State of Ohio Environmental Protection Agency

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Columbus, OH 43216-1049

7/27/2009

Certified Mail

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

Delauna Pack
Middletown Coke Company
11400 Parkside Drive
Knoxville, TN 37934

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 1409011031
Permit Number: P0104768
Permit Type: Initial Installation
County: Butler

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, Journal News. A copy of the public notice and the draft permit are enclosed. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page http://www.epa.state.oh.us/dapc in Microsoft Word and Adobe Acrobat format. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
122 South Front Street
Columbus, Ohio 43215

and

Hamilton County Dept. of Environmental Services
250 William Howard Taft Pkwy.
Cincinnati, OH 45219-2660

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Hamilton County Dept. of Environmental Services at (513)946-7777.

Sincerely,

Michael W. Ahern

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

Cc: U.S. EPA
HCDOES; Indiana; Kentucky

**BUTLER COUNTY**

**PUBLIC NOTICE PUBLIC HEARING**
**OHIO ENVIRONMENTAL PROTECTION AGENCY**
**ISSUANCE OF DRAFT PERMIT TO INSTALL**
**SUBJECT TO PREVENTION OF SIGNIFICANT DETERIORATION**
**AND NON-ATTAINMENT REVIEW**
**TO MIDDLETOWN COKE COMPANY.**

Public notice is hereby given that the Ohio Environmental Protection Agency (EPA) has issued, on July 27, 2009, a draft action of Permit to Install (PTI) application number P0104768 to Middletown Coke Company. This draft permit proposes to allow the installation of a new coke oven battery facility. This facility will be located in Middletown, Ohio.

This project, if approved, will result in permit allowable emissions for the new sources as defined in the following table. The proposed allowable pollutant air emission rates for the new sources are as follows:

| Pollutant | Permit Allowable (Tons/Year) |
|---|---|
| PM | 168.9 |
| PM10 | 125.0 |
| *PM2.5 | 112.2 |
| *SO2 | 1152.3 |
| *$NO_x$ | 477.4 |
| CO | 129.5 |
| VOC | 31.4 |
| Lead | 0.28 |
| HCl | 118.0 |
| H2SO4 | 34.12 |
| Mercury | 12.4 (pounds per year) |

* Decreases in emissions of sulfur dioxide (SO2), nitrogen oxides (NOx), and PM2.5 that offset and exceed the amount of the new source emissions, are required as part of this permit.

This facility is subject to the applicable provisions of the Non Attainment New Source Review (NNSR) and the Prevention of Significant Deterioration (PSD) regulations. The proposed project will trigger PSD review for PM, PM10, CO, NOx, SO2 and H2SO4. and will also trigger NNSR for PM2.5, SO2, and NOx.

The ambient air impact for criteria pollutants allowed by this permit is described in the following table:

| Pollutant | Averaging Averaging Period | Modeled Ambient Impact ($ug/m^3$) | Rule/Policy Allowed Ambient Impact ($ug/m^3$) | Basis |
|---|---|---|---|---|
| $PM_{10}$(1) | 24-hr | 8.53 | 15 | ½ PSD Increment |
| $PM_{2.5}$(2) | N/A | N/A | N/A | N/A |
| $SO_2$ | 3-hr | 139.2(3) | 256 | ½ PSD Increment |
| | 24-hr | 44.2(4) | 45.5 | PSD Increment |

| | | | | |
|---|---|---|---|---|
| | Annual | 6.4[3] | 10 | ½ PSD Increment |
| $NO_x$[5] | Annual | 0.51 | 12.5 | ½ PSD Increment |
| CO[6] | 1-hr | 36.5 | 2,500 | Ohio Acceptable |
| | 8-hr | 12.1 | 10,000 | Ohio Acceptable |
| VOC[7] | N/A | N/A | N/A | N/A |
| Lead[8] | N/A | N/A | N/A | N/A |
| H2SO4[9] | N/A | N/A | N/A | N/A |

(1) Complies with the NNSR rules (as a surrogate for $PM_{2.5}$) by meeting the National Ambient Air Quality Standard (NAAQS). Also complies with Ohio EPA policy because it consumes no more than one half of the available PSD increment for the pollutant $PM_{10}$.
(2) Under the applicable U.S. EPA surrogate policy, PM10 is modeled in place of PM2.5.
(3) Complies with the PSD rules. Also complies with Ohio EPA policy because it consumes no more than one half of the available PSD increment.
(4) Complies with the PSD rules. Also complies with Ohio EPA policy because of the limited areal extent.
(5) Complies with PSD rules. Also complies with Ohio EPA policy because it consumes no more than one half of the available increment for the pollutant NOx. As a surrogate for ozone, no modeling was required.
(6) There is no PSD increment for CO. Instead, it complies with Ohio EPA acceptable incremental impact.
(7) Under NNSR, no modeling is required for this pollutant.
(8) Lead did not trigger modeling because the expected emission rate is less than the modeling threshold.
(9) No modeling was required under PSD.

A public hearing and information session on the draft air permit will be held on Wednesday, September 2, 2009, at Miami University Middletown, Campus Community Center, Johnston Hall, Room 142, 4200 E. University Blvd., Middletown, Ohio. The information session will commence at 6:30 pm and the public hearing will follow immediately to accept comments on the draft permit. A presiding officer will be present and may limit oral testimony to ensure that all parties are heard.

All interested persons are entitled to attend or be represented and give written or oral comments on the draft permit at the hearing. Written comments on the draft permit must be received by the close of business on Tuesday, September 8, 2009. Comments received after this date will not be considered to be a part of the official record. Written comments may be submitted at the hearing or sent to: Mike Ploetz, Hamilton County Department of Environmental Services, 250 William Howard Taft Road, Cincinnati, Ohio 45219-2660.

Copies of the draft permit, permit application and technical support information may be reviewed and/or copies made by either accessing the Ohio EPA web page at the following web address: http://www.epa.state.oh.us/dapc/ (see featured topics) or by first calling to make an appointment at the Hamilton County Department of Environmental Services, located at the above address, telephone number (513) 946-7777.

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

**Draft Permit-to-Install**
**Permit Number:** P0104768
**Facility ID:** 1409011031

# STAFF DETERMINATION FOR THE APPLICATION TO CONSTRUCT UNDER BOTH THE PREVENTION OF SIGNIFICANT DETERIORATION AND NON-ATTAINMENT REVIEW REGULATIONS FOR MIDDLETOWN COKE COMPANY LOCATED IN BUTLER COUNTY, OHIO PTI NO. P0104768 July 27, 2009

Ohio Environmental Protection Agency
Division of Air Pollution Control
Lazarus Government Center
50 West Town St., Suite 700
Columbus, Ohio 43215

The Clean Air Act and regulations promulgated thereunder require that major air pollution sources undergoing construction or modification comply with all applicable Prevention of Significant Deterioration (PSD) provisions and nonattainment area New Source Review requirements. The federal PSD rules govern emission increases in attainment areas for major stationary sources, which are facilities with the potential to emit 250 tons per year or more of any pollutant regulated under the Clean Air Act, or 100 tons per year or more if the source is included in one of 28 source categories. In nonattainment areas, the definition of major stationary source is one having at least 100 tons per year potential emissions. A major modification is one resulting in a contemporaneous net increase in emissions which exceeds the significance level of one or more pollutants. Any changes in actual emissions within this five- or ten-year period are considered to be contemporaneous. In addition, Ohio has incorporated the PSD and NSR requirements by rule under OAC 3745-31, and currently has a program that is fully approved by USEPA. For PM2.5 Ohio will have to use the requirements established in 40 CFR Part 51, Appendix S until the Ohio Administrative Code regulations are modified to include PM2.5 emissions.

Both PSD and nonattainment rules require that certain analyses be performed before a facility can obtain a permit authorizing construction of a new source or major modification to a major stationary source. The principal requirements of the PSD regulations are:

1) Best Available Control Technology (BACT) review - A detailed engineering review must be performed to ensure that BACT is being installed for the pollutants for which the new source is a major stationary source.

2) Ambient Air Quality Review - An analysis must be completed to ensure the continued maintenance of the National Ambient Air Quality Standards (NAAQS) and that any increases in ambient air pollutant concentrations do not exceed the incremental values set pursuant to the Clean Air Act.

For nonattainment areas, the requirements are:

1) Lowest Achievable Emission Rate (LAER)

The most stringent emission limitation that is contained in the implementation plan of any state for such class or category of emissions unit, unless the owner or operator of the proposed emissions unit demonstrates that such limitations are not achievable; or

The most stringent emission limitation that is achieved in practice by such class or category of emissions unit. This limitation, when applied to a major modification, means lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified emissions unit to emit any air pollutant in excess of the amount allowable under applicable new source standards of performance.

2) Compliance certification

The applicant must certify that all existing major stationary sources owned or operated by the applicant (or any entity controlling, controlled by, or under common control with the applicant) in Ohio as the proposed major stationary source or major modification are in compliance with all applicable emission limitations and standards under the Clean Air Act (or are in compliance with an expeditious schedule which is federally enforceable or contained in a court decree).

3) Emission offsets

(a) Emission reductions (offsets) from existing air contaminant sources in the area of the proposed major stationary source (whether or not under the same ownership) are required such that there will be reasonable progress, as determined by the director, toward attainment of the applicable national ambient air quality standard.

(b) Only intra air pollutant emission offsets will be acceptable (e.g., hydrocarbon increases may not be offset against sulfur dioxide reductions).

(c) Emission offsets must meet the baseline limitations of rule 3745-31-24 of the Administrative Code, the location limitations of rule 3745-31-25 of the Administrative Code, and the offset ratio limitations of rule 3745-31-26 of the Administrative Code.

(d) Emission offsets are required only for those air pollutants for which the increased allowable emissions exceed the significant emission rates.

(e) The total tonnage of increased emissions, in tons per year, resulting from a major modification that must be offset in accordance with Section 173 of the Clean Air Act shall be determined by summing the difference between the allowable emissions after the major modification and the actual emissions before the modification for each emissions unit.

4) Net air quality benefit

The emission offsets must provide a positive net air quality benefit in the affected area pursuant to rule 3745-31-25 of the Administrative Code. Atmospheric dispersion modeling is not necessary for VOCs

and nitrogen oxides in ozone nonattainment areas. Instead, complying with the requirements of paragraphs (A)(1) to (A)(3) of this rule and rule 3745-31-25 of the Administrative Code will be considered adequate to meet this condition.

Finally, New Source Performance Standards (NSPS), New Emission Standards of Hazardous Air Pollutants (NESHAPS), SIP emission standards and public participation requirements must be followed in all cases.

Site Description

The Middletown Coke Company facility will be located in Middletown, Ohio, Butler County.

This area is classified as nonattainment for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) and ozone (volatile organic compounds) and attainment for all other criteria pollutants, including total suspended particulate matter (PM), particulate matter 10 microns and less in diameter ($PM_{10}$), sulfur dioxide ($SO_2$), nitrogen oxides ($NO_x$), carbon monoxide (CO), and lead (Pb).

Facility Description

Middletown Coke Company submitted a final version of a netting air permit-to-install application in July 2008, and Ohio EPA based upon that application and support documentation provided by the Middletown Coke Company issued a final netting air permit-to-install to Middletown Coke Company on November 25, 2008. Since that time, Middletown Coke Company has chosen to submit a PSD/non-attainment review air permit-to-install application for the same project that is contained within the above mentioned issued final netting air permit-to-install. That is, Middletown Coke Company plans to install a heat recovery coke making facility adjacent to AK Steel Corporation's (AK's) Middletown Coke Company Works in Middletown, Ohio. The proposed operation will consist of 100 heat recovery coke ovens in three batteries. Operations will include paved roadways, coal handling, charging, heat recovery coking, pushing, quenching, coke handling, and coke storage. Heat recovery steam generators (HRSGs) will recover waste heat from the ovens to produce steam and electricity. At design capacity, the coke oven batteries will coke 912,500 tons per year of coal and produce up to 614,000 tons per year of furnace coke. A nominal 52 megawatts of electricity will be produced from the waste heat from the ovens. All the electricity produced will go to AK through the electrical grid under a bilateral trade agreement between the Middletown Coke Company and AK.

New Source Review (NSR)/PSD Applicability

As with the netting air permit-to-install demonstration, Ohio EPA, based upon information supplied by the Middletown Coke Company pursuant to Ohio EPA's engineering guide 58, deemed for purposes of NSR/PSD applicability that the Middletown Coke Company and AK are one source, even though SunCoke, the applicant in the Middletown Coke Company project, and AK are two separate and independent companies, not affiliates. In the case of unaffiliated companies, some of the criteria that may be used to determine if the sources would be considered one source include whether the company properties are contiguous and/or the companies are joined in some way. AK and the Middletown Coke Company own contiguous properties and are joined by a 20 year contract where the Middletown Coke Company will sell coke exclusively to AK and based upon that criteria, Ohio EPA believes that for purposes of an one source NSR/PSD applicability determination that AK and Middletown Coke Company are one source.

The current AK facility meets the definition for a major stationary source for both non-attainment (NSR) and attainment (PSD) as defined in 3745-31-01 of the Administrative Code.

For non-attainment, because it is located within an area designated as nonattainment for $PM_{2.5}$ and ozone and the current AK source including fugitive emissions has the potential to emit greater than 100 tons per year direct PM2.5, and VOC and/or NOx as both pollutants, VOC and NOx, are precursors to ozone. Therefore, the current AK source is a non-attainment major stationary source for the following pollutants: PM.2.5, VOC and NOx.

For PSD because it is located in an area designated as attainment for PM, PM10, SO2, NOx, CO, and lead and the AK source, being an iron and steel mill including fugitive emissions as specified in 3745-31-01 of the Administrative Code, has the potential to emit greater than 100 tons per year of PM (as part of Ohio EPA's state implementation plan or SIP for new source review), PM10, SO2, NOx and CO. Therefore, the current AK source is an attainment major stationary source for the following pollutants: PM, PM10, VOC and NOx.

The proposed installation by the Middletown Coke Company is deemed to be a physical change in or change in the method of operation at a current major stationary source (AK) that resulted in a significant increase in emissions that would trigger a major modification at a current major stationary source. See Table 1-1 on page 1-2 of the Middletown Coke Company air permit-to-install application and Table 1 listed below.

Once a source emits a regulated pollutant (in this case, PM for PSD and PM2.5 for non-attainment) that triggers being a major modification at a current major stationary source as part of a project, then if any regulated pollutants that are emitted in excess of the significance emission levels as specified in 3745-31-01 of the Administrative Code would also require the source to perform either a PSD and/or non-attainment analysis for those pollutants.

In this case, the Middletown Coke Company must comply with the attainment provisions listed in 3745-31-11 thru 19 of the Administrative Code for the following pollutants: PM, PM10, SO2, NOx, CO and H2SO4, but not for lead because it's emissions (0.28 ton per year) were below the significant emission level amounts (0.6 ton per year) that would trigger those provisions. The Middletown Coke Company must comply with the non-attainment provisions listed in 3745-21 thru 27 of the Administrative Code and/or 40 CFR Part 51, Appendix S for the following pollutants: direct PM2.5, NOx, as an ozone precursor, and SO2, as a PM2.5 precursor, but not for VOC because it's emissions (31.4 tons per year) are below the significant emission level amounts (40 tons per year) that would trigger those provisions.

TABLE 1

MIDDLETOWN COKE COMPANY'S POLLUTANT EMISSION RATES

| Pollutant | Allowable Emission Rate (in tpy) | Significant PSD Threshold (in tpy) |
|---|---|---|
| Carbon Monoxide | 129.5 | 100 |
| Nitrogen Oxides | 477.4 | 40 |
| Sulfur Dioxide | 1152.3 | 40 |
| Particulate Matter (filterable) | 168.9 | 25 |
| PM10 ((filterable for purposes of non-attainment review) surrogate for PM2.5 for | 125.0 | 15 |

| | | |
|---|---|---|
| purposes of PSD review)) | | |
| PM2.5 (filterable for purposes of non-attainment review of PSD review). | 112.2 | 10 |
| Volatile Organic Compounds | 31.4 | 40 |
| Lead | 0.28 | 0.6 |
| SO3 as Sulfuric Acid Mist(H2SO4) | 34.2 | 7 |

Applicability of 40 CFR Part 60 (NSPS)

The requirements of 40 Code of Federal Regulations (CFR) Part 60, Subpart Y, Standards of Coal Preparation Plants, are applicable to the Middletown Coke Company's coal handling, processing, and transfer operations.

Applicability of 40 CFR Part 63 (MACT)
The requirements of 40 Code of Federal Regulations (CFR) Part 63, Subpart L, National Emissions for Coke Oven Batteries. Specific requirements for non-recovery batteries (the term "non-recovery batteries" for purposes of this rule is the same as heat recovery mentioned above) are contained within Section 303 of this rule.

The requirements are 0 percent leaks for doors, a capture/control system for charging of coal and daily monitoring of pressure in each oven or in a common battery (afterburner) tunnel. The heat recovery ovens proposed by Middletown Coke Company will be operated under negative pressure. This meets the requirements of this rule and ensures compliance with the 0 percent leaks for doors standard listed in this rule. The coke oven to be installed at the Middletown Coke Company facility have no topside lids or off-take piping, so those requirements are not applicable.

The charging system will be equipped with collection hoods that are vented to baghouses for control of the emissions emitted from the charging system. The estimated capture efficiency is 90 percent and the estimated collection efficiency of the baghouses is 99 percent.

The requirements of 40 CFR Part 63, Subpart CCCCC, National Emission Standards For Hazardous Air Pollutants For Coke Ovens: Pushing, Quenching, and Battery (combustion) Stacks.

The requirements for pushing operations associated with the operation of the non-recovery coke batteries are emission limitations and monitoring requirements that control emissions of the pushing operations. Work practice procedures are also established for ensuring that a coke oven battery is coked out before pushing operations to the coke oven battery commences.

The requirements for quenching operations establish a limitation for the total dissolved solid in the quench water used along with construction of requirements of the baffles and associated work practice procedures for cleaning the baffles.

No requirements for stacks have been promulgated for non-recovery coke ovens because of the negative pressure of the design of the non-recovery coke oven batteries.

See specific requirements in both rules and as denoted in the application.

Control Technology Review (LAER and BACT)

In accordance with OAC rules 3745-31-22 and 3745-31-01, "Lowest achievable emission rate" or "LAER" determinations are to be based upon the following:

The most stringent emissions limitation that is contained in the implementation plan of any state for such class or category of emissions unit, unless the owner or operator of the proposed emissions unit demonstrates that such limitations are not achievable; or

The most stringent emissions limitation that is achieved in practice by such class or category of emissions unit. This limitation, when applied to a major modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified emissions unit to emit any air pollutant in excess of the amount allowable under applicable new source standards of performance.

The requirement to conduct a BACT analysis and determination is set forth in section 165(a)(4) of the Clean Air Act (Act), in federal regulations at 40 CFR Part 52.21.(j) and also in OAC rules 3745-31-15(C) and 3745-31-01(S). The BACT requirement is defined as:

> "... an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the director, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such major stationary source or major modification through application of production processes or available methods, systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60, 61, and 63. If the director determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be approved by the director instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation and shall provide for compliance by means which achieve equivalent results."

The BACT process was further formalized in a memorandum by USEPA on December 1, 1987 and in the draft New Source Review Workshop Manual (EPA 1990b) issued on March 15, 1990, by introducing a "top-down" concept for BACT analysis. The top-down process requires that all available control technologies be ranked in descending order of control effectiveness. The BACT process first examines the most stringent - or "top"-alternative. That alternative is established as BACT unless it is demonstrated that technical considerations, or energy, environmental, or economic impacts justify a conclusion that the most stringent technology is not applicable. If the most stringent technology is eliminated, then the next most stringent alternative is considered, and this process is continued until an acceptable BACT is selected.

The objective of the BACT analysis is to conduct pollutant-specific control technology evaluation per USEPA requirements. The BACT evaluation steps consist of:

Step 1: identify all control technologies;

Step 2: eliminate technically infeasible options;

Step 3: rank remaining control technologies by control effectiveness;

Step 4: evaluate most effective controls and document results; and

Step 5: select the most effective control based on energy, environmental and economic impacts (generally the feasible technology that is also considered to be cost effective)

**LAER/BACT Analysis: Paved Roadways Ohio EPA emissions unit number F001.**

LAER Review:

| Fugitive Dust Operations | LAER/BACT Control Technology | LAER/BACT Opacity Limitation | LAER Emission Rate for PM2.5 (tpy) | BACT Emission Rate for PM10 (tpy) | BACT Emission Rate for PM (tpy) |
|---|---|---|---|---|---|
| Paved roadways | Paved roadways and watering, as need. | No VE except 1 minute in any 60-minute period for paved roadways. | 0.05 | 0.21 | 1.08 |

**LAER/BACT Analysis: Coal and Coke Storage Piles Ohio EPA emissions unit number F002.**

| Fugitive Dust Operations | LAER/BACT Control Technology | LAER/BACT Opacity Limitation | LAER Emission Rate for PM2.5 (tpy) | BACT Emission Rate for PM10 (tpy) | BACT Emission Rate for PM (tpy) |
|---|---|---|---|---|---|
| Coal Storage Piles | Berm around storage piles, radical stacker, with front-end loader, and wet suppression. | No VE except 1 minute in any 60-minute period for coal storage piles. | 1.29 | 3.64 | 7.51 |
| Coke Storage Piles | Stacker conveyor load-in, load-out with front-end loader, wet material. | No VE except 1 minute in any 60-minute period for coke storage piles. | Combined with coal storage piles. | Combined with coal storage piles. | Combined with coal storage piles. |

**LAER/BACT Analysis: Coal Handling, Processing, and Transfer Ohio EPA emissions unit number F003.**

| Fugitive Dust | LAER/BACT Control | LAER/BACT Opacity Limitation | LAER Emission Rate for | BACT Emission Rate for | BACT Emission Rate for PM |
|---|---|---|---|---|---|

| Operations | Technology | | PM2.5 (tpy) | PM10 (tpy) | (tpy) |
|---|---|---|---|---|---|
| Coal handling, processing and transfer. | Enclosure and wet suppression; enclosed (except where prohibited by safety) and wet material. | Visible particulate emissions shall not exceed 10% opacity, as a 3-minute average. | 0.52 | 1.67 | 3.47 |

**LAER/BACT Analysis: Coke Breeze Handling and Processing Ohio EPA emissions unit number F004.**

| Fugitive Dust Operations | LAER/BACT Control Technology | LAER/BACT Opacity Limitation | LAER Emission Rate for PM2.5 (tpy) | BACT Emission Rate for PM10 (tpy) | BACT Emission Rate for PM (tpy) |
|---|---|---|---|---|---|
| Coke Breeze Handling and Processing. | Enclosed building (except where prohibited by safety), wet material and fabric filter (from crushing/screening operations) with a 0.008 grains per dry standard cubic feet (dscf) limitation of PM2.5. | Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average from any stack.<br><br>Visible fugitive dust particulate emissions shall not exceed 10% opacity, as a 3-minute average. | 15.55 | 16.71 | 18.60 |

**LAER/BACT Analysis: Coke Quenching Ohio EPA emissions unit number P001.**

| Process Operations | LAER/BACT Control Technology | LAER/ BACT Opacity Limitation | LAER/ BACT Limitations | LAER Emission Rate for PM2.5 (tpy) | BACT Emission Rate for PM10 (tpy) | BACT Emission Rate for PM (tpy) |
|---|---|---|---|---|---|---|
| Coke Quenching | MACT standards of no more than 5% of the quench tower may be open to the sky; baffles must be washed each day unless prohibited by cold | Visible particulate emissions shall not exceed 20% opacity, as a 6-minute | 0.027 lb of PM2.5/wet ton of coal charged for LAER; 0.044 lb of PM10/wet ton of coal charged | 12.32 | 20.08 | 54.75 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | temperature; verify that the quench water total dissolved solids (TDS) is less than or equal to 1,100 mg/L by sampling; process water from a river, lake or steam, storm water runoff, or water used for non-contact cooling is acceptable. | average. | and 0.12 lb of PM/wet ton of coal charged for BACT. | | | |

See specific details of both the LAER and the BACT analysis in the air permit-to-install application.

**LAER/BACT Analysis: Heat Recovery Coke Plant Ohio EPA emissions unit number P901.**

Contained within the heat recovery coke plant are the following operations: charging, coking, waste gas by passing both HRSG and the lime spray dryer/baghouse, and pushing.

| Process Operations | LAER/BACT Control Technology | LAER/ BACT Opacity Limitation | LAER/ BACT Limitations | LAER Emission Rate for PM2.5 (tpy) | BACT Emission Rate for PM10 (tpy) | BACT Emission Rate for PM (tpy) |
|---|---|---|---|---|---|---|
| Charging | Baghouse with traveling hood | Visible particulate emissions shall not exceed 10% opacity, as a 6-minute average from any stack.<br><br>Visible fugitive dust particulate emissions shall not exceed | 0.0081 lb of PM2.5/dry ton of coal charged for LAER; 0.0081 lb of PM10 and PM/dry ton of coal charged for BACT. | 3.4 from the baghouse; 0.18 fugitives. | 3.4 from the baghouse; 0.37 fugitives. | 3.4 from the baghouse; 1.23 fugitives. |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 20% opacity, as an average of five consecutive charges. | | | | |

| Process Operations | LAER/BACT Control Technology | LAER/ BACT Limitations | LAER/BACT Emission Rate for SO2 (tpy) |
|---|---|---|---|
| Charging | Work practices | 0.0003 lb of SO2/wet ton of coal charged for LAER and BACT. | 0.14 |

| Process Operations | BACT Control Technology | BACT Limitation | BACT Emission Rate for CO (tpy) |
|---|---|---|---|
| Charging | N/A | 0.0028 lb of CO/wet ton of coal charged for BACT. | 1.28 |

| Process Operations | BACT Control Technology | LAER/ BACT Opacity Limitation | LAER/ BACT Limitations | LAER Emission Rate for PM2.5 (tpy) | BACT Emission Rate for PM10(tpy) | BACT Emission Rate for PM (tpy) |
|---|---|---|---|---|---|---|
| Coking operations with heat recovery steam generators and lime spray dryer – main stack | Baghouse (used in conjunction with a spray dryer to control SO2 emissions) | Visible particulate emissions shall not exceed 10% opacity, as a 6-minute average from the lime spray dryer/ baghouse stack.<br><br>No visible particulate emission shall be permitted from the common battery tunnel or its associated | 0.1 lb of PM/PM10 /ton of coal coked (0.005 gr/dscf) for LAER and BACT. | 46.9 | 46.9 | 46.9 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | piping. | | | | |

| Process Operations | LAER/BACT Control Technology | LAER/ LAER/BACT Limitations | LAER/BACT Emission Rate for SO2 (tpy) |
|---|---|---|---|
| Coking operations with heat recovery steam generators and lime spray dryer – main stack | Fabric filter, common tunnel afterburner, and lime spray dryer. | Designed to obtain 92 percent control efficiency. | 700.8 |

| Process Operations | BACT Control Technology | BACT Limitation | BACT Emission Rate for CO (tpy) |
|---|---|---|---|
| Coking operations with heat recovery steam generators and lime spray dryer – main stack | Combustion during coking process shall be optimized by monitoring the temperature in each oven crown and sole flue and adding air as needed through dampers in each oven. | 0.21 lb of CO/wet ton of coal charged (20 ppm) for BACT. | 95.54 |

| Process Operations | LAER/BACT Control Technology | LAER/BACT Limitation | LAER Emission Rate for NOx (tpy) | BACT Emission Rate for NOx (tpy) |
|---|---|---|---|---|
| Coking operations with heat recovery steam generators and lime spray dryer – main stack | Staged combustion | 1.0 lb of NOx/wet ton of coal charged for BACT.<br><br>1.0 lb of NOx/wet ton of coal charged for LAER. | 465.25 include NOx emissions from the main stack after passing thru the lime spray dryer/fabric filter and during maintenance of the lime spray dryer/filter. | 465.25 include NOx emissions from the main stack after passing thru the lime spray dryer/fabric filter and during maintenance of the lime spray dryer/filter. |

| Process Operations | BACT Control Technology | BACT Limitations | BACT Emission Rate for H2SO4 (tpy) |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Coking operations with heat recovery steam generators and lime spray dryer – main stack | Fabric filter, common tunnel afterburner, and lime spray dryer. | Designed to obtain 95 percent control efficiency. | 11.13 |

Middletown Coke Company presented a redundant FGD system as a possible control option to control emissions when FDG maintenance is being performed which would require the installation of a spray dryer/baghouse with instrumentation along with steel ductwork with dampers. Middletown Coke Company deemed that this option as technically feasible, but presented documentation in the application that it was not cost effective to employ this option during FDG maintenance. Based upon that analysis, the following was deemed to satisfy BACT/LAER requirements.

| Process Operations | LAER/BACT Control Technology | LAER/ BACT Opacity Limitation | LAER/ BACT Limitations | LAER Emission Rate for PM2.5 (tpy) | BACT Emission Rate for PM10(tpy) | BACT Emission Rate for PM (tpy) |
|---|---|---|---|---|---|---|
| Coking operations with heat recovery steam generators and lime spray dryer – main stack when the lime spray dryer is bypassed. | Work practices and limited number of hours operated (5 days/year) | Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average.<br><br>No visible particulate emission shall be permitted from the common battery tunnel or its associated piping. | Based upon estimate of 0.049 gr/dscf | 6.3 | 6.3 | 6.3 |

In addition to the analysis of the possible control option of a redundant FGD system to control SO2 emissions when FDG maintenance is being performed which would require the installation of a spray dryer/baghouse with instrumentation along with steel ductwork with dampers, Middletown Coke Company also has agreed to reduced coal charge along with employing a reduced sulfur content of the coal during FDG maintenance. Based upon that analysis, the following was deemed to satisfy BACT/LAER requirements.

| Process | LAER/BACT | LAER/ | LAER/BACT Emission |
|---|---|---|---|

| Operations | Control Technology | BACT Limitations | Rate for SO2 (tpy) |
|---|---|---|---|
| Coking operations with heat recovery steam generators and lime spray dryer – main stack when the lime spray dryer is bypassed. | Limiting the annual maintenance to no more than five days per year; and by following good work practices which shall reduce SO2 emissions by 28 percent. | Reduced coal charge along with reduced sulfur content of coal changed and 1794 lbs per hour. | 107.64 |

| Process Operations | BACT Control Technology | BACT Limitation | BACT Emission Rate for CO (tpy) |
|---|---|---|---|
| Coking operations with heat recovery steam generators and lime spray dryer – main stack when the lime spray dryer is bypassed. | Combustion during coking process shall be optimized by monitoring the temperature in each oven crown and sole flue and adding air as needed through dampers in each oven. | 20 ppm | 1.31 |

| Process Operations | LAER/BACT Control Technology | LAER/BACT Limitation | LAER Emission Rate for NOx (tpy) | BACT Control Technology for NOx (tpy) |
|---|---|---|---|---|
| Coking operations with heat recovery steam generators and lime spray dryer – main stack when the lime spray dryer is bypassed. | Staged combustion | 1.0 lb per wet ton of coal charged | 6.25 | 6.25 |

| Process Operations | BACT Control Technology | BACT Limitation | BACT Emission Rate for H2SO4 (tpy) |
|---|---|---|---|
| Coking operations with | Limiting the annual maintenance to no | 91.5 lbs per hour. | 5.49 |

| | | | |
|---|---|---|---|
| heat recovery steam generators and lime spray dryer – main stack when the lime spray dryer is bypassed. | more than five days per year; and by following good work practices which shall reduce SO2 emissions by 28 percent. | | |

Middletown Coke Company presented two possible control options to control emissions HRSG maintenance. These two options are employing a spray quench system at each HRSG to cool individual waste heat gases and the other option is to install additional HRSGs and increase the size of the waste heat tunnel over current design specifications. Both options were deemed not technically feasible. However, in both cases, Middletown Coke Company presented documentation in the application that it was not cost effective to use either one of these options. Based upon that analysis, the following was deemed to satisfy BACT/LAER requirements.

| Process Operations | BACT Control Technology | LAER/ BACT Opacity Limitation | LAER/ BACT Emission limitation | LAER Emission Rate for PM2.5 (tpy) | BACT Emission Rate for PM10(tpy) | BACT Emission Rate for PM (tpy) |
|---|---|---|---|---|---|---|
| Waste gas from the coking process – waste gas stacks. | Work practices, limit HRSG maintenance to one HRSG at a time, and limited number of hours operated (10 days/year). | Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average. | Based upon estimate of 0.049 gr/dscf. | 12.6 | 12.6 | 12.6 |

| Process Operations | LAER/BACT Control Technology | LAER/ BACT Limitations | LAER/BACT Emission Rate for SO2 (tpy) |
|---|---|---|---|
| Waste gas from the coking process – waste gas stacks. | Work practices, limit HRSG maintenance to one HRSG at a time, and limited number of hours operated (10 days/year). | 23.92 lb/wet ton of coal | 299 |

| Process | LAER/BACT | LAER/ | LAER/BACT Emission |
|---|---|---|---|

| Operations | Control Technology | BACT Limitations | Rate for NOx (tpy) |
|---|---|---|---|
| Waste gas from the coking process – waste gas stacks. | Stage combustion | 1.0 lb/ton of wet coal charged. | 12.5 |

| Process Operations | BACT Control Technology | BACT Limitation | BACT Emission Rate for CO (tpy) |
|---|---|---|---|
| Waste gas from the coking process – waste gas stacks. | Combustion during coking process shall be optimized by monitoring the temperature in each oven crown and sole flue and adding air as needed through dampers in each oven. | 20 ppm | 2.62 |

| Process Operations | BACT Control Technology | BACT Limitations | BACT Emission Rate for H2SO4 (tpy) |
|---|---|---|---|
| Waste gas from the coking process – waste gas stacks. | Work practices, limit HRSG maintenance to one HRSG at a time, and limited number of hours operated (10 days/year). | 25.4 lbs per hour. | 15.25 |

| Process Operations | BACT Control Technology | LAER/ BACT Opacity Limitation | LAER/ BACT Emission Limitation | LAER Emission Rate for PM2.5 (tpy) | BACT Emission Rate for PM10(tpy) | BACT Emission Rate for PM (tpy) |
|---|---|---|---|---|---|---|
| Pushing operations with flat hot car vented to multiclone dust collector. | Flat push and traveling hood with multi-cyclone | Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average. | 0.04 lb/ton | 13.09 | 13.09 | 13.09 |

| Process Operations | LAER/BACT Control Technology | LAER/ BACT Limitations | LAER/BACT Emission Rate for SO2 (tpy) |
|---|---|---|---|
| Pushing operations with | Work Practices | 0.098 lb/wet ton of coal charged. | 44.71 |

| | | | |
|---|---|---|---|
| flat hot car vented to multiclone dust collector. | | | |

| Process Operations | LAER/BACT Control Technology | LAER/ BACT Limitations | LAER/BACT Emission Rate for NOx (tpy) |
|---|---|---|---|
| Pushing operations with flat hot car vented to multiclone dust collector. | Work Practices | 0.019 lb/wet ton of coal charged. | 8.67 |

| Process Operations | BACT Control Technology | BACT Limitation | BACT Emission Rate for CO (tpy) |
|---|---|---|---|
| Pushing operations with flat hot car vented to multiclone dust collector. | Work practices | 0.063 lb/wet ton of coal charged. | 28.74 |

| Process Operations | BACT Control Technology | BACT Limitation | BACT Emission Rate for H2SO4 (tpy) |
|---|---|---|---|
| Pushing operations with flat hot car vented to multiclone dust collector. | Work Practices | 0.005 lb/wet ton of coal charged. | 2.28 |

**Emission Offsets**

The permittee is required to provide emission offsets for PM2.5, SO2, and NOx as part of the nonattainment requirements contained in OAC rule 3745-31. The PM2.5 emission offsets will be calculated and subsequently reported using the filterable forms of PM2.5. Offsets were obtained from two facilities; AK Steel – Middletown Works (14-09-01-0006) and Proctor and Gamble Company (14-31-39-0903). Emission offsets were a result of a permanent shutdown of both facilities and will be federally enforceable upon issuance of the final action of the director.

**AK Steel (14-09-01-0006)**

The AK Steel facility permanently shutdown emissions units F009, P908, P936, and F007 on April 1, 2004 and the PM2.5, SO2, and NOx emission offset calculations meet the actual emission definition, as specified OAC rule 3745-31-01. The actual emission definition requires the use of the preceding 24 month period from the date of the permanent reduction activity, however, the Director can allow a facility to request a different

baseline period if the facility can show that the alternative time period is more representative of normal emission unit operation. AK Steel chose to use the period (June 1999 thru May 2001) as their baseline period to calculate actual emissions. Based on the information AK submitted to Ohio EPA, we believe that this period is representative of normal operation. In addition, these emission offsets meet the minimum federal requirements of being permanent, surplus, quantifiable, and federally enforceable. The total amount of emission offsets, as described below, will be federally enforceable upon issuance of the final action of the director.

From June 1999 thru May 2001, AK Steel produced a 24 month average actual emissions of 134 tons of filterable PM2.5, produced a 24 month average actual emission of 1615.4 tons of SO2, and produced a 24 month average actual emission of 394.6 tons of NOx. The PM10, SO2, and NOx actual emissions and subsequent emission offsets as a result of a permanent shutdown meet the requirements contained in OAC Chapter 3745-31. The total above mentioned tons per year values can be used as emission offsets for this permit to meet the nonattainment requirements of OAC rule 3745-31-22.

**The Proctor and Gamble Company (14-31-39-0903)**

The Proctor and Gamble Company facility, premise number 14-31-39-0903, permanently shutdown emissions units B008, B001 in July 1999 and B021 permanently shut down in May 2001. The NOx emission offset calculation meets the actual emissions definition, as specified in OAC rule 3745-31-01. The actual emission definition requires the use of the preceding 24 month period from the date of the permanent reduction activity, however, the Director can allow a facility to request a different baseline period if the facility can show that the alternative time period is more representative of normal emission unit operation. Facility 14-31-39-0903 chose to use January 1997 to December 1998 as their baseline period. Based on the information this facility sent Ohio EPA, we believe this time period is representative of normal operation. In addition, these emission offsets meet the minimum federal requirements of being permanent, quantifiable, and federally enforceable. However, a future permitting action is required to ensure the emission offsets meet the surplus requirements. A permit modification (admin mod) should be completed by start-up of emissions units contained within Middletown Coke Company permitting action. The total amount of emission offsets, as described below, will be federally enforceable upon issuance of the final action of the director.

During 1997 and 1998, the facility produced a 24 month average actual emission of 252.93 tons of NOx. The full amount of NOx emissions offsets produced from this calculation will not be available for use. One ton of NOx will be deducted in the permit modification and nine more tons will be deducted based on the emissions unit's participation in the NOx SIP Call program. Therefore the total amount of NOx emission offsets available for this project is 242.93 tons per year. The NOx actual emissions and subsequent emission offsets as a result of a permanent shutdown meet the requirements contained in OAC Chapter 3745-31. The total of 242.93 tons of NOx can be used as emission offsets for this permit to meet the nonattainment requirements of OAC rule 3745-31-22. Ohio EPA does not believe the full amount of emission offsets available from this facility will be used in Middletown Coke's Permit. Only 85 tpy will be used for this project. All other emission offsets not used in this project shall be banked in Ohio EPA ERC Banking System.

**Modeling Summary:**

The Middletown Coke Company is located in AQCR 079 in Butler County in Middletown, Ohio. The area is attainment for all criteria pollutants, except PM2.5 and Ozone. U.S. EPA regulations require the establishment of baseline air quality in the vicinity of the proposed project. This is normally accomplished using representative air quality monitoring data. Air quality modeling can be utilized to demonstrate that the project will have less than a threshold impact. This threshold impact is identified as the PSD monitoring de minimus level. If the projected impact from the proposed project exceeds this level, ambient data must be collected or existing representative data must be identified which is representative of the area.

Middletown Coke has conducted ambient air quality modeling to determine the potential impact due to the proposed installation. NO2 and SO2 impacts from the proposed installation are below their respective PSD monitoring de minimus level. Since the area is non-attainment for PM2.5 it is assumed that there is no available increment to consume. Ohio EPA has identified representative SO2, PM10 and CO data for use by Middletown Coke in this project. Therefore, Middletown Coke would not be required to perform preconstruction or post-construction monitoring. The following are the projected impacts:

| Pollutant | Modeled Period | Modeled Impact | Monitoring De Minimus |
|---|---|---|---|
| NO2 | Annual | 0.51 ug/m3 | 14 ug/m3 |
| PM10 | 24-hour | 14.3 ug/m3 | 10 ug/m3 |
| CO | 8-Hour | 12.1 ug/m3 | 575 ug/m3 |
| SO2 | 24-hour | 44.2 ug/m3 | 13 ug/m3 |

Modeling

Air quality dispersion was conducted to assess the effect of this modification on the national ambient air quality standards (NAAQS) and for the PSD increments. AERMOD (version 07026) was used in the regulatory default, rural mode. Five years of representative meteorological data (Cincinnati/Covington surface data and Dayton upper air data, 1987-1991) were used. Building downwash was incorporated into the AERMOD estimates.

Peak impacts of SO2, NO2 and PM10 were above their respective PSD significant impact levels. Therefore, additional modeling to address PSD increments and NAAQS were necessary.

PSD Increment

| Pollutant | Averaging Period | Modeled Impact | PSD Increment |
|---|---|---|---|
| SO2 | Annual | 8.5 ug/m3 | 20 ug/m3 |
| | 24-hour | 59.5 ug/m3 | 91 ug/m3 |
| | 3-hour | 171.5 ug/m3 | 512 ug/m3 |

Ohio EPA's policy is that no single project should consume more than 50% of the available PSD increment, except in situations where the impact is localized, temporary or as part of a brown-field project. In such cases, the peak constraining concentration can consume up to 83.3% of the PSD increment.

NAAQS

Existing sources at the facility, existing sources above the PSD significant rates within the Middletown Coke significant impact area (SIA) and sources greater than 100 tons/yr 50km outside of the SIA are modeled to determine the combined impact of existing and proposed sources. A background value was added to account for minor sources not explicitly included in the modeling.

| Pollutant | Averaging Period | Modeled Concentration | NAAQS Concentration | Concentration With Background |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| PM10 | 24-hour | 8. 53 ug/m3* | 150 ug/m3 | 341.2 ug/m3 |
| SO2 | Annual | 40.3 ug/m3 | 80 ug/m3 | 51.0 ug/m3 |
| | 24-hour | 184.6 ug/m3 | 365 ug/m3 | 234.4 ug/m3 |
| | 3-hour | 636.3 ug/m3 | 1300 ug/m3 | 788.3 ug/m3 |

*8.53 ug/m3 for Middletown Coke and offsite inventory air contaminant sources not including AK Steel's contribution).

**Air Toxics**

Modeling for Hydrogen Chloride (HCL) and Mercury (Hg) was required by Ohio EPA because those emissions exceeded more than one ton per year. All air toxics modeled did not exceed their respective Maximum Achievable Ground Level Concentration (MAGLC) values pursuant to Ohio EPA's Engineering Guidelines: #69 Guideline on Air Quality Models. The Ohio EPA is in agreement with the maximum concentrations found in Table 6-4 of the Middletown Coke Company Application for Major New Source Permit to Install document prepared by URS. Note that modeling for H2SO4 was not required for two reasons. One being that there is no NAAQS standard for PSD air dispersion modeling requirements and second due to Senate Bill 265 provisions that says that if an air toxic pollutant goes thru BACT and/or non-attainment review, then that pollutant is not modeled against Ohio EPA's air toxic policy.

**Net Air Quality Benefit**

The requirement to provide a net air quality benefit has been met by this project for PM2.5, SO2 and NOx. In accordance with OAC rule 3745-31-22(A)(4), compliance with the requirements of (A)(1) - (3) and OAC rule 3745-31-25 is sufficient.

**Secondary Impact Analysis**

Middletown Coke Company has demonstrated that the predicted pollutant concentrations throughout the study area are below the secondary NAAQS thresholds. The secondary NAAQS are designed to limit the amount of pollutants in the ambient air to levels below those which could have an adverse impact on human welfare, soils and vegetation. The modeling analyses demonstrate that no significant impacts on human welfare, soils or vegetation will occur from the proposed modification.

See specific details in the air permit-to-install application.

**Conclusions**

Based upon the review of the permit to install application and the supporting documentation provided by the applicant, the Ohio EPA staff has determined the installation will comply with all applicable State and Federal environmental regulations and that the requirements for nonattainment and attainment area review are satisfied. Therefore, the Ohio EPA staff recommends that a permit to install be issued to Middletown Coke Company for the installation of the new coke oven battery facility.

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

# DRAFT

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

| | |
|---|---|
| Facility ID: | 1409011031 |
| Permit Number: | P0104768 |
| Permit Type: | Initial Installation |
| Issued: | 7/27/2009 |
| Effective: | To be entered upon final issuance |

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

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

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# Authorization

Facility ID: 1409011031
Facility Description: Heat recovery coke plant
Application Number(s): A0036469, A0037844, A0037951
Permit Number: P0104768
Permit Description: Heat recovery coke-making facility
Permit Type: Initial Installation
Permit Fee: $5,400.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 7/27/2009
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

Middletown Coke Company
3353 Yankee Road
Middletown, OH 45042

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: P0104768
Permit Description: Heat recovery coke-making facility

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

| | |
|---|---|
| **Emissions Unit ID:** | **F001** |
| Company Equipment ID: | Paved Roads |
| Superseded Permit Number: | 14-06023 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **F002** |
| Company Equipment ID: | Storage Piles |
| Superseded Permit Number: | 14-06023 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **F003** |
| Company Equipment ID: | Coal Handling |
| Superseded Permit Number: | 14-06023 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **F004** |
| Company Equipment ID: | Coke Handling |
| Superseded Permit Number: | 14-06023 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P001** |
| Company Equipment ID: | Quench Tower |
| Superseded Permit Number: | 14-06023 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P901** |
| Company Equipment ID: | Heat Recovery Coke Battery |
| Superseded Permit Number: | 14-06023 |
| General Permit Category and Type: | Not Applicable |

# 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.

# 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) 5 and 6.

2. The following emissions units contained in this permit are subject to MACT Subpart L and Subpart CCCCC: P901 and Subpart CCCCC: P001. 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. Emissions Offset requirements:

   The permittee shall submit a letter to the Hamilton County Environmental Services and to Ohio EPA, prior to actual construction, documenting that Middletown Coke Company obtained legal ownership of the emission offsets from AK Steel – Middletown Works (Facility ID 1409010006); 394.57 tons per year (tpy) of NOx, 1209.92 tpy of SO2, and 117.81 tpy of PM2.5 and emission offsets from facility ID: 1431390903: 85 tpy NOx. In accordance to OAC rule 3745-31-26(A)(1) and (C), and 40 C.F.R. Part 51, Appendix S, the offset ratio for NOx, SO2, and PM2.5 shall be greater than 1.0 to 1.0.

   Butler County is in non-attainment for the eight hour ozone standard and the PM 2.5 standard. In accordance with the requirements in OAC rule 3745-31-22(A)(3) emission reduction shall be used to offset the net emission increase generated by this project to provide a net air quality benefit as specified under OAC rule 3745-31-22(A)(4). The permanent shutdown or permanent emission reduction of sources as specified in the below table were approved by Ohio EPA as verified emission reduction credits (ERCs) as defined in OAC 3745-111-01. Any verified ERCs that are not used for this permit to install (PTI) shall be banked in accordance to OAC 3745-31-24(I), OAC rule 3745-111-02 and OAC rule 3745-111-05:

| A | B | C | D | E | F |
|---|---|---|---|---|---|
| **Company Name, Address, Contact Person & Phone # Providing Offsets** | **Emissions Unit ID No. & Description** | **TPY PM2.5 ERC used for PTI** | **TPY SO2 ERC used for PTI** | **TPY of NOx ERC used for PTI** | **Emission Reduction Activity and Date of reduction** |
| *AK Steel – Middletown Works,* (Facility ID 14-09-01-0006) | *Raw Material Unloading (Emissions Unit F009)* | *+9.27* | 0 | 0 | Permanent shutdown April 1, 2004 |
| | Windbox (Emissions Unit P908 | +104.24 | +1209.92 | +394.57 | Permanent shutdown April 1, 2004 |
| | Breaker End (Emissions Unit P936) | +0.87 | 0 | 0 | Permanent shutdown April 1, 2004 |
| | Cold Sinter Screening | +3.43 | 0 | 0 | Permanent shutdown April 1, 2004 |

| A | B | C | D | E | F |
|---|---|---|---|---|---|
| **Company Name, Address, Contact Person & Phone # Providing Offsets** | **Emissions Unit ID No. & Description** | **TPY PM2.5 ERC used for PTI** | **TPY SO2 ERC used for PTI** | **TPY of NOx ERC used for PTI** | **Emission Reduction Activity and Date of reduction** |
| | (Emissions Unit F007) | | | | |
| The Procter and Gamble Company Facility ID 1431390903 | Boiler 1 (Emissions Unit B008) | 0 | 0 | 2.17 | Permanent Shutdown July 1, 1999 |
| | Boiler 2 (Emissions Unit B001) | 0 | 0 | 4.43 | Permanent Shutdown July 1, 1999 |
| | Boiler 3 (Emissions Unit B021) | 0 | 0 | 78.40 | Permanent Shutdown 5/21/2001 |

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

5. 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.

6. 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.

7. The following emissions units (EU) are also part of this project:

| Emissions unit description | Permits | Emissions in tons per year |
|---|---|---|
| Unpaved roadways associated with Dick's Creek remediation | AK Steel Corporation<br>Premise number 1409010006;<br>Permit number P010457 issued final on 4/22/2009. | 0.68 of PM;<br>0.17 of PM10. |
| Coke transfer conveyor system from the Middletown Coke Company to railcar loading and truck loading on AK Steel's property | AK Steel Corporation<br>Premise number 1409010006;<br>Permit number P010457 issued draft on 6/1/2009. | 0.66 of PM;<br>0.58 of PM10;<br>0.18 of PM2.5. |

# C. Emissions Unit Terms and Conditions

**1. F001, Paved Roads**

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

Paved Roadways and Parking Areas

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific 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)(a)(ii) | See b)(2)a. |
| b. | OAC rule 3745-31-10 through 20 | Fugitive particulate emissions (PE) shall not exceed 1.08 TPY as a rolling 12-month summation.<br><br>Fugitive particulate matter emissions with a diameter of 10 microns and less (PM10) shall not exceed 0.21 TPY (filterable PM10) as a rolling 12-month summation.<br><br>There shall be no visible particulate emissions except for 1 minute during any 60-minute period.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B). |
| c. | OAC rule 3745-31-21 through 27 | Fugitive particulate matter emissions with a diameter of 2.5 microns and less (PM2.5) shall not exceed 0.05 TPY (filterable PM2.5) as a rolling 12-month summation.<br><br>There shall be no visible particulate emissions except for 1 minute during any 60-minute period.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B). |

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

(2) Additional Terms and Conditions

a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to particulate emissions (PE), 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 PE, PM10 and PM2.5 is less than 10 tons per year.

b. The permittee is required to perform a Lowest Achievable Emission Rate (LAER) review for PM2.5. The emission limitations based on the LAER requirements are listed under OAC rules 3745-31-(21) through (27) above.

c. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the use of paved roadways and watering for control measures constitutes BACT for this emissions unit. The emission limits based on the BACT requirements are listed under OAC rules 3745-31-10 through 3745-31-20 above.

d. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance. The permittee shall employ best available control measures on all paved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the paved roadways and parking areas by watering at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

e. The permittee shall employ best available control measures on the unpaved shoulders of all paved roadways for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the unpaved shoulders of all paved roadways with water at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

f. The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for a paved roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

g. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.

h. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

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

| 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)(2)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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard 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 shall not exceed 1.08 TPY as a rolling 12-month summation.

Applicable Compliance Method:

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

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

b. Emission Limitation:

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

Applicable Compliance Method:

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

c. Emission Limitation:

PM10 emissions shall not exceed 0.21 TPY as a rolling 12-month summation.

Applicable Compliance Method:

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

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

d. Emission Limitation:

Filterable PM2.5 emissions shall not exceed 0.05 TPY as a rolling 12-month summation.

Applicable Compliance Method:

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

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

g) Miscellaneous Requirements

(1) None.

## 2. F002, Storage Piles

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

Coal and Coke Storage Piles

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific 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 3745-31-10 through 20 | 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 per year (TPY) as a rolling 12-month summation.<br><br>Particulate matter emissions with a diameter of 10 microns and less (PM10) shall not exceed 3.64 TPY (filterable PM10) as a rolling 12-month summation.<br><br>There shall be no visible particulate emissions except for 1 minute during any 60-minute period.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B). |
| b. | OAC rule 3745-31-21 through 27 | Particulate matter emissions with a diameter of 2.5 microns and less (PM2.5) shall not exceed 1.29 TPY (filterable PM2.5) as a rolling 12-month summation.<br><br>There shall be no visible particulate emissions except for 1 minute during any 60-minute period.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B). |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| c. | OAC rule 3745-17-07(B) | The particulate emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-17-08(B). |
| d. | OAC rule 3745-17-08(B) | See b)(2)d. through b)(2)g. |
| e. | OAC rule 3745-31-05(A)(3)(a)(ii) | See b)(2)h. |

(2) Additional Terms and Conditions

a. The storage piles that are covered by this permit and subject to the requirements of OAC rule 3745-31-10 are listed below:

coal storage pile(s)

coke storage pile(s)

b. The permittee is required to perform a Lowest Achievable Emission Rate (LAER) review for PM2.5. The emission limitations based on the LAER requirements are listed under OAC rules 3745-31-(21) through (27) above.

c. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the use of a berm for wind reduction, maintaining material in a wet condition, loading material with a radial stacker or stacker conveyor and loading material out with front-end loader as control measures constitutes BACT for this emissions unit. “Maintaining material in a wet condition” does not require the permittee to constantly apply water. The emission limits based on the BACT requirements are listed under OAC rules 3745-31-10 through 3745-31-20 above.

d. The permittee shall employ best available control measures on all load-in and load-out operations associated with the storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee’s permit application, the permittee has committed to the following control measures to ensure compliance:

e. The above-mentioned control measure(s) shall be employed for each load-in and load-out operation of each storage pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during any such operation until further observation confirms that use of the measure(s) is unnecessary.

f. The permittee shall employ best available control measures for wind erosion from the surfaces of all storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee’s permit application, the permittee has committed to treat the open coal storage

pile with water at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

g. The above-mentioned control measure(s) shall be employed for wind erosion from each pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Implementation of the control measure(s) shall not be necessary for a storage pile that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.

h. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply the particulate emissions (PE), 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 PE, PM10 and PM2.5 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 |
|---|---|
| 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 Standard 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 TPY as a rolling 12-month summation.

Applicable Compliance Method:

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

i. coal pile load-in - PE

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

ii. coal pile wind erosion - PE

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

ii. coal pile load-out – PE

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

iv. coke pile load-in - PE

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

v. coke pile wind erosion - PE

Multiply the maximum area of the coal storage pile, in acres, times the 365, the maximum number of days per year, times the 2.19 pound/day/acre emission factor and divide by 2,000 pounds per ton. The

particulate emission factor was calculated in accordance with AP-40, Section 4, Equation 5.

vi. coke breeze pile wind erosion - PE

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

vii. coke pile load-out - PE

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

b. Emission Limitation:

PM10 emissions from wind erosion at coal and coke piles and load-in and load-out at coal and coke piles shall not exceed 3.64 TPY as a rolling 12-month summation.

Applicable Compliance Method:

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

i. coal pile load-in - PM10

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 PM10 emission factor is calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06.

ii. coal pile wind erosion - PM10

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 10/80.

iii. coal pile load-out - PM10

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

iv. coke pile load-in - PM10

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

v. coke pile wind erosion - PM10

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 - PM10

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 - PM10

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

c. Emission Limitation:

Filterable PM2.5 emissions from wind erosion at coal and coke piles and load-in and load-out at coal and coke piles shall not exceed 1.29 TPY as a rolling 12-month summation.

Applicable Compliance Method:

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

i. coal pile load-in - PM2.5

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 PM2.5 emission factor is calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06.

ii. coal pile wind erosion – PM2.5

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 PM2.5 emission factor was calculated in accordance with AP-40, Section 4, Equation 5. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iii. coal pile load-out – PM2.5

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 $PM_{2.5}$ emission factor calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) and Table 13.2.4-1, dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iv. coke pile load-in - PM2.5

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

v. coke pile wind erosion - PM2.5

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 - PM2.5

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 - PM2.5

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

d. Emission Limitation:

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

Applicable Compliance Method:

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

g) Miscellaneous Requirements

(1) None.

**3. F003, Coal Handling**

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

Coal Handling, Processing and Transfer

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific 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 rules 3745-31-10 through 20 | Particulate emissions (PE) that are fugitive shall not exceed 3.47 tons per year (TPY) as a rolling, 12-month summation.<br><br>Filterable particulate matter emissions with a diameter of 10 microns and less (PM10) that are fugitive shall not exceed 1.67 TPY as a rolling, 12-month summation.<br><br>Visible particulate emissions shall not exceed 10% opacity, as a 3-minute average.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08(B).<br><br>See c)(1). |
| b. | OAC rules 3745-31-21 through 27 | Filterable particulate emissions with a diameter of 2.5 microns and less (PM2.5) that are fugitive shall not exceed 0.52 TPY as a rolling, 12-month summation.<br><br>Visible particulate emissions shall not exceed 10% opacity, as a 3-minute average.<br><br>The requirements of this rule also include |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | compliance with the requirements of OAC rule 3745-17-08(B).<br><br>See c)(1). |
| c. | OAC rule 3745-17-07(B)(1) | The particulate emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-17-08(B). |
| d. | OAC rule 3745-17-08(B) | Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.<br><br>See b)(2)d. and b)(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). |
| f. | OAC rule 3745-31-05(A)(3)(a)(ii) | See b)(2)h. |

(2) Additional Terms and Conditions

a. The material handling operation(s) that are covered by this permit and subject to the above-mentioned requirements are listed below:

coal unloading via rail car bottom dumping

coal conveying via enclosed belt conveyor

coal transfer via enclosed belt conveyor to belt conveyor

coal crushing.

b. The permittee is required to perform a Lowest Achievable Emission Rate (LAER) review for PM2.5. The emission limitations based on the LAER requirements are listed under OAC rules 3745-31-(21) through (27) above. It has been determined that enclosure and wet suppression control measures constitute LAER for coal unloading in this emissions unit, enclosure and wet suppression constitute LAER for coal transfer by conveyor and enclosure and wet material constitute LAER for coal crushing.

c. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that enclosure and wet suppression control measures constitute BACT for coal unloading in this emissions unit, enclosure and wet suppression constitute BACT for coal transfer by conveyor and enclosure and

wet material constitute BACT for coal crushing. The emission limits based on the BACT requirements are listed under OAC rules 3745-31-10 through 3745-31-20 above.

d. The permittee shall employ best available control measures for the above-identified material handling operation(s) for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to perform the following control measure(s) to ensure compliance:

| material handling operation(s) | control measure(s) |
|---|---|
| rail car bottom dumping | partial enclosure and wet material |
| enclosed belt conveyors and transfer points (9) | 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. All conveyors shall be totally enclosed except at points where safety related concerns are present. The permittee shall apply water in sufficient volume and frequency to maintain these operations in compliance with the opacity limitation in b)(1).

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

f. Compliance with the emission limitations in b) and implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rules 3745-31-10 through 20 and OAC rules 3745-31-21 through 27.

g. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.

h. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply the particulate emissions (PE), 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 PE, PM10 and PM2.5 is less than 10 tons per year.

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 totally 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 |
| railcar bottom dump | 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 Standard 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 3.47 tpy as a rolling, 12-month summation.

Applicable Compliance Method:

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

i. coal railcar unloading:

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

ii. coal transfer points with enclosure and wet suppression:

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

iii. unenclosed coal transfer points:

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

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

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

b. Emission Limitation:

Visible particulate emissions shall not exceed 10% 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:

PM10 that are fugitive shall not exceed 1.67 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

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

i. coal railcar unloading

Multiply the maximum tons of coal unloaded per month, times the 0.0008 pound/ton emission factor times 0.10, assuming a 90% control efficiency for wet suppression and partial enclosure, and divide by 2,000 pounds per ton. The PM10 emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

ii. coal transfer points with enclosure and wet suppression

Multiply the maximum tons of coal handled per month, times the number of controlled transfer points, times the 0.0008 pound/ton emission factor times 0.05, assuming a 95% control efficiency for totally enclosed transfer points and wet suppression, and divide by 2,000 pounds per ton. The PM10 emission factor was calculated from AP-42 5th Edition, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iii. unenclosed coal transfer points

Multiply the maximum tons of coal handled per month, times the number of uncontrolled transfer points, times the 0.0008 pound/ton emission factor times the 50% control efficiency for wet suppression and divide by 2,000 pounds per ton. The PM10 emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

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

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

d. Emission Limitation:

PM2.5 that are fugitive shall not exceed 0.52 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 0.10, assuming a 90% control efficiency for wet suppression and partial enclosure, and divide by 2,000 pounds per ton. The PM2.5 emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

ii. coal transfer points with enclosure and wet suppression

Multiply the maximum tons of coal handled per month, times the number of controlled transfer points, times the 0.00025 pound/ton emission factor times 0.05, assuming a 95% control efficiency for totally enclosed transfer points and wet suppression, and divide by 2,000 pounds per ton. The PM2.5 emission factor was calculated from AP-42, 5th Edition, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

iii. unenclosed coal transfer points

Multiply the maximum tons of coal handled per month, times the number of uncontrolled transfer points, times the 0.00025 pound/ton emission

factor times the 50% control efficiency for wet suppression and divide by 2,000 pounds per ton. The PM2.5 emission factor was calculated from AP-42, Section 13.2.4, Equation (1) dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

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

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

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

g) Miscellaneous Requirements

(1) None.

**4. F004, Coke Handling**

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

Coke and breeze handling and processing

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific 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 rules 3745-31-10 through 20 | Particulate emissions (PE) and filterable particulate matter emissions with a diameter of 10 microns and less (PM10) from the crushing/screening baghouse shall not exceed 3.43 pounds per hour.<br><br>Particulate emissions and filterable particulate matter emissions with a diameter of 10 microns and less (PM10) from the crushing/screening baghouse shall not exceed 0.008 grain per dry standard cubic foot of exhaust gases.<br><br>PE from the coke and breeze handling and processing shall not exceed 18.6 TPY as a rolling, 12-month summation.<br><br>Filterable particulate matter emissions with a diameter of 10 microns and less (PM10) from the coke and breeze handling and processing shall not exceed 16.71 TPY as a rolling, 12-month summation.<br><br>Visible particulate emissions of fugitive dust from this emissions unit shall not exceed 10% opacity as a 3-minute average.<br><br>Visible particulate emissions from any stack shall not exceed 20% opacity as a |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | 6-minute average, except as provided by rule.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-07(B) and OAC rule 3745-17-08(B). |
| b. | OAC rules 3745-31-21 through 27 | Filterable 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.<br><br>Filterable particulate matter emissions with a diameter of 2.5 microns and less (PM2.5) from the crushing/screening baghouse shall not exceed 0.008 grain per dry standard cubic foot of exhaust gases.<br><br>Visible particulate emissions of fugitive dust from this emissions unit shall not exceed 10% opacity as a 3-minute average.<br><br>Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.<br><br>Filterable 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 15.55 TPY as a rolling, 12-month summation.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-07(B) and OAC rule 3745-17-08(B). |
| c. | OAC rule 3745-17-07(A) | The particulate emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-17-08(B). |
| d. | OAC rule 3745-17-07(B)(1) | The particulate emission limitation required by this applicable rule is less |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | stringent than the emission limitation established pursuant to OAC rule 3745-17-08(B). |
| e. | OAC rule 3745-17-08(B) | Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.<br><br>See b)(2)b. through b)(2)d. and b)(2)f. |
| f. | OAC rule 3745-31-05(A)(3) | The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27 and OAC rule 3745-17-08(B). |

(2) Additional Terms and Conditions

a. The material handling operation(s) that are covered by this permit and subject to the above-mentioned requirements are listed below:

coke conveying - enclosed

coke conveying - unenclosed

coke breeze silo

crushing/screening baghouse

coke loading – railcars and/or trucks

b. The permittee is required to perform a Lowest Achievable Emission Rate (LAER) review for PM2.5. The emission limitations based on the LAER requirements are listed under OAC rules 3745-31-(21) through (27) above. It has been determined that enclosure and wet suppression control measures constitute LAER for coke being transferred by belt conveyor at this emissions unit and enclosure and fabric filter control measures constitute LAER for coke screening and crushing.

c. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that enclosure and wet suppression control measures constitute BACT for coke being transferred by belt conveyor at this emissions unit and enclosure and fabric filter control measures constitute BACT for coke screening and crushing. The emission limits based on the BACT requirements are listed under OAC rules 3745-31-10 through 3745-31-20 above.

d. The permittee shall employ best available control measures for the above-identified material handling operation(s) for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to perform the following control measure(s) to ensure compliance:

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

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

e. For each material handling operation that is not adequately enclosed, the above-identified control measure(s) shall be implemented if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) is (are) necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during the operation of the material handling operation(s) until further observation confirms that the use of the control measure(s) is unnecessary.

Compliance with the emission limitations in section b) and implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rules 3745-31-10 through 20 and OAC rules 3745-31-21 through 27 and the requirements OAC rule 3745-31-05(A)(3).

f. All coke transfer conveyors shall be fully enclosed except at points where safety concerns are present.

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:

a. a description of the corrective action;

b. the date corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the pressure drop readings immediately after the corrective action was implemented; and

f. 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 the Standard Terms and Conditions of this permit.

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 PE 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:

PE shall not exceed 18.6 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

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

i. totally enclosed coke transfer points

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

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

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

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

iii. partially enclosed coke transfer points / dry material

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

iv. unenclosed coke transfer points / dry material

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

v. coke breeze silo / partially enclosed bunker

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

vi. crushing/screening baghouse

An emission rate, in terms of pounds per ton of coke shall be calculated from the hourly rate of particulate emissions determined 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 emission rate in pounds per ton times the throughput, in tons, and divide by 2,000 pounds per ton.

c. Emission limitation:

Visible particulate emissions of fugitive dust from this emissions unit shall not exceed 10% opacity as a 3-minute average.

Applicable Compliance Method:

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

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:

PE from the crushing/screening baghouse shall not exceed 0.008 grain 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).

Note: PE was used as a surrogate for PM10 and PM2.5 for purposes of compliance with both the PM10 and PM2.5 fractions of PE.

f. Emission Limitation:

PM10 shall not exceed 16.71 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

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

i. totally enclosed coke transfer points

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

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

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

Multiply the maximum tons of coke handled per year per each transfer point times the 0.0008 pound/ton emission factor times 0.15 assuming 85% control efficiency for the partial enclosures and wet material and divide by 2,000 pounds per ton. The PM10 emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06.

iii. partially enclosed coke transfer points / dry material

Multiply the maximum tons of coke handled per year per each transfer point times the 0.0008 pound/ton emission factor times 0.5 assuming 50% control efficiency and divide by 2,000 pounds per ton. The PM10 emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06.

iv. unenclosed coke transfer points / dry material

Multiply the maximum tons of coke handled per year times the 0.0008 pound/ton emission factor and divide by 2,000 pounds per ton. The PM10 emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

v. coke breeze silo / partially enclosed bunker

Multiply the maximum tons of coke breeze handled per year times 2, the number of transfer points (load-out and load-in), times the 0.0008 pound/ton emission factor times 0.15, assuming a 85% control efficiency for partial enclosure and wet material, and divide by 2,000 pounds per ton. The PM10 emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

vi. crushing/screening baghouse

The emission factor for PE was used as a surrogate for PM10 and PM2.5 where PM10 and PM2.5 factors were not available. An emission rate, in terms of pounds per ton of coke shall be calculated from the hourly rate of particulate emissions determined 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 emission rate in pounds per ton times the throughput, in tons, and divide by 2,000 pounds per ton.

g. Emission Limitation:

PM2.5 shall not exceed 15.55 TPY as a rolling, 12-month summation

Applicable Compliance Method:

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

i. totally enclosed coke transfer points

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

The PM2.5 emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

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

Multiply the maximum tons of coke handled per year per each transfer point times the 0.00025 pound/ton emission factor times 0.15 assuming 85% control efficiency for the partial enclosures and wet material and divide by 2,000 pounds per ton. The PM2.5 emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06.

iii. partially enclosed coke transfer points / dry material

Multiply the maximum tons of coke handled per year per each transfer point times the 0.00025 pound/ton emission factor times 0.5 assuming 50% control efficiency for the partial enclosures and wet material and divide by 2,000 pounds per ton. The PM2.5 emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06.

iv. unenclosed coke transfer points / dry material

Multiply the maximum tons of coke handled per year times the 0.00025 pound/ton emission factor and divide by 2,000 pounds per ton. The PM2.5 emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

*v.* coke breeze silo / partially enclosed bunker

Multiply the maximum tons of coke breeze handled per year times 2, the number of transfer points (load-out and load-in), times the 0.00025 pound/ton emission factor times 0.15, assuming an 85% control efficiency for partial enclosure and wet material, and divide by 2,000 pounds per ton. The PM2.5 emission factor was calculated from AP-42, Section 13.2.4, Equation (1), dated 11/06. The control efficiency was obtained from RACM, Table 2.2.1-2, dated 10/80.

vi. crushing/screening baghouse

The emission factor for PE was used as a surrogate for PM10 and PM2.5 where PM10 and PM2.5 factors were not available. An emission rate, in terms of pounds per ton of coke shall be calculated from the hourly rate of particulate emissions determined 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 emission rate in pounds per ton times the throughput, in tons, and divide by 2,000 pounds per ton.

g) Miscellaneous Requirements

(1) None.

**5. P001, Quench Tower**

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

Quench Tower

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

(1) 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 rules 3745-31-10 through 20 | Filterable particulate emissions (PE) from this emissions unit shall not exceed 0.12 pound per ton of coal charged, 60 pounds per hour and 54.75 tons per year as a rolling, 12-month summation.<br><br>Filterable particulate matter emissions 10 microns and less in diameter (PM10) from this emissions unit shall not exceed 0.044 pound per ton of coal charged, 22.0 pounds per hour and 20.08 tons per year as a rolling, 12-month summation.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1) and 3745-17-07(B)(1), and 40 CFR Part 63, Subpart CCCCC. |
| b. | OAC rules 3745-31-21 through 27 | Filterable particulate matter emissions 2.5 microns and less in diameter (PM2.5) from this emissions unit shall not exceed 0.027 pound per ton of coal charged, 13.5 pounds per hour and 12.32 tons per year as a rolling, 12-month summation.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1) and 3745-17-07(B)(1), and 40 CFR Part 63, Subpart CCCCC. |
| c. | OAC rule 3745-31-05(A)(3) | Hazardous Air Pollutant (HAP) emissions |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | (excluding HCl) from emissions units P001 and P901 shall not exceed 3.6 tons per year.<br><br>HCl emissions from emissions units P001 and P901 shall not exceed 118.04 tons per year.<br><br>See b)(2)b.<br><br>The requirements of this rule include compliance with OAC rules 3745-31-10 through 20 and OAC rules 3745-31-21 through 27, OAC rule 3745-17-07(A)(1) and OAC rule 3745-17-07(B)(1) and 40 CFR Part 63, Subpart CCCCC. |
| d. | OAC rule 3745-17-07(A)(1) | Visible particulate stack emissions from this emissions unit shall not exceed 20 per cent opacity as a 6 minute average. |
| e. | 40 CFR Part 63, Subpart CCCCC | See b)(2)a. below. |
| f. | 40 CFR 63.1-15<br>(40 CFR 63.7350) | Table 1 to Subpart CCCCC of 40 CFR Part 63 - Applicability of General Provisions to Subpart CCCCC shows which parts of the General Provisions in 40 CFR 63.1-15 apply. |
| g. | OAC rule 3745-17-07(B)(1) | Visible particulate fugitive emissions from this emissions unit shall not exceed 20 per cent opacity as a 3 minute average. |
| h. | 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. The permittee is required to perform a Lowest Achievable Emission Rate (LAER) review for PM2.5. The emission limitations based on the LAER requirements are

listed under OAC rules 3745-31-(21) thru (27) above. It has been determined that a wet system with baffled tower, including improved baffle design, and water with controlled TDS as control measures constitute LAER for coke quenching.

Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that a wet system with baffled tower, including improved baffle design, and water with controlled TDS as control measures constitute BACT for coke quenching. The emission limits based on the BACT requirements are listed under OAC rules 3745-31-10 through 3745-31-20 above.

d. 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.

e. 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 PE, 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.

(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)g. 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 by the wet tons of coal charged per year divided by 2000 lbs per ton. Emissions factors are from October 1989 Jewell Stack Test except for lead obtained from AP-42, table 12.2-10 dated May 2008.

iii. Charging control system-baghouse stack: 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 and the Haverhill April 2006 stack test for lead] 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 0.12 pound per ton of coal charged and 60 pounds per hour.

Applicable Compliance Method:

The lb/ton 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.

Compliance with the pound per hour emission limit 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 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.

c. Emission Limitation:

PM10 from this emissions unit shall not exceed 0.044 pound per ton of coal charged and 22.0 pounds per hour.

Applicable Compliance Method:

The lb/ton emission factor was obtained from AP-42 5th edition, Section 12.2, Table 12.2-12 (the PM emission factor for quenching with baffles and water with a TDS concentration of 1100 mg/L is 0.448 lb PM/ton of coal charged per AP42 table 12.2-12, 5/2008 and 9.8% of PM is PM10 per AP-42, Table 12.2-4, 1/95).

Compliance with the pound per hour emission limit shall be demonstrated by multiplying the emission factor of 0.0439 lb PM10/wet ton coal charged times the maximum wet tons of coal charged per hour. The PM10 emission factor was obtained from AP-42 5th edition, Section 12.2, Table 12.2-12 (the PM emission factor for quenching with baffles and water with a TDS concentration of 1100 mg/L is 0.448 lb PM/ton of coal charged per AP42 table 12.2-12, 5/2008 and 9.8% of PM is PM10 per AP-42, Table 12.2-4, 1/95).

d. Emission Limitation:

PM2.5 from this emissions unit shall not exceed 0.027 pound per ton of coal charged and 13.5 pounds per hour.

Applicable Compliance Method:

The lb/ton emission factor was obtained from AP-42 5th edition, Section 12.2, Table 12.2-12 (the PM emission factor for quenching with baffles and water with a TDS concentration of 1100 mg/L is 0.448 lb PM/ton of coal charged per AP42 table 12.2-12, 5/2008 and 6% of PM is PM2.5 per AP-42, Table 12.2-4, 1/95).

Compliance shall be demonstrated by multiplying the emission factor of 0.027 lb PM2.5/wet ton coal charged times the maximum wet tons of coal charged per hour. The PM2.5 emission factor was obtained from AP-42 5th edition, Section 12.2, Table 12.2-12 (the PM emission factor for quenching with baffles and water with a TDS concentration of 1100 mg/L is 0.448 lb PM/ton of coal charged per AP42 table 12.2-12, 5/2008 and 6 % of PM is PM2.5 per AP-42, Table 12.2-4, 1/95).

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 pound 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:

PM10 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 PM10 emission factor of 0.044 pounds/ton coal charged, times the tons of coal charged per month, divided by 2,000 pounds/ton.

The PM10 emission factor was obtained from AP-42 5th edition, Section 12.2, Table 12.2-12 (the PM emission factor for quenching with baffles and water with

a TDS concentration of 1100 mg/L is 0.448 lb PM/ton of coal charged per AP42 table 12.2-12, 5/2008 and 9.8% of PM is PM10 per AP-42, Table 12.2-4, 1/95).

g. Emission Limitation:

PM2.5 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 PM2.5 emission factor of 0.027 pound/ton coal charged, times the tons of coal charged per month, divided by 2,000 pounds/ton. The PM2.5 emission factor was obtained from AP-42 5th edition, Section 12.2, Table 12.2-12 (the PM emission factor for quenching with baffles and water with a TDS concentration of 1100 mg/L is 0.448 lb PM/ton of coal charged per AP42 table 12.2-12, 5/2008 and 6 % of PM is PM2.5 per AP-42, Table 12.2-4, 1/95).

h. Emission Limitation:

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

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9.

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 ton 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.

Applicable Compliance Method:

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

g) Miscellaneous Requirements

(1) None.

**6. P901, Heat Recovery Coke Battery**

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

Heat Recovery Coke Battery

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific 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) | 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.<br><br>Table 1 to 40 CFR Part 63 Subpart CCCCC shows which parts of the General Provisions of 40 CFR Part 63 apply to operations subject to 40 CFR Part 63 Subpart CCCCC. |
| b. | Coal charging operations with baghouse and traveling hood<br><br>OAC rules 3745-31-10 through 20 | Particulate emissions (PE) and filterable particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 0.0081 pound per ton of dry coal charged, 3.7 pounds per hour and 3.4 tons per year (TPY) as a rolling, 12-month summation from the charging baghouse.<br><br>Fugitive PE from charging shall not exceed 1.35 pounds per hour and 1.23 TPY as a rolling, 12-month summation.<br><br>Fugitive PM10 emissions from charging shall not exceed 0.41 pound per hour and 0.37 TPY as a rolling, 12-month summation.<br><br>Sulfur dioxide (SO2) emissions from the charging baghouse shall not exceed |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | 0.0003 pound per ton of coal charged, 0.15 lb/hr and 0.14 TPY as a rolling, 12-month summation.<br><br>Carbon monoxide (CO) emissions from the charging baghouse shall not exceed 0.0028 pound per ton of coal charged, 1.4 lb/hr and 1.28 TPY as a rolling, 12-month summation.<br><br>Visible particulate emissions from the charging baghouse stack shall not exceed 10% opacity as a 6-minute average.<br><br>Visible particulate emissions of fugitive dust from charging operations shall not exceed 20% opacity, as an average of five consecutive charges.<br><br>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. |
| c. | Coal charging operations with baghouse and traveling hood<br><br>OAC rules 3745-31-21 through 27 | Filterable particulate matter emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.0081 pound per ton of dry coal charged, 3.7 pounds per hour and 3.4 tons per year (TPY) as a rolling, 12-month summation from the charging baghouse.<br><br>Fugitive PM2.5 emissions from charging shall not exceed 0.20 pound per hour and 0.18 TPY as a rolling, 12-month summation.<br><br>Sulfur dioxide (SO2) emissions from the charging baghouse shall not exceed 0.0003 pound per ton of coal charged, 0.15 lb/hr and 0.14 TPY as a rolling, 12-month summation.<br><br>Carbon monoxide (CO) emissions from the charging baghouse shall not exceed 0.0028 pound per ton of coal charged, 1.4 lb/hr and 1.28 TPY as a rolling, 12-month |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | summation.<br><br>Visible particulate emissions from the charging baghouse stack shall not exceed 10% opacity as a 6-minute average.<br><br>Visible particulate emissions of fugitive dust from charging operations shall not exceed 20% opacity, as an average of five consecutive charges.<br><br>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. |
| d. | 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). |
| e. | 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). |
| f. | OAC rule 3745-17-08(B) | The permittee shall minimize visible emissions of fugitive dust. |
| g. | 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). |
| h. | OAC rule 3745-21-08(B) | See b)(2)f. |
| i. | 40 CFR Part 63, Subpart L<br>(40 CFR 63.300 -313)<br>[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.] | Particulate matter (PE) emissions from the charging baghouse stack shall not exceed 0.0081 pound per ton (lbs/ton) of dry coal charged as determined by the procedures in 40 CFR 63.309(k).<br>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).<br><br>Except as provided in 40 CFR 63.304, the permittee shall observe the exhaust stack each charging emissions control device at |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | 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).<br><br>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.<br><br>See b)(2)h through b)(2)j. |
| j. | Coking operations with heat recovery steam generators and lime spray dryer<br>- main stack<br><br>OAC rules 3745-31-10 through 20 | Filterable PM and PM10 shall not exceed 0.0050 gr/dscf, 10.7 pounds per hour and 46.9 TPY as a rolling, 12-month summation.<br><br>SO2 emissions shall not exceed 300 lbs/hr (based on a 3-hour block average); 192.0 lbs/hr (based on a 24-hour block average); and 700.8 TPY (1.54 lbs of SO2/wet ton of coal) as a rolling, 12-month summation.<br><br>CO emissions shall not exceed 0.21 pound per ton of coal (20 ppm), 21.81 lbs/hr and 95.54 TPY as a rolling, 12-month summation.<br><br>NOx emissions shall not exceed 1 pound per ton of coal, 104.2 lbs./hr and 456.25 TPY as a rolling, 12-month summation. The annual emission limitation shall include NOx emissions from the main stack after passing through the lime spray dryer/fabric filter and during maintenance of the lime spray dryer/fabric filter, combined.<br><br>Sulfuric acid mist (H2SO4) emissions shall not exceed 0.024 pound per ton of |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | coal, 2.5 lbs/hr and 11.13 TPY as a rolling 12-month summation.<br><br>Visible particulate emissions from the lime spray dryer baghouse stack shall not exceed 10% opacity as a 6-minute average.<br><br>No visible emissions shall be permitted from the common battery tunnel or its associated piping.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B), 40 CFR Part 63, Subparts L and CCCCC.<br><br>See b)(2)b through b)(2)e, b)(2)n, b)(2)p, b)(2)q, and c)(1) through c)(13). |
| k. | Coking operations with heat recovery steam generators and bypassing of the lime spray dryer - main stack<br><br>OAC rules 3745-31-10 through 20 | Filterable PM and PM10 shall not exceed 0.049 gr/dscf and 6.3 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer is bypassed.<br><br>SO2 emissions shall not exceed 1794 lb/hour and 107.64 TPY as a rolling, 12-month summation when the lime spray dryer is bypassed.<br><br>CO emissions shall not exceed 20 ppm and 1.31 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer is bypassed.<br><br>NOx emissions shall not exceed 1 lb/ton of coal and 6.25 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer is bypassed.<br><br>Sulfuric acid mist (H2SO4) emissions shall not exceed 91.5 lb/hour and 5.49 TPY as a rolling 12-month summation the main stack when the lime spray dryer is bypassed.<br><br>Visible particulate emissions from the main stack shall not exceed 20% opacity as a 6-minute average when the lime |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | spray dryer baghouse is bypassed.<br><br>No visible emissions shall be permitted from the common battery tunnel or its associated piping.<br><br>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.<br><br>See b)(2)b through b)(2)e, b)(2)n, b)(2)p, b)(2)q, and c)(1) through c)(13). |
| I. | Coking operations with heat recovery steam generators and lime spray dryer<br>- main stack<br><br>OAC rules 3745-31-21 through 27 | Filterable PM2.5 shall not exceed (0.005 gr/dscf), 10.7 pounds per hour and 46.9 TPY as a rolling, 12-month summation.<br><br>SO2 emissions shall not exceed 300 lbs/hr (based on a 3-hour block average); 192.0 lbs/hr (based on a 24-hour block average); and 700.8 TPY as a rolling, 12-month summation (1.54 lb/wet ton of coal as an annual average).<br><br>NOx emissions shall not exceed 1 pound per ton of coal, 104.2 lbs./hr and 456.25 TPY as a rolling, 12-month summation. The annual emission limitation shall include NOx emissions from the main stack after passing through the lime spray dryer/fabric filter and during maintenance of the lime spray dryer/fabric filter, combined..<br><br>Visible particulate emissions from the lime spray dryer baghouse stack shall not exceed 10% opacity as a 6-minute average.<br><br>No visible emissions shall be permitted from the common battery tunnel or its associated piping.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B), 40 CFR Part 63, Subparts L and CCCCC.<br><br>See b)(2)a, b)(2)n, b)(2)p, b)(2)q, and |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | c)(1) through c)(13). |
| m. | Coking operations with heat recovery steam generators and bypassing of the lime spray dryer - main stack<br><br>OAC rules 3745-31-21 through 27 | Filterable PM2.5 shall not exceed 0.049 gr/dscf and 6.3 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer is bypassed.<br><br>SO2 emissions shall not exceed 1794 lb/hour and 107.64 TPY as a rolling, 12-month summation when the lime spray dryer is bypassed.<br><br>NOx emissions shall not exceed 1 lb/ton of coal and 6.25 TPY as a rolling, 12-month summation from the main stack when the lime spray dryer is bypassed.<br><br>Visible particulate emissions from the main stack shall not exceed 20% opacity as a 6-minute average when the lime spray dryer baghouse is bypassed.<br><br>No visible emissions shall be permitted from the common battery tunnel or its associated piping.<br><br>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.<br><br>See b)(2)a, b)(2)n, b)(2)p, b)(2)q, and c)(1) through c)(13). |
| n. | 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). |
| o. | 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). |
| p. | 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). |
| q. | OAC rule 3745-21-08(B) | See b)(2)f. below. |
| r. | 40 CFR Part 63, Subpart L (40 CFR 63.300 -313)<br>[In accordance with 40 CFR | See b)(2)h through b)(2)j. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | 63.300(b), this emissions unit is a greenfield coke oven battery subject to the emission limitations/control measures specified in this section.] | |
| s. | 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280 -7352)<br><br>[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)l. |
| t. | Waste gas from the coking process – waste gas stacks<br><br>OAC rules 3745-10 through 20 | Filterable PE and PM10 emissions shall not exceed 21.0 pounds per hour from each individual waste gas bypass stack (0.049 gr/dscf) and 12.6 TPY from all waste gas bypass stacks as a rolling, 12-month summation.<br><br>SO2 emissions shall not exceed 498.33 pounds per hour from a single waste gas bypass stack as a 3 hour block average (23.92 lb/ton of coal) and 299.0 TPY from all the waste gas bypass stacks as a rolling, 12-month summation.<br><br>NOx emissions shall not exceed 20.8 pounds per hour from a single waste gas bypass stack (1 lb/ ton of coal). Annual emissions shall not exceed 12.5 TPY from all waste gas bypass stacks combined as a rolling, 12-month summation.<br><br>Carbon monoxide (CO) emissions shall not exceed 4.36 pounds per hour from a single waste gas bypass stack (20 ppm) and 2.62 TPY as a rolling, 12-month summation from all waste gas bypass stacks.<br><br>Sulfuric acid mist (H2SO4) emissions shall not exceed 25.4 lbs/hr from a single waste gas bypass stack and 15.25 TPY as a rolling 12-month summation.<br><br>The requirements of this rule also include compliance with the requirements of OAC |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | rules 3745-17-07(A)(1), 3745-21-08(B), 40 CFR Part 63, Subparts L and CCCCC. |
| u. | Waste gas from the coking process – waste gas stacks<br><br>OAC rules 3745-21 through 27 | Filterable PM2.5 emissions shall not exceed 21.0 pounds per hour from each individual waste gas bypass stack (0.049 gr/dscf) and 12.6 TPY from all waste gas bypass stacks as a rolling, 12-month summation.<br><br>SO2 emissions shall not exceed 498.33 pounds per hour from a single waste gas bypass stack as a 3 hour block average (23.92 lb/ton of coal) and 299.0 TPY from all the waste gas bypass stacks as a rolling, 12-month summation.<br><br>NOx emissions shall not exceed 20.8 pounds per hour from a single waste gas bypass stack (1 lb/ ton of coal). Annual emissions shall not exceed 12.5 TPY from all waste gas bypass stacks combined as a rolling, 12-month summation.<br><br>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. |
| v. | OAC rule 3745-17-07(A) | Visible particulate emissions from each waste heat stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule. |
| w. | OAC rule 3745-17-11(B) | The emission limitation specified by this rules is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| x. | 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). |
| y. | OAC rule 3745(B) | See b)(2)f. below**.** |
| z. | 40 CFR Part 63, Subpart L (40 CFR 63.300 -313)<br>[In accordance with 40 CFR 63.300(b), this emissions unit is a greenfield coke oven battery subject | See b)(2)h through b)(2)j. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | to the emission limitations/control measures specified in this section.] | |
| aa. | 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7280 -7352)<br><br>[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)l. |
| bb. | Pushing operations with flat push hot car vented to multiclone dust collector<br><br>OAC rules 3745-31-10 through 20 | Filterable PE and PM10 emissions shall not exceed 0.04 pound per ton of coke pushed, 14.3 pounds per hour and 13.09 TPY as a rolling, 12-month summation.<br><br>SO2 emissions shall not exceed 0.098 pound per ton of coal charged, 49.0 pounds per hour and 44.71 TPY as a rolling, 12-month summation.<br><br>NOx emissions shall not exceed 0.019 pound per ton of coal charged, 9.5 pounds per hour and 8.67 TPY as a rolling, 12-month summation.<br><br>CO emissions shall not exceed 0.063 pound per ton of coal charged, 31.5 pounds per hour and 28.74 TPY as a rolling, 12-month summation.<br><br>Sulfuric acid mist (H2SO4) emissions shall not exceed 0.005 pound per ton of coal charged, per 2.5 lbs/hr and 2.28 TPY as a rolling 12-month summation.<br><br>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) and 40 CFR Part 63, Subpart CCCCC. |
| cc. | Pushing operations with flat push hot car vented to multiclone dust collector<br><br>OAC rules 3745-31-21 through 27 | Filterable PM2.5 emissions shall not exceed 0.04 pound per ton of coke pushed, 14.3 pounds per hour and 13.09 TPY as a rolling, 12-month summation.<br><br>SO2 emissions shall not exceed 0.098 pound per ton of coal charged, 49.0 pounds per hour and 44.71 TPY as a |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | rolling, 12-month summation.<br><br>NOx emissions shall not exceed 0.019 pound per ton of coal charged, 9.5 pounds per hour and 8.67 TPY as a rolling, 12-month summation.<br><br>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) and 40 CFR Part 63, Subpart CCCCC. |
| dd. | 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. |
| ee. | OAC rule 3745-17-08(B) | The permittee shall minimize visible emissions of fugitive dust. |
| ff. | 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). |
| gg. | OAC rule 3745-21-08(B) | See b)(2)f. below. |
| hh. | 40 CFR Part 63, subpart CCCCC (40 CFR 63.7280 -7352)<br><br>[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.] | 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).<br><br>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).<br><br>Maintain the daily average pressure drop of the multiclone at or below the minimum level established during the initial performance test per 40 CFR 63.7290(b)(4).<br><br>See b)(2)l. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| ii. | Coal charging operations with baghouse and traveling hood<br><br>OAC rule 3745-31-05(A)(3) | Volatile organic compound (VOC) emissions from the charging baghouse shall not exceed 1.0 lb/hr and 0.91 TPY.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, OAC rule 3745-17-08(B) and 40 CFR Part 63, Subpart L. |
| jj. | Coking operations with heat recovery steam generators and lime spray dryer<br>- main stack<br><br>OAC rule 3745-31-05(A)(3) | VOC emissions shall not exceed 4.67 lbs/hr and 20.47 TPY.<br><br>VOC emissions shall not exceed 0.28 TPY from the main stack when the lime spray dryer is bypassed.<br><br>Hydrochloric acid (HCl) emissions shall not exceed 14.8 lbs/hr and 64.79 TPY.<br><br>Hydrochloric acid (HCl) emissions shall not exceed 17.75 TPY from the main stack when the lime spray dryer is bypassed.<br><br>Hazardous air pollutants (HAP), excluding HCl from emission units P001 and P901 combined, shall not exceed 3.6 TPY.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27 and OAC rule 3745-17-08(B) and 40 CFR Part 63, Subparts L and CCCCC.<br><br>See b)(2)g, b)(2)m and b)(2)o. |
| kk. | Waste gas from the coking process – waste gas stacks<br><br>OAC rule 3745-31-05(A)(3) | Volatile organic compound (VOC) emissions shall not exceed 0.93 pound per hour from a single waste gas bypass stack and 0.56 TPY from all waste gas bypass stacks.<br><br>Hydrochloric acid (HCl) emissions shall not exceed 59.17 pounds per hour from a single waste gas bypass stack and 35.5 TPY from all waste gas stacks.<br><br>Lead (Pb) emissions shall not exceed 0.068 TPY from all waste gas bypass |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | stacks.<br><br>Mercury (Hg) emissions shall not exceed 0.0069 pound per hour from a single waste gas bypass stack. Mercury emissions shall not exceed 12.4 pounds per year from all waste gas bypass stacks and from the main stack during bypass of the lime spray dryer/fabric filter, combined.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27 and OAC rule 3745-17-08(B) and 40 CFR Part 63, Subparts L and CCCCC. |
| ll. | Pushing operations with flat push hot car vented to multiclone dust collector<br><br>OAC rule 3745-31-05(A)(3) | VOC emissions shall not exceed 10.0 pounds per hour and 9.13 TPY.<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 20, OAC rules 3745-31-21 through 27, OAC rule 3745-17-08(B) and 40 CFR Part 63, Subpart CCCCC. |

(2) Additional Terms and Conditions

a. The permittee is required to perform a Lowest Achievable Emission Rate (LAER) review for PM2.5, SO2 and NOx. The emission limitations based on the LAER requirements are listed under OAC rules 3745-31-(21) through (27) above. The controls and practices that constitute LAER also meet the BAT requirements of 3745-31-05(A)(3).

i. It has been determined that the following control measures constitute LAER for PM2.5 from this emissions unit.

(a) PM2.5 emissions from the main stack shall be control with a fabric filter. The filter material in the filter system for the main stack shall be a membrane material, micro-fiber material, micro-fiber capped composite material or other similar filter material that has enhanced performance for collection of fine particulate.

(b) PM2.5 emissions from coking during Heat Recovery Steam Generator (HRSG) maintenance shall be minimized by limiting the HRSG maintenance to one HRSG at a time; by limiting the annual maintenance to no more than ten days per year per unit; and by

following good work practices defined as the combustion of flue gases in sole flues and the common tunnel afterburner.

(c) PM2.5 emissions from coking during lime spray dryer/fabric filter control maintenance shall be minimized by limiting the annual maintenance to no more than five days per year; and by following good work practices defined as the combustion of flue gases in sole flues and the common tunnel afterburner.

(d) PM2.5 emissions from coke pushing shall be controlled through a flat pushing operation controlled by a multiclone.

PM2.5 emissions from coal charging shall be controlled by the use of a travelling hood and a fabric filter.

ii. It has been determined that the following control measures constitute LAER for SO2 emissions from this emissions unit.

(a) SO2 emissions from the main coking stack shall be controlled with the use of a lime spray dryer/fabric filter with a manufacturer's design control efficiency of 92% on a 24-hour basis for SO2 control.

(b) SO2 emissions from coking during Heat Recovery Steam Generator (HRSG) maintenance shall be minimized by limiting the HRSG maintenance to one HRSG at a time; by limiting the annual maintenance to no more than ten days per year per unit.

(c) SO2 emissions from coking during lime spray dryer/fabric filter control maintenance shall be minimized by limiting the annual maintenance to no more than five days per year; and by following good work practices defined as minimizing coal sulfur and reducing production which shall reduce SO2 emissions by 28 percent of design capacity as detailed in the facility's Startup Shutdown and Malfunction (SSM) plan.

(d) SO2 emissions from coke pushing shall be minimized through work practices as described in 40 CFR 63.7293(a).

(e) SO2 emissions from coal charging shall be minimized through work practices as described in 40 CFR 63.303(d).

iii. It has been determined that the following control measure constitutes LAER for NOx emissions from this emissions unit.

(a) NOx emissions from the main coking stack shall be controlled through the battery design which includes staged combustion.

(b) NOx emissions from coking during Heat Recovery Steam Generator (HRSG) maintenance shall be controlled through the battery design which includes staged combustion.

(c) NOx emissions from coking during lime spray dryer/fabric filter control maintenance shall be controlled through the battery design which includes staged combustion.

(d) NOx emissions from coke pushing shall be minimized through work practices as described in 40 CFR 63.7293(a).

b. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the following control measures constitute BACT for PE and PM10 from this emissions unit.

i. The waste gas from coking shall be processed by the use of a lime spray dryer with a baghouse for PE/PM10 control.

ii. Combustion during the coking process shall be optimized by monitoring the temperature in each oven crown and sole flue and adding air as needed through dampers in each oven.

iii. The flat car for coke pushing shall be equipped with a multiclone for PE control.

iv. The charging machine shall be equipped with a traveling hood and fabric filter for PE/PM10 control.

v. PE/PM10 emissions from coking during HRSG maintenance shall be minimized by limiting the HRSG maintenance to one HRSG at a time; by limiting the annual maintenance to no more than ten days per year per unit; and by following good work practices defined as the combustion of flue gases in sole flues and the common tunnel afterburner.

vi. PE/PM10 emissions from coking during lime spray dryer/fabric filter control maintenance shall be minimized by limiting the annual maintenance to no more than five days per year; and by following good work practices defined as the combustion of flue gases in sole flues and the common tunnel afterburner.

The emission limits based on the BACT requirements are listed under OAC rules 3745-31-10 through 3745-31-20 above. The controls and practices that constitute BACT also meet the BAT requirements of 3745-31-05(A)(3).

c. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the following control measures constitute BACT for SO2 and H2SO4 from this emissions unit.

i. SO2 and H2SO4 emissions from the main coking stack shall be controlled with the use of a lime spray dryer/fabric filter with a manufacturer's design control efficiency of 92% on a 24-hour basis for SO2 control and greater than 95% on a 24-hour basis for H2SO4 control.

ii. SO2 and H2SO4 emissions from coking during HRSG maintenance shall be minimized by limiting the HRSG maintenance to one HRSG at a time; by limiting the annual maintenance to no more than ten days per year per unit.

iii. SO2 and H2SO4 emissions from coking during lime spray dryer/fabric filter control maintenance shall be minimized by limiting the annual maintenance to no more than five days per year; and by following good work practices defined as minimizing coal sulfur and reducing production which shall reduce SO2 emissions by 28 percent of design capacity as detailed in the facility's SSM plan.

iv. SO2 and H2SO4 emissions from coke pushing shall be minimized through work practices as described in 40 CFR 63.7293(a).

v. SO2 and H2SO4 emissions from coal charging shall be minimized through work practices as described in 40 CFR 63.303(d).

The emission limits based on the BACT requirements are listed under OAC rules 3745-31-10 through 3745-31-20 above. The controls and practices that constitute BACT also meet the BAT requirements of 3745-31-05(A)(3).

d. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the following control measures constitute BACT for CO from this emissions unit.

i. Combustion during the coking process and during maintenance of the HRSG and lime spray dryer/fabric filter shall be optimized by monitoring the temperature in each oven crown and sole flue and adding air as needed through dampers in each oven.

ii. CO emissions from coke pushing shall be minimized through work practices as described in 40 CFR 63.7293(a).

The emission limits based on the BACT requirements are listed under OAC rules 3745-31-10 through 3745-31-20 above. The controls and practices that constitute BACT also meet the BAT requirements of 3745-31-05(A)(3).

e. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the following control measures constitute BACT for NOx from this emissions unit:

i. NOx emissions from the main coking stack shall be controlled through the battery design which includes staged combustion.

ii. NOx emissions from coking during HRSG maintenance shall be controlled through the battery design which includes staged combustion.

iii. NOx emissions from coking during lime spray dryer/fabric filter control maintenance shall be controlled through the battery design which includes staged combustion.

iv. NOx emissions from coke pushing shall be minimized through work practices as described in 40 CFR 63.7293(a).

f. 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.

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

h. 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)]

i. 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)]

j. 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)]

k. 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.

l. 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)]

m. 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.

n. 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 $SO_2$ emissions to comply with the pound per hour and rolling 12-month $SO_2$ emission limitations; or

ii. reduce production as needed to comply with the pound per hour and rolling 12-month $SO_2$ 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.

o. 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 (except during periods of routine maintenance on the carbon injection system), 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 50 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.

The requirement to operate the carbon injection system and mercury emission limit(s) established under this section shall not apply during periods of routine maintenance on the carbon injection system.

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.

p. 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.

q. The pound per hour SO2 emission limitation and minimum 92% SO2 control efficiency requirement do not apply during maintenance of the lime spray dryer as per example during atomizer replacement.

r. The hourly emissions of VOC outlined above are based on the emission unit's potential to emit. Therefore no hourly records are required to demonstrate compliance with these limitations.

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, the combustion gases will be routed directly to the main stack after passing through the HRSGs; and (3) monthly verification of operability of the lids for the waste heat stacks. The total duration of the venting, 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 and/or the main stack while bypassing the spray dryer/fabric filter system). These bypass periods and appropriate operation during periods of bypass shall also be addressed by the Startup Shutdown and Malfunction (SSM) Plan required for the plant by 40 CFR 63.6 (e). The SSM Plan shall contain provisions that the permittee shall implement during the maintenance bypass of the lime spray dryer/fabric filter periods which will result in a 28 percent of design capacity reduction of SO2 emissions.

(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 $SO_2$ 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 $SO_2$ 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 $SO_2$ 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 $SO_2$ 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 bypass 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 fabric filter following the lime spray dryer when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the fabric filter on 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:

a. a description of the corrective action;

b. the date corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the pressure drop readings immediately after the corrective action was implemented; and

f. 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 fabric filter serving the lime spray dryer is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the 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.

(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:

a. a description of the corrective action;

b. the date corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the pressure drop readings immediately after the corrective action was implemented; and

f. 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;

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, SO2, CO, NOx and H2SO4 emission, except as denoted in d)(14); and

d. the VOC, lead, HCl and HAP emission rates.

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 $SO_2$ 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 $SO_2$ 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 $SO_2$ 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 $SO_2$ monitoring system including, but not limited to:

a. emissions of $SO_2$ in parts per million on an instantaneous (one-minute) basis;

b. emissions of $SO_2$ 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 $SO_2$ 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 $SO_2$ 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 $SO_2$ 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.

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

i. The permittee shall document the dates when it was determined that adverse weather conditions prohibited safe access to the stack platform for mercury sorbent trap change-out. These dates shall be documented in the semi-annual monitoring report. The sorbent traps shall be changed-out as soon as possible after weather conditions improve; and

ii. The mercury sorbent trap monitoring plan shall include provisions for alternate tube change-out procedures in the event of adverse weather conditions that pose safety concerns for plant personnel.

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;

d. the rolling, 12-month summation of the number of bypass hours;

e. the rolling, 12-month summation of the PM, PM10, PM2.5, SO2, CO, NOx and H2SO4 emissions; and

f. the VOC, lead, HCl and HAP emission rates.

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

(16) 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 a Bag Leak Detector System (BLDS) to continuously monitor the coke oven baghouse vented to the main stack when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The BLDS shall be installed, operated and maintained in a manner that is consistent with the facility's Ohio EPA-approved CAM plan and the manufacturer's recommendations.

a. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 0.005 grain per actual cubic foot or less.

b. The bag leak detection system sensor shall produce an output of relative particulate emissions.

c. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.

d. The bag leak detection system shall be installed downstream of the lime spray dryer baghouse.

e. Initial adjustment of the system shall at a minimum consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

f. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm setpoints or alarm delay except as detailed in the operations, maintenance and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies by written report the baghouse has been inspected and found to be in good operating condition.

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

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

e) Reporting Requirements

(1) The permittee shall submit quarterly reports that identify the following information concerning the operation of the waste gas baghouse during the operation of the emissions unit(s), except during bypassing of the lime spray dryer and heat recovery steam generators as allowed in this permit:

a. each period of time when the pressure drop was outside of the permitted range as specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;

b. an identification of each incident of deviation described in “a” (above) where a prompt investigation was not conducted;

c. an identification of each incident of deviation described in “a” where prompt corrective action, that would bring the unit into compliance with the acceptable range, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s).

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

(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 permitted bypass limitation, PE, PM10, PM2.5, SO2, CO, NOx and H2SO4 mass emission limitations; annual Hg 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 $SO_2$ 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 $SO_2$ emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapter 3745-18, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.

b. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall include the following:

i. the facility name and address;

ii. the manufacturer and model number of the continuous $SO_2$ 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 $SO_2$ emissions for the calendar quarter (tons);

vi. the total operating time (hours) of the emissions unit;

vii. the total operating time of the continuous $SO_2$ 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 $SO_2$ monitor out-of-control and the compliant results following any corrective actions;

xi. the date, time and duration of any/each malfunction* of the continuous SO2 monitoring system;

xii. the date, time and duration of any/each malfunction of the emissions unit and/or control equipment that causes the emission of air contaminants in violation of any applicable limit; and

xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

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

* SO2 monitoring system downtime attributed to permit-allowed main stack bypass events shall not be counted against the facility for enforcement purposes, but must be reported.

(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 bypass event.

(10) These reports are due by the date described in the Standard Terms and Conditions of this permit.

(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.

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. Coking main stack: PE, SO2, NOx, CO, VOC*, Lead, and mercury.

ii. Charging baghouse stack(s): PE.

iii. Pushing multiclone stack(s): PE, SO2, NOx, CO, VOC*, Lead.

iv. Waste gas bypass stacks: PE, SO2, 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 |
| $SO_2$ | Methods 1 through 4 and 6C |
| NOx | 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 | Method 26 of 40 CFR Part 60, Appendix A |

(include HCl, HF, $Cl_2$, etc.)

e. The following additional information shall be documented during all emission testing for PE, SO2, NOx, 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 $SO_2$ 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(I).

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 $SO_2$ 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 $SO_2$ 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 (PM10) and particulate matter emissions 2.5 microns and less in diameter (PM2.5) shall not exceed 0.0081 lb/ton of coal and 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 and the procedures in 40 CFR 63.309(k).

Subpart L, section 63.303(d)(2) restricts particulate matter emissions from a charging emissions control device to 0.0081 pound per ton of dry coal charged.

The permittee estimates that filterable PE/PM10 is 0.0081 lb/ton of dry coal charged.

The hourly rate from the baghouse is determined by multiplying the controlled emission factor of 0.0081 pound per ton of coal charged times the hourly tons of coal. The PE emission factor was used as a surrogate for PM10 and PM2.5 where PM10 and PM2.5 emission 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 63.303(d)(2) restricts particulate matter emissions from a charging emissions control device to 0.0081 pound 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.

For example: (69958.3 tons charged X 0.0081 lb/ton = 566.66 lbs or 0.28 ton), then

(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 pound/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 05/2008.

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 05/2008.

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 pound/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 PM10. The emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated 05/2008.

h. Emission Limitation:

PM10 fugitive emissions shall not exceed 0.37 tpy as a rolling, 12-month summation from charging.

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 pound/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 by PM10, divided by 2,000 pounds/ton. The emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated 05/2008.

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 PM2.5. The emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated 05/2008.

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 pound/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 PM2.5, divided by 2,000 pounds/ton. The emission factor was obtained from AP-42, Section 12.2, Table 12.2-21, dated 05/2008.

k. Emission Limitation:

SO2 emissions shall not exceed 0.0003 pound per ton of coal charged and 0.15 lb/hr from the charging baghouse.

Applicable Compliance Method:

If required, compliance with the lb/ton limit shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Method 1 through 4 and 6C.

Compliance with the lb/hr limitation was established by multiplying the emission factor of 0.0003 pound/ton wet coal charged, times the tons of wet coal charged per hour. The SO2 emission factor was calculated from the results of an October 1989 emission stack test at Jewell Coal and Coke Company located in Vansant, Virginia.

l. Emission Limitation:

SO2 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 pound/ton wet coal charged, times the tons of wet coal charged per month, divided by 2,000 pounds/ton. The SO2 emission factor was calculated from the results of an October 1989 emission stack test at Jewell Coal and Coke Company located in Vansant, Virginia.

m. Emission Limitation:

CO emissions shall not exceed 0.0028 pound per ton of coal charged and 1.4 lb/hr from the charging baghouse.

Applicable Compliance Method:

If required, compliance with the lb/ton limit shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Method 1 through 4 and 10.

Compliance with the lb/hr limit was established by multiplying the emission factor of 0.0028 pound/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 emission 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 emission stack test at Jewell Coal and Coke Company located in Vansant, Virginia.

p. Emission Limitation:

VOC emissions shall not exceed 0.91 tpy from the charging baghouse.

Applicable Compliance Method:

Compliance shall be demonstrated by adding the monthly emissions over the calendar year. Monthly emissions shall be determined by multiplying the emission factor of 0.0020 lb of 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 emission stack test at Jewell Coal and Coke Company located in Vansant, Virginia.

q. Emission Limitation:

Filterable PE/PM10/PM2.5 emissions shall not exceed 0.0050 gr/dscf and 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 0.0050 gr/dscf times 1 pound divided by 7000 grains times the 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 emission factors were not available. The 0.0050 gr/dscf emissions factor for PE is a controlled emission factor considered Best Available Control Technology for the Gateway Energy and Coke Company, Granite City, Illinois, Permit to Construct issued March 13, 2008.

r. 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 when the lime spray dryer is employed; and 0.049 gr/dscf and 6.3 TPY when the lime spray dryer is bypassed.

Applicable Compliance Method:

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

The 6.3 TPY limit was determined by multiplying the hourly uncontrolled particulate emission rate by 120 hours, the number of hours that flue gases are routed around the FGD system to allow for inspection/maintenance of the spray dryer/baghouse.

If required, compliance with the grain loading shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Method 5.

s. Emission Limitation:

SO2 emissions shall not exceed 300 lbs/hr (based on a 3-hour block average); 192.0 lbs/hr (based on a 24-hour block average) from the coking operation main stack.

Applicable Compliance Method:

Compliance shall be demonstrated by the use of a continuous SO2 emissions monitor.

t. Emission Limitation:

SO2 emissions shall not exceed 700.8 TPY as a rolling, 12 month summation from the coking operation main stack (1.54 lb/wet ton of coal as an annual average); and 1794 lb/hour and 107.64 TPY when the lime spray dryer is bypassed.

Applicable Compliance Method:

Compliance for the 700.8 TPY as a rolling, 12 month summation from the coking operation main stack shall be demonstrated by the use of a continuous emissions monitor. If required, compliance with the lb/ton emission limitation shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 6.

Compliance for the 107.64 TPY limit when the lime spray dryer is bypassed shall be demonstrated by multiplying the uncontrolled emission rate of 2491.7 pounds per hour times 120 hours, the number of hours that flue gases are routed around the FGD system to allow for inspection/maintenance of the spray dryer/baghouse and then by 1 minus 28%, the reduction effected by reduction of charge size and/or coal sulfur in the coal charge per the SSM plan.

The uncontrolled hourly rate is calculated by multiplying tons of coal charged times the emissions factor of 23.92 pounds of SO2 per ton of coal charged as determined by material balance calculations, times 1 minus 28%.

u. Emission Limitation:

CO emissions shall not exceed 0.21 pound per ton of coal (20 ppm) and 21.81 pounds per hour from the coking operation main stack.

Applicable Compliance Method:

Compliance with the lb/ton and ppm limitations shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 10.

The pounds per hour emission limit was derived by multiplying the CO emission rate of 20 ppm, times 28, the molecular weight of CO, divided by the 385,100,000 conversion factor, times the maximum waste gas flow through the coking operation main stack, in dscf/min, times 60 minutes/hour. The CO emission rate of 20 ppm, was based on Haverhill North Coke Company, Franklin Furnace, Ohio emission test data provided by the permittee in a permit application submitted 2/13/2008.

v. Emission Limitation:

CO emissions shall not exceed 95.54 TPY as a rolling, 12 month summation from the coking operation main stack and 1.31 TPY from the main stack when the lime spray dryer is bypassed.

Applicable Compliance Method:

The emission limits were derived by multiplying the CO emission rate of 20 ppm, times 28, the molecular weight of CO, divided by the 385,100,000 conversion factor, times the maximum waste gas flow through the coking operation main stack, in dscf/min, times 60 minutes/hour, times the total hours/year of coal coking, divided by 2000 pounds/ton. Compliance shall be demonstrated by adding the current month's emissions to the emissions for the preceding eleven calendar months. The CO emission rate 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:

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 rate 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 rate of 10 ppm, was based on Haverhill North Coke Company, Franklin Furnace, Ohio emission test data provided by the permittee in a permit application submitted 2/13/2008.

x. Emission Limitation:

VOC emissions shall not exceed 20.47 TPY from the coking operation main stack and 0.28 TPY from the coking operation main stack when the lime spray dryer is bypassed.

Applicable Compliance Method:

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

y. Emission Limitation:

NOx emissions shall not exceed 1 pound per ton of coal and 104.2 pounds per hour from the coking operation main stack.

Applicable Compliance Method:

Compliance with the lb/ton limitation shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Method 1 through 4 and 7E.

Compliance shall be demonstrated by multiplying the NOx emission factor of 1 pound/ton times the tons of coal processed. The 1 pound/ton emission factor was provided by the permittee with their permit to install application submitted February 13, 2008.

z. Emission Limitation:

NOx emissions shall not exceed 456.3 TPY as a rolling, 12 month summation from the coking operation main stack and 6.25 as a rolling, 12 month summation from the coking operation main stack when the lime spray dryer is bypassed.

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

aa. 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.

bb. Emission Limitation:

Hydrochloric acid (HCl) emissions shall not exceed 64.79 TPY from the coking operation main stack and 17.75 TPY from the coking operation main stack when the lime spray dryer is bypassed.

Applicable Compliance Method:

Compliance with the 64.79 TPY from the coking operation main stack shall be demonstrated by multiplying the HCl controlled emission factor in lbs/ton coal times the tons of coal processed divided by 2000 lbs/ton. The controlled HCl emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.

Compliance with the 17.75 TPY from the coking operation main stack while the spray dryer is bypassed shall be demonstrated by multiplying the HCl uncontrolled emission factor in lbs/ton coal times the tons of coal processed divided by 2000 lbs/ton.

cc. Emission Limitation:

Sulfuric acid mist (H2SO4) emissions shall not exceed 0.024 pound per ton of coal and 2.5 pounds per hour from the coking operation main stack.

Applicable compliance method:

Compliance with the lb/ton limit shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 8 or alternate method approved by Ohio EPA.

Compliance with the pound per hour limit shall be determined by multiplying the H2SO4 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 H2SO4 control efficiency of 98% for the lime spray dryer with fabric filter. The H2SO4 emissions factor was based on emission testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio provided by the permittee in a permit application 2/13/08.

dd. Emission Limitation:

Sulfuric acid mist (H2SO4) emissions shall not exceed 11.13 tons as a rolling 12-month summation from the coking operation main stack; and 91.5 lb/hour and 5.49 TPY as a rolling 12-month summation from the main stack when the lime spray dryer is bypassed.

Applicable compliance method:

Compliance with the 11.13 tons per year shall be determined by multiplying the H2SO4 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 H2SO4 control efficiency of 98% for the lime spray dryer with fabric filter. Compliance shall be demonstrated by adding the current month's emissions to the emissions for the preceding eleven calendar months.

Compliance with the 5.49 tons per year shall be determined by multiplying the H2SO4 emission factor of 1.22 lb per ton of coal processed times the tons of coal processed per hour and then multiplying times the hours of flue gas bypassing the baghouse with fabric filter during inspection/maintenance of the spray dryer/baghouse. Compliance shall be demonstrated by adding the current month's emissions to the emissions for the preceding eleven calendar months.

The H2SO4 emission factor was based on emission 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:

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. Emission 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 of total combined HAPs/wet ton coal charged, multiplying the emission factor of each of the following: 0.00021 lb of Benzene Soluble Compounds (BSO)/wet ton coal charged, 0.000012 lb of arsenic/wet ton coal charged, 0.000015 lb of lead/wet ton coal charged, and 0.0000021 lb of manganese/wet ton coal charged, (emission factors from October 1989 Jewell emission 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.

ff. Emission Limitation:

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

Visible particulate emissions from the main stack during permitted lime spray dryer/fabric filter maintenance bypass periods 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).

gg. Emission Limitation:

PE, PM10 and PM2.5 shall not exceed 21.0 pounds per hour (0.049 gr/dscf) 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 in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 - 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 the 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.

hh. Emission Limitation:

PE, PM10 and PM2.5 emissions shall not exceed 12.6 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 (240) divided by 2000 lbs per ton.

ii. Emission Limitation:

SO2 emissions shall not exceed 498.33 lbs/hr (23.92 lb/ton of coal) from any one waste gas stack during bypass of the lime spray dryer.

Applicable Compliance Method:

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

jj. Emission Limitation:

299.0 tpy $SO_2$ as a rolling, 12-month summation from the bypass waste gas stacks.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the hourly SO2 emission rate by the cumulative annual hours of operation of the bypass waste gas stacks divided by 2000 lbs per ton.

kk. Emissions limitation:

NOx emissions shall not exceed 20.8 lbs/hr (1 lb/ton of coal) from any single waste gas bypass stack during bypass of the lime spray dryer.

Applicable Compliance Method:

Compliance shall be determined by multiplying the NOx emission factor of 1 pound/ton times the tons of coal processed per hour multiplied by an estimated 20% of total gas venting. The uncontrolled NOx emission factor of 1 pound/ton of coal shall be verified through emission testing of the main coking stack.

ll. Emission Limitation:

NOx emissions shall not exceed 12.5 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 NOx emission factor of 1 pound/ton times the tons of coal charged per year multiplied by an estimated 2.74% of total gas bypass (240 hours allowed of control device bypass for each stack divided by 8760 hours/year) and then dividing by 2000 lb/ton.

mm. 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.

nn. Emission Limitation:

Hydrochloric acid (HCl) emissions shall not exceed 35.5 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].

oo. Emission Limitation:

CO emissions shall not exceed 4.36 lbs/hr (20 ppm) 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 rate of 20 ppm times 28, the molecular weight of CO, divided by the 385,100,000 conversion factor, times the maximum waste gas flow, 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. The uncontrolled CO emission factor of 20 ppm shall be verified through emission testing of the main coking stack.

pp. Emission Limitation:

CO emissions shall not exceed 2.62 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 rate of 20 ppm times 28, the molecular weight of CO, divided by the 385,100,000 conversion factor, times the maximum waste gas flow, 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.

qq. 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 rate 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.

rr. Emission Limitation:

VOC emissions shall not exceed 0.56 ton per year from waste gas bypass stacks during bypass of the lime spray dryer.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC emission rate 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.

ss. Emission Limitation:

Lead (Pb) emissions from waste gas bypass stacks shall not exceed 0.068 ton per year.

Applicable Compliance Method:

The emission limitation for waste gas bypass stacks was derived by multiplying the uncontrolled emission factor of 4.56E-03 pounds of lead per ton of wet coal charged (from the Haverhill April 2006 emission stack test) times the maximum volume in tons of wet coal charged annually during bypass (25000 tons).

tt. Emission Limitation:

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

Applicable Compliance Method:

US EPA method 29 shall be used to demonstrate compliance with this emissions limit. An alternative method may be employed if approved by Ohio EPA.

uu. Emission Limitation:

Mercury emissions shall not exceed 12.4 pounds per year from all waste gas bypass stacks and from the main stack during bypass of the lime spray dryer/fabric filter, combined.

Applicable Compliance Method:

The hourly mercury emissions rate as determined using US EPA method 29 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.

vv. Emission Limitation:

Sulfuric acid mist (H2SO4) 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 H2SO4 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 H2SO4 emission factor was based on emission testing done at the Haverhill North Coke Plant in Franklin Furnace, Ohio provided by the permittee in a permit application 2/13/08.

ww. Emission Limitation:

Sulfuric acid mist (H2SO4) emissions from all waste gas bypass stacks shall not exceed 15.25 tons per year as a rolling 12-month summation.

Applicable Compliance Method:

Compliance shall be determined by multiplying the H2SO4 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. Compliance shall be demonstrated by adding the current month's emissions to the emissions for the preceding eleven calendar months. The H2SO4 emission factor was based on emission 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:

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).

yy. Emission Limitation:

PE/PM10/PM2.5 emissions shall not exceed 0.04 pound per ton of coke pushed and 14.3 lbs/hr from the flat push hot car (FPHC) multiclone outlet.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 – 5 and 40 CFR 63.7322.

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.

The emission factor for PE was used as a surrogate for PM10 and PM2.5 where PM10 and PM2.5 factors were not available.

zz. 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.

aaa. Emission Limitation:

SO2 emissions shall not exceed 0.098 pound per ton of coal charged and 49.0 lbs/hr from the flat push hot car vented to multiclone dust collector

Applicable Compliance Method:

If required, compliance with the lb/ton limit shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 6C.

Compliance with the lbs/hr limit 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 emission test which demonstrated compliance.

bbb. Emission Limitation:

SO2 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 SO2 emission factor, in lb/ton coal, times the tons of coal charged per month, divided by 2,000 pounds/ton. The SO2 emission factor shall be calculated from the results of the most recent performance test which demonstrated compliance.

ccc. Emission Limitation:

NOx emissions shall not exceed 0.019 pound per ton of coal charged and 9.5 lbs/hr from the flat push hot car vented to multiclone dust collector.

Applicable Compliance Method:

If required, compliance with the lb/ton limit shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 7E.

Compliance with the hourly emission rate 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 emission test which demonstrated compliance.

ddd. Emission Limitation:

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

eee. Emission Limitation:

CO emissions shall not exceed 0.063 pound per ton of coal charged and 31.5 lbs/hr from the flat push hot car vented to multiclone dust collector.

Applicable Compliance Method:

If required, compliance with the lb/ton limit shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 10.

Compliance with the hourly emission limitation 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 emission test which demonstrated compliance.

fff. 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 emission test which demonstrated compliance.

ggg. Emission Limitation:

VOC emissions 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 emission test which demonstrated compliance.

hhh. Emission Limitation:

VOC shall not exceed 9.13 tpy from the flat push hot car vented to multiclone dust collector.

Applicable Compliance Method:

Compliance shall be demonstrated by adding the monthly emissions for the calendar year. 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 emission test which demonstrated compliance.

iii. Emission Limitation:

Sulfuric acid mist (H2SO4) emissions shall not exceed 0.005 pound per ton of coal charged and 2.5 pounds per hour from the flat push hot car vented to multiclone dust collector.

Applicable Compliance Method:

If required, compliance with the lb/ton limit shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60 Appendix A, Methods 1 through 4 and 8 or an alternate method as approved by Ohio EPA.

Compliance with the lb/hr limit 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 H2SO4 emission factor of 0.005 lb per ton of coal based on the estimated H2SO4/SO2 ratio of 0.051 from the spray dryer inlet data at Haverhill provided by the permittee in a permit application 2/13/08.

jjj. Emission Limitation:

Sulfuric acid mist (H2SO4) 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:

Monthly emissions shall be determined by multiplying the H2SO4 emission factor, in lb/ton of coal, times the tons of coal processed per month, divided by 2,000 pounds/ton. Compliance shall be demonstrated by adding the current month's emissions to the emissions for the preceding eleven calendar months. The H2SO4 emission factor shall be calculated from the H2SO4 emission factor of 0.005 lb per ton of coal based on the estimated H2SO4/SO2 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:

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).

lll. 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.

mmm. 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)(3) Monitoring and/or Recordkeeping Requirements.

nnn. 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)(4) Monitoring and/or Recordkeeping Requirements.

ooo. Operational Limitation:

The total duration of the waste gas emissions venting, 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 and/or the main stack while bypassing the spray dryer/fabric filter system

Applicable Compliance Method:

Compliance with this operational restriction shall be demonstrated by the recordkeeping maintained in d)(14) of Monitoring and/or Recordkeeping Requirements.

ppp. 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)(15) of Monitoring and/or Recordkeeping Requirements.

g) Miscellaneous Requirements

(1) None.