, divided by 2,000 pounds/ton. The VOC emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.

jjj. Emission Limitation:

Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 2.5 pounds per hour from the flat push hot car vented to multiclone dust collector.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor, in pounds/ton of coal, times the maximum tons of coal processed per hour. The emission factor shall be calculated from the H<sub>2</sub>SO<sub>4</sub> emission factor of 0.005 lb per ton of coal based on the estimated H<sub>2</sub>SO<sub>4</sub>/SO<sub>2</sub> ratio of 0.051 from the spray dryer inlet data at Haverhill provided by the permittee in a permit application 2/13/08.

kkk. Emission Limitation:

Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 2.28 tpy as a rolling, 12-month summation from the flat push hot car vented to multiclone dust collector.

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 multiplying the H<sub>2</sub>SO<sub>4</sub> emission factor, in lb/ton of coal, times the tons of coal processed per month, divided by 2,000 pounds/ton. The H<sub>2</sub>SO<sub>4</sub> emission factor shall be calculated from the H<sub>2</sub>SO<sub>4</sub> emission factor of 0.005 lb per ton of coal based on the estimated H<sub>2</sub>SO<sub>4</sub>/SO<sub>2</sub> ratio of 0.051 from



the spray dryer inlet data at Haverhill provided by the permittee in a permit application 2/13/08.

III. Emission Limitation:

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).

mmm. Emission Limitation:

Particulate emissions from the flat push hot car vented to multiclone dust collector exhaust shall not exceed 0.04 lb of PM/ton of coke.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements of 40 CFR Part 60, Appendix A, Method 5 or 5a.

nnn. Emission Limitation:

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 per cent leaking coke oven doors compliance will be demonstrated in accordance with the procedures and requirements of method 303 or 303A in appendix A of 40 CFR Part 63, Section 63.309.

ooo. Operational Limitation:

The maximum hourly charging and pushing rate for this emission unit shall not exceed 10 ovens charged per hour and 10 ovens pushed per hour.

Applicable Compliance Method:

Compliance with this operational restriction shall be demonstrated by the recordkeeping maintained in d) Monitoring and/or Recordkeeping Requirements.



ppp. Operational Limitation:

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

Applicable Compliance Method:

Compliance with this operational restriction shall be demonstrated by the recordkeeping maintained in d) Monitoring and/or Recordkeeping Requirements.

qqq. Operational Limitation:

Waste gas emissions shall not be vented to any waste gas bypass stack for more than 360 cumulative hours per rolling 12-month period for each of the five waste gas bypass stacks.

Applicable Compliance Method:

Compliance with this operational restriction shall be demonstrated by the recordkeeping maintained in d) Monitoring and/or Recordkeeping Requirements.

rrr. Operational Limitation:

The permittee shall operate and maintain common duct temperature at a minimum of 1400° F to ensure emission limitations for the waste gas exhaust are not exceeded.

Applicable Compliance Method:

Compliance with this operational restriction shall be demonstrated by the recordkeeping maintained in d) Monitoring and/or Recordkeeping Requirements.

g) Miscellaneous Requirements

(1) None.