



Environmental
Protection Agency

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

11/16/2010

Certified Mail

Mr. Richard Slater
Mingo Junction Energy Center, LLC
P.O. Box 160
Mingo Junction, OH 43938

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0641090234
Permit Number: P0105113
Permit Type: OAC Chapter 3745-31 Modification
County: Jefferson

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
Yes	CEMS
Yes	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

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, The Herald Star. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link. 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	Ohio EPA DAPC, Southeast District Office 2195 Front Street Logan, OH 43138
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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 Ohio EPA DAPC, Southeast District Office at (740)385-8501.

Sincerely,


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

Cc: U.S. EPA Region 5 - *Via E-Mail Notification*
Ohio EPA-SEDO; Pennsylvania; West Virginia

PUBLIC NOTICE PUBLIC HEARING
ISSUANCE OF DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Mingo Junction Energy Center, LLC

Issue Date: 11/16/2010

Permit Number: P0105113

Permit Type: OAC Chapter 3745-31 Modification

Permit Description: Chapter 31 modification of PTI 06-06309, based on the installation of new multi-fuel burners. The permittee is requesting to combust desulfurized coke oven gas in MJEC Boilers B001-B004, in addition to the already permitted natural gas and clean blast furnace gas. This permit action does not constitute a major modification based on the actual to future projected actual applicability test specified in OAC rule 3745-31-01(AAAAA).

Facility ID: 0641090234

Facility Location: Mingo Junction Energy Center, LLC
540 Commercial Avenue
Mingo Junction, OH 43938

Facility Description: Steam and Air-Conditioning Supply

Chris Korleski, Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio, has issued a draft action of an air pollution control permit-to-install (PTI) for an air contaminant source at the location identified above on the date indicated. Installation of the air contaminant source may proceed upon final issuance of the PTI.

A public hearing on this permit is scheduled for Tuesday, December 21, 2010 at 6:00PM in the Mingo Junction City Building – Basement, 501 Commercial St., Mingo Junction, OH 43938. A presiding officer will be present and may limit oral testimony to ensure all parties are heard. Written comments may also be submitted but must be received by December 28, 2010. Comments received after this date will not be considered a part of the official record.

Comments on this permit, questions, requests for permit applications or other pertinent documentation, and correspondence concerning this action must be directed to Sarah Harter at Ohio EPA DAPC, Southeast District Office, 2195 Front Street, Logan, OH 43138 or (740)385-8501. The permit can be downloaded from the Web page: www.epa.ohio.gov/dapc



Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

2. Source Description:

Mingo Junction Energy Center (MJEC) operates four 180 MMBtu/hr blast furnace gas and natural gas-fired boilers. MJEC submitted a PTI application on May 7, 2009 to burn coke oven gas (COG) in these four boilers. The boilers are fired with natural gas, a blend of natural gas and clean blast furnace gas, or desulfurized COG. All four boilers have continuous emission monitoring for NO_x and will reduce NO_x emissions when burning COG by using liquid injection. Boiler #4 also has continuous emission monitoring for SO₂. This permit is a Chapter 31 modification to 06-06309, issued July 27, 2004, based on installation of new multi-fuel burners. This permit action does not constitute a major modification based on the actual to future projected applicability test specified in OAC rule 3745-31-01(AAAAA).

3. Facility Emissions and Attainment Status:

MJEC, Severstal Wheeling (facility ID 0641090010), and Mountain State Carbon (MSC, in Follansbee, WV) have been determined to be one facility for permitting purposes under 40 CFR Part 52.21, OAC Chapter 3745-31, and OAC Chapter 3745-77. All coke oven gas (COG) will be produced by MSC Coke Batteries 1, 2, 3, and 8 in Follansbee, WV (WVa P001-4). The gas will either be flared by the MSC excess COG Flare (WVa P024-1) or used by certain emissions units and equipment at either MSC, Severstal Wheeling, or MJEC.

This project is part of a bigger group of COG users and the major modification was looked at including these other sources. Those units involved in the project were the Severstal Wheeling reheat furnaces (P006-P008), MSC flare (WVa P024-1), and MJEC boilers (B001-B004). Therefore, these sources were included in the past to future actual analysis.

Jefferson County is in attainment for all criteria pollutants, except PM_{2.5}. MJEC is a major stationary source for purposes of PSD, and is also a major stationary source for purposes of non-attainment New Source Review for PM_{2.5}.

4. Source Emissions:

Listed in the table below are the results of the actual to future projected actual applicability analysis using MJEC's boilers, Severstal Wheeling's Reheat Furnaces, and MSC's Flare. The two year period used to calculate the baseline actuals for all pollutants was January 2002 to December 2003. Projected emissions from these emissions units (EUs), combined, do not exceed the baseline actual emissions by the significance levels, as defined in OAC rule 3745-31-01(MMMMM)(effective date 12/14/2007).



Pollutant	Baseline Actual Emissions, 2-year average (tons/year)	MJEC Projected Actual Emissions From COG (tons/yr)	Reheat Projected Actual Emissions From Natural Gas (tons/yr)	Flare Projected Actual Emissions From Natural Gas (tons/yr)	Total Projected Actual Emissions (shared by EUs) From Permitted Fuels (tons/year)
NOx	357.44	254.23	123.65	0.09	377.97
PM	51.73	19.07	2.35	0.01	21.42
PM ₁₀	43.45	18.29	2.35	0.00	20.64
PM _{2.5}	36.83	17.83	0.59	0.00	18.42
SO ₂	431.33	232.10	0.74	0.00	232.84
CO	332.91	59.79	103.86	0.07	163.72
VOC	39.10	3.90	6.80	0.00	10.70

5. Conclusion:

The actual to future projected actual applicability test showed that PSD and NANSR significance levels were not exceeded. A resulting increase of 20.53 tons/year NOx (less than the PSD significance level), as well as decreases of 30.31 tons/year PM, 22.81 tons/year PM₁₀, 18.40 tons/year PM_{2.5}, 198.49 tons/year SO₂, 169.19 tons/year CO, and 28.40 tons/year VOC, in facility emissions has been shown. The facility will have required monitoring, recordkeeping, and reporting for a period of 10 years following issuance of the final permit to demonstrate that actual emissions do not exceed NSR significance thresholds.

6. Please provide additional notes or comments as necessary:

None

7. Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
PM/PM10	45.7
PM2.5	45.6
NOx	403.6
SO ₂	500.0
VOC	8.4
CO	141.9



DRAFT

**Division of Air Pollution Control
Permit-to-Install
for
Mingo Junction Energy Center, LLC**

Facility ID: 0641090234
Permit Number: P0105113
Permit Type: OAC Chapter 3745-31 Modification
Issued: 11/16/2010
Effective: To be entered upon final issuance



Division of Air Pollution Control
Permit-to-Install
for
Mingo Junction Energy Center, LLC

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Authorization

Facility ID: 0641090234
Facility Description: Four blast furnace gas and natural gas fired boilers for electricity and process steam generation AKA a facility that was previously identified with a NOVAA ID 1741090234.
Application Number(s): A0037281, A0037871, A0040236, A0040689
Permit Number: P0105113
Permit Description: Chapter 31 modification of PTI 06-06309, based on the installation of new multi-fuel burners. The permittee is requesting to combust desulfurized coke oven gas in MJEC Boilers B001-B004, in addition to the already permitted natural gas and clean blast furnace gas. This permit action does not constitute a major modification based on the actual to future projected actual applicability test specified in OAC rule 3745-31-01(AAAAA).
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$8,000.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 11/16/2010
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

Mingo Junction Energy Center, LLC
540 Commercial Avenue
Mingo Junction, OH 43938

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:

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

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: P0105113
Permit Description: Chapter 31 modification of PTI 06-06309, based on the installation of new multi-fuel burners. The permittee is requesting to combust desulfurized coke oven gas in MJEC Boilers B001-B004, in addition to the already permitted natural gas and clean blast furnace gas. This permit action does not constitute a major modification based on the actual to future projected actual applicability test specified in OAC rule 3745-31-01(AAAAA).

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

Emissions Unit ID: B004
Company Equipment ID: Boiler 4
Superseded Permit Number: 06-06309
General Permit Category and Type: Not Applicable

Group Name: B001-B003

Table with 3 columns: Emissions Unit ID, Company Equipment ID, Superseded Permit Number, General Permit Category and Type, and Type. Rows include units B001, B002, and B003.

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 of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA 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.

Effective Date: To be entered upon final issuance

- 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 Ohio EPA DAPC, Southeast District Office.

- (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 Ohio EPA DAPC, Southeast District Office. 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 Ohio EPA DAPC, Southeast District Office 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 Ohio EPA DAPC, Southeast District Office 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 Ohio EPA DAPC, Southeast District Office 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 Ohio EPA DAPC, Southeast District Office.

- 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 Ohio EPA DAPC, Southeast District Office. 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 by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown 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 reporting requirements identified in this permit 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 deviation report, 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.

Effective Date: To be entered upon final issuance

- 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 new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

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

Effective Date: To be entered upon final issuance

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

a) None.

2. Mingo Junction Energy Center, LLC (MJEC, facility ID 0641090234), Severstal Wheeling (facility ID 0641090010), and Mountain State Carbon (MSC, in Follansbee, WV) have been determined to be one facility for permitting purposes under 40 CFR Part 52.21, OAC Chapter 3745-31, and OAC Chapter 3745-77. All coke oven gas (COG) will be produced by MSC Coke Batteries 1, 2, 3, and 8 in Follansbee, WV (WVa P001-4). The gas will either be flared by the MSC excess COG Flare (WVa P024-1) or used by certain emissions units and equipment at either MSC, Severstal Wheeling, or MJEC.

3. Operating Restrictions

a) The maximum annual consumption of COG by the facility COG group (defined as Severstal Wheeling's Reheat Furnaces 2, 3, 4 (P006-P008), MSC Coke Batteries 1, 2, 3, and 8 (WVa P001-4), Excess COG Flare (WVa P024-1), Boilers 6, 7, 9, 10 (WVa P017, P018, S1, E1), and MJEC Boilers 1, 2, 3, 4 (B001-B004)) shall not exceed 21,112,050,000 cubic feet of COG, based upon a rolling, 12-month summation.

b) The COG consumption by all COG users in the facility COG group shall not cause emissions of SO₂ to exceed 1,537.51 tons, as a rolling, 12-month summation based on the following equations:

$$X_j = \sum_{i=1}^n (Y_i * Z_i * 10) * 64 \text{ mol}/34 \text{ mol} * 1 \text{ lb}/7,000 \text{ grains} * 1 \text{ ton}/2,000 \text{ lbs}$$

where:

X_j = total tons of SO₂ emissions per month

Y_i = H₂S content (grains/100 dry standard cubic feet) for each 12-hour block average for the month for all COG users combined

Z_i = total COG consumption (1000 cubic feet) for each 12-hour block for the month for all COG users combined

n = number of 12-hour blocks for the month

and

$$\sum_{j=1}^{n=12} (X_j) \leq 1,537.51 \text{ tons SO}_2, \text{ as a rolling, 12-month summation}$$

c) All COG used at the MJEC facility (emissions units B001, B002, B003, and B004) shall have undergone H₂S removal by MSCs properly operating desulfurization system such that the MJEC facility shall not combust COG that contains hydrogen sulfide (H₂S) in excess of 50 grains/100 dry standard cubic feet. An audible alarm shall be activated whenever the H₂S content of the COG exceeds 50 grains/100 dscf.

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4. Monitoring and/or Recordkeeping Requirements

- a) The permittee shall maintain records of all data obtained by the continuous H₂S monitoring system including, but not limited to, emissions of H₂S in units of the applicable standard in the appropriate averaging period (i.e., in grains/100 dscf on a one minute basis and as the 12-hour block averages from midnight to noon and noon to midnight each day), results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.
- b) The permittee shall maintain records of the following information for all COG users (as defined in 3.a) above), combined:
 - (1) COG consumption (in 1000 cubic feet) for each 12-hour block;
 - (2) SO₂, in tons, emitted for each month;
 - (3) the rolling, 12-month summation of COG burned, in cubic feet; and
 - (4) the rolling, 12-month summation of SO₂ emissions, in tons.
- c) For a period of 10 years following issuance of this permit, the permittee shall calculate and maintain a record of annual emissions, in tons per year, for the following sources combined: Mingo Junction Energy Center (MJEC) Boilers (B001, B002, B003, B004), Severstal Wheeling's reheat furnaces (P006-P008), and MSC COG flare (WVa: P024). The purpose of this record is to demonstrate that emissions from these emissions units, combined, shall not exceed the baseline actual emissions by the significance levels, as defined in OAC rule 3745-31-01(MMMMM)(effective date 12/14/2007). The baseline actual emissions are the following:

Baseline Actual Emissions

NOx	357.44
SO ₂	431.33
PM	51.73
PM10	43.45
PM2.5	36.83
CO	332.91
VOC	39.11

- d) The MJEC facility (emissions units B001, B002, B003, and B004) shall install and thereafter operate and maintain an audible alarm for exceedances of the H₂S grain loading limitation of 50 grains/100 dry standard cubic feet whenever COG is burned.

At least once per calendar month the MJEC facility shall calibrate the alarm activation levels and maintain records of the results of each calibration.

- e) The permittee shall collect and record the following information each day COG is burned at the MJEC facility (emissions units B001, B002, B003, and B004):
 - (1) a log of each instance when an audible alarm is activated;
 - (2) the time interval of the exceedance;
 - (3) the magnitude of the exceedance;
 - (4) the probable cause given by MSC for the exceedance; and
 - (5) any corrective action taken.

5. Reporting Requirements

- a) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - (1) all exceedances of the rolling, 12-month facility COG group COG usage limitation;
 - (2) all exceedances of the rolling, 12-month facility COG group SO₂ emission limitation; and
 - (3) all instances when the audible alarm at the MJEC facility was activated, the time interval of the exceedance, the magnitude of the exceedance, the probable cause given by MSC for the exceedance, and any corrective action taken.

- b) For a period of 10 years following issuance of this permit, the permittee shall submit a report if the annual emissions from the MJEC boilers (B001, B002, B003, B004), Severstal Wheeling's reheat furnaces (P006-P008), and MSC flare (WVa: P024), in tons per year, of NO_x, SO₂, PM, PM₁₀, PM_{2.5}, CO, VOC exceed the baseline actual emissions (as documented and maintained in 4.c) by a significant amount for that pollutant, as defined in OAC rule 3745-31-01(MMMMM). The report shall contain the following:
 - (1) The name, address and telephone number of the major stationary source;
 - (2) The annual emissions; and
 - (3) Any other information that the permittee wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

The report shall be submitted within 60 days after the end of each year during which an exceedance occurs.

6. Testing Requirements

- a) Compliance with the emissions limitation in 3. shall be determined in accordance with the following methods:
 - (1) Emissions Limitation:
1,537.51 tons SO₂, as a rolling, 12-month summation

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Applicable Compliance Method:

Compliance shall be demonstrated based on the equations in 3.b) and recordkeeping in 4.a) and b). This limit was originally derived as part of the netting analysis in the Severstal Wheeling PTI 06-07507 (issued 1/6/2005) and was calculated as follows:

343 days of COG grain loading = 40 grains H₂S/100 dscf

22 days of COG grain loading = 275 grains H₂S /100 dscf (desulfurized outage)

COG restriction= 21,112,050,000 cubic feet

$343/365 \times 21,112,050,000 \text{ cf} \times 40 \text{ grains H}_2\text{S} /100 \text{ dscf} \times 64 \text{ mol SO}_2/34 \text{ mol H}_2\text{S} \times 1 \text{ lb}/7,000 \text{ grains} \times 1 \text{ ton}/2,000 \text{ lbs} = 1,067 \text{ tons SO}_2$

$22/365 \times 21,112,050,000 \text{ cf} \times 275 \text{ grains H}_2\text{S} /100 \text{ dscf} \times 64 \text{ mol SO}_2/34 \text{ mol H}_2\text{S} \times 1 \text{ lb}/7,000 \text{ grains} \times 1 \text{ ton}/2,000 \text{ lbs} = 470 \text{ tons SO}_2$

Total = 1,067 tons + 470 tons = 1,537 tons SO₂

C. Emissions Unit Terms and Conditions

Effective Date: To be entered upon final issuance

1. Emissions Unit Group- Reciprocating Boilers: B001, B002, B003

Operations, Property and/or Equipment Description:

EU ID	Operations, Property and/or Equipment Description
B001	180 MMBtu/hr Reciprocating Boiler
B002	180 MMBtu/hr Reciprocating Boiler
B003	180 MMBtu/hr Reciprocating Boiler

The boiler is fired with natural gas, a blend of natural gas and clean blast furnace gas, or desulfurized COG. The emission unit has continuous emission monitoring for NOx and reduces NOx emissions when burning COG by using liquid injection. This permit is a Chapter 31 modification to 06-06309, issued July 27, 2004, based on installation of a new multi-fuel burner. This permit action does not constitute a major modification based on the actual to future projected applicability test specified in OAC rule 3745-31-01(AAAAA).

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Particulate matter (PM) and particulate matter emissions with a diameter less than 10 microns (PM10) shall not exceed 0.0145 lb/MMBtu when burning a blend of natural gas and clean blast furnace gas. PM/PM10 emissions shall not exceed 0.004 lb/MMBtu when only burning natural gas. PM/PM10 emissions shall not exceed 0.012 lb/MMBtu when burning COG. PM2.5 emissions shall not exceed 0.0145 lb/MMBtu when burning a blend of natural gas and clean blast furnace gas.

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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>PM2.5 emissions shall not exceed 0.004 lb/MMBtu when only burning natural gas.</p> <p>PM2.5 emissions shall not exceed 0.011 lb/MMBtu when burning COG.</p> <p>PM/PM10 emissions shall not exceed 2.6 lbs/hr.</p> <p>PM2.5 emissions shall not exceed 2.61 lbs/hr.</p> <p>PM/PM10 emissions shall not exceed 11.4 tons/year.</p> <p>PM2.5 emissions shall not exceed 11.4 tons/year.</p> <p>Nitrogen oxides (NOx) emissions shall not exceed 0.20 lb/MMBtu , as a 3-hour average, when burning natural gas or natural gas/blast furnace gas blend.</p> <p>Nitrogen oxides (NOx) emissions shall not exceed 0.16 lb/MMBtu, as a 3-hour average, when burning COG.</p> <p>NOx emissions shall not exceed 36.0 lbs/hr, as a 3-hour average.</p> <p>NOx emissions shall not exceed 157.7 tons/year.</p> <p>See b)(2)c.</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.045 lb/MMBtu when burning natural gas or natural gas/blast furnace gas blend.</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.038 lb/MMBtu when burning COG.</p> <p>CO emissions shall not exceed 8.1 lbs/hr.</p>

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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>CO emissions shall not exceed 35.5 tons/year.</p> <p>Volatile organic compound (VOC) emissions shall not exceed 1.0 lb/hr.</p> <p>VOC emissions shall not exceed 4.38 tons/year.</p> <p>Sulfur dioxide (SO₂) emissions shall not exceed 45.7 lbs/hr, as a 3-hour average, when burning natural gas or natural gas/blast furnace gas blend.</p> <p>Sulfur dioxide (SO₂) emissions shall not exceed 49.5 lbs/hr, as a 3-hour average, when burning COG.</p> <p>SO₂ emissions shall not exceed 216.8 tons/year.</p> <p>See b)(2)e.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), and 3745-31-05(D), and 3745-18-47(C).</p>
b.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD established in PTI 06-06309)	<p>PM/PM10 emissions shall not exceed 45.7 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.</p> <p>NOx emissions shall not exceed 403.6 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.</p> <p>CO emissions shall not exceed 141.9 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.</p> <p>VOC emissions shall not exceed 8.4 tons/rolling, 12-month period, for emissions units B001, B002, B003, and</p>

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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		B004, combined. SO ₂ emissions shall not exceed 500.0 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.
c.	OAC rule 3745-31-10	See Section B.3.c)
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
e.	OAC rule 3745-17-10(B)(1)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitations established pursuant to OAC rule 3745-31-05(A)(3).
f.	OAC rule 3745-18-47(C)	The hydrogen sulfide (H ₂ S) content of the COG combusted in this emissions unit shall not exceed 50 grains of H ₂ S per 100 dscf of COG.
g.	40 CFR Part 60, Subpart Db	The NO _x emission limitation specified by this rule is less stringent than or equivalent to the NO _x emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
h.	40 CFR 63.52(a)(2)	See b)(2)d.

(2) Additional Terms and Conditions

- a. For purposes of this permit, "clean blast furnace gas" is defined as blast furnace gas which has had particulate matter controlled by Severstal Wheeling, Inc. formerly Wheeling-Pittsburgh Steel's properly operating scrubber system on Blast Furnace Number 5.
- b. For purposes of this permit, "desulfurized COG" is defined as COG which has undergone H₂S removal as described in Section B.3.c).
- c. The NO_x emissions from this emissions unit shall be controlled through water injection at all times when the emissions unit is combusting COG.
- d. This emissions unit is subject to a case-by-case MACT determination pursuant to section 112(j) of the Clean Air Act (CAA) due to the June 8, 2007 D.C. Circuit Court of Appeals decision to vacate the Boiler MACT (40 CFR Part 63, Subpart DDDDD).

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If notified by the Ohio EPA or U.S. EPA, the permittee shall submit an application that meets the requirements of 40 CFR 63.52(a)(2) pertaining to case-by-case MACT determinations. The 30-day clock for submittal of a 112(j) application does not begin until such notification is made by Ohio EPA or U.S. EPA.

- e. The permittee shall operate and maintain the fuel burner in accordance with the manufacturer's recommendations to ensure efficient combustion of the fuel(s) and to ensure compliance with the applicable emissions limitations. In accordance with the permit application, the permittee has committed to installation and operation of a burner management system and combustion control system in order to satisfy this requirement.

c) Operational Restrictions

- (1) Fuel usage in emissions units B001-B004, combined, shall not cause PM/PM10, CO, VOC, and SO₂ emissions to exceed the rolling, 12-month emissions limitations specified in b)(1)b. based on the following equation:

$$n=12$$
$$\sum_{i,j,k=1} [(X_i * Y_i) + (X_j * Y_j) + (X_k * Y_k)] / 2,000 \text{ lbs/ton}$$

Where:

X_i = emissions factor for natural gas

Y_i = monthly natural gas usage

X_j = emissions factor for clean blast furnace/natural gas blend

Y_j = monthly clean blast furnace/natural gas blend usage

X_k = emissions factor for COG*

Y_k = monthly COG usage*

See f)(1)q-t. for emissions factors to be used in this equation.

*For SO₂, in lieu of the variables X_k and Y_k above, use the equation given in f)(1)t. to determine the monthly COG SO₂ emissions.

- (2) This emissions unit shall be operated only in conjunction with the permanent shutdown of the Wheeling-Pittsburgh Steel Corporation Mingo Junction Boiler House, emissions units B005, B006, B007, B008, B009, B010, B011, and B012 under Ohio EPA premise number 0641090010.
- (3) The permittee shall burn only natural gas or a combination of natural gas and clean blast furnace gas, or desulfurized COG in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas or a combination of natural gas and clean blast furnace gas, or desulfurized COG, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

- (2) In order to accurately determine the heat input rates for this emissions unit, the permittee shall install, operate, and maintain equipment to continuously monitor and record the actual natural gas, clean blast furnace gas, and COG fuel flow rates to this emissions unit when the emissions unit is in operation. The permittee shall demonstrate that each fuel flowmeter used meets a flowmeter accuracy of 2.0 percent. This shall be accomplished not later than 60 days after the issuance of this permit by performing an initial transmitter accuracy test and a primary element visual inspection. Thereafter, the permittee shall perform a transmitter accuracy test once every four fuel flowmeter quality assurance (QA) operating quarters (as defined in 40 CFR Part 72.2) and a primary element visual inspection once every 12 calendar quarters. The transmitter accuracy tests and primary element visual inspections shall be performed in accordance with the procedures specified in 40 CFR Part 75, Appendix D, Sections 2.1.6.1(a) through (c) (Transmitter Accuracy Test), 2.1.6.3 (Failure of Transmitter(s)), and 2.1.6.4 (Primary Element Inspection). If the fuel flow monitoring and/or recording equipment is (are) not in service when the emissions unit is in operation, the permittee shall comply with the appropriate missing data procedures specified in 40 CFR Part 75, Appendix D, Section 2.4.2. If the fuel flowmeter is replaced, the replacement meter shall be certified within 60 days after installation, in accordance with the procedures specified above.
- (3) The permittee shall maintain monthly records of the following information for emissions units B001, B002, B003, and B004, combined:
 - a. the total quantity of natural gas burned, in mmcf;
 - b. the total quantity of clean blast furnace gas burned, in mmcf;
 - c. the total quantity of COG burned, in mmcf;
 - e. the total PM/PM10, CO, VOC, and SO₂ emissions, in tons; and
 - f. the rolling, 12-month summations of the PM/PM10, CO, VOC, and SO₂ emissions, in tons.
- (4) The permittee shall maintain records of the total COG consumption (in 1000 cubic feet) for each 12-hour block for emissions units B001, B002, B003, and B004, combined.
- (5) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and

- e. any corrective actions taken to eliminate the visible emissions.
- (6) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable range or limit for the water injection control system liquid flow rate shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.
- (7) The permittee shall properly install, operate, and maintain equipment to continuously monitor the liquid flow rate (in gallons per minute) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the flow rate on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable liquid flow rate shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) 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 the 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 flow rate 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.

These range(s) and/or limit(s) for the liquid flow rate are 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 range or limit for the liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable NO_x emission rate for these emissions units. 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 an administrative modification.

- (8) The permittee shall operate and maintain equipment to continuously monitor and record NO_x emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous NO_x monitoring system including, but not limited to:

- a. emissions of NO_x in parts per million on an instantaneous (one-minute) basis;
- b. emissions of NO_x in all units of the applicable standard(s) in the appropriate averaging period (i.e., lb/MMBtu, lb/hr, lb/hr as a 3-hr average, tons/month, and tons/rolling, 12- month 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 NO_x 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 NO_x 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 NO_x 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).

- (9) The permittee shall maintain a written quality assurance/quality control plan for the continuous NO_x monitoring system, designed to ensure continuous valid and representative readings of NO_x emissions 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 NO_x 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.

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

- (11) The F-factor for clean blast furnace gas shall be calculated on an hourly basis in accordance with equation 19-13 of 40 CFR Part 60, Appendix A, Method 19. The heat input for clean blast furnace gas shall be calculated on an hourly basis in accordance with equation F-20 of 40 CFR 75, Appendix F. The hourly F-factor and heat input calculations shall be based upon the clean blast furnace gas constituent concentrations as measured by Severstal Wheeling, Inc. formerly Wheeling-Pittsburgh Steel, the calculated clean blast furnace gas density, and the clean blast furnace gas flow rates and stack oxygen concentrations measured by the permittee. If the permittee demonstrates to the satisfaction of the Ohio EPA that a reasonably accurate default F-factor and heat value for clean blast furnace gas may be calculated using worst-case assumptions, the permittee may submit a written request to the Ohio EPA to discontinue hourly calculations of the F-factor and heat input. The F-factor for natural gas shall be based upon the data from Table 19-1 of 40 CFR Part 60, Appendix A, Method 19. The heat input for natural gas shall be calculated in accordance with equation F-20 of 40 CFR 75, Appendix F, using a default natural gas gross calorific value found in 40 CFR 75.19(e)(6), Table LM-5, and natural gas flow rates. For COG, the F-factor shall be calculated on a monthly basis in accordance with equation 19-13 of 40 CFR Part 60, Appendix A, Method 19. The heat input for COG shall be calculated on an hourly basis in accordance with equation F-20 of 40 CFR 75, Appendix F. The monthly F-factor and hourly heat input calculations shall be based upon the COG constituent concentrations as measured by Mountain State Carbon, the calculated COG density, and the COG flow rates and stack oxygen concentrations measured by the permittee.

The combined F-factor for natural gas and clean blast furnace gas shall be calculated in accordance with equation 19-16 of 40 CFR Part 60, Appendix A, Method 19. The

combined F-factor for natural gas and clean blast furnace gas shall be used in conjunction with the NO_x continuous monitoring systems data to determine the NO_x emission rates.

- (12) The permittee shall install, operate and maintain equipment to continuously monitor and record the percent oxygen in the stack serving this emissions unit when the emissions unit is in operation. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60. The monitoring and recording equipment shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
 - (13) Mingo Junction Energy Center shall maintain records of all data obtained by the continuous H₂S monitoring system including, but not limited to, emissions of H₂S in units of the applicable standard in the appropriate averaging period (i.e., in grains/100 dscf on a one minute basis and as the 12-hour averages from midnight to noon and noon to midnight each day), results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.
 - (14) Each day that COG is combusted in this emissions unit, the permittee shall maintain the following records:
 - a. two consecutive 12-hour averages (midnight to noon and noon to midnight) from the hourly H₂S concentrations recorded by the continuous emission monitoring system (in gr/100dscf);
 - b. the total COG consumption (in 1000 cubic feet) for each 12-hour block; and
 - c. the average SO₂ emissions, as a 3-hour average, for each 12-hour block.
 - (15) The permittee shall maintain all required documentation to demonstrate that the burner management system and combustion control system are being operated within manufacturer's specifications.
- e) Reporting Requirements
- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or clean blast furnace gas or desulfurized COG was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
 - (2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA, Southeast District Office by February 15 and August 15 of each year and shall cover the previous 6-month period.
 - (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

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- a. all exceedances of the rolling, 12-month PM/PM10, CO, VOC, and SO₂ emission limitations.
- b. all exceedances, when COG is burned, of the allowable SO₂ emissions, as a 3-hour average;
- c. each period of time (start time and date, and end time and date) when the liquid flow rate was outside of the appropriate range or limit specified by the manufacturer and outside of the acceptable range for each parameter following any required compliance demonstration;
- d. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not controlled through water injection;
- e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;
- f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate into compliance with the acceptable range, was determined to be necessary and was not taken; and
- g. each incident of deviation described in “c” or “d” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

The quarterly report shall be submitted by January 31, April 30, July 31, and October 31 and shall cover the previous calendar quarter.

- (4) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NO_x monitoring system:
 - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 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 NO_x emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapters 3745-14 and 3745-23, 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).
 - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;

- ii. the manufacturer and model number of the continuous NO_x 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 NO_x emissions for the calendar quarter (tons);
- vi. the total NO_x emissions (in tons) for each rolling, 12-month period during the calendar quarter;
- vii. the total operating time (hours) of the emissions unit;
- viii. the total operating time of the continuous NO_x monitoring system while the emissions unit was in operation;
- ix. results and dates of quarterly cylinder gas audits;
- x. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- xi. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO_x monitor out-of-control and the compliant results following any corrective actions;
- xii. the date, time, and duration of any/each malfunction** of the continuous NO_x monitoring system, emissions unit, and/or control equipment;
- xiii. the date, time, and duration of any downtime** of the continuous NO_x monitoring system and/or control equipment while the emissions unit was in operation; and
- xiv. 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.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

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

- (5) The permittee shall also submit annual reports that specify the total, PM_{2.5}, PM/PM₁₀, NO_x, CO, VOC, and SO₂ emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.
 - (6) The permittee shall submit quarterly excess emission reports from the COG desulfurization unit to the Ohio EPA, Southeast District Office regarding the operation of the continuous emission monitoring system for H₂S. These reports shall include all 12-hour periods above the applicable emission limitations. The report shall also include the date, magnitude (grains/100 dscf), reason (if known), and corrective action taken (if any) for each exceedance. Any continuous emission monitoring system downtime while the source is on-line shall be documented and included in the report along with any corrective action(s) taken. The quarterly report shall be submitted by January 31, April 30, July 31, and October 31 and shall cover the previous calendar quarter.
 - (7) The permittee shall submit deviation (excursion) reports that identify all instances where the burner management system and combustion control system were not maintained in accordance with the manufacturer's recommendations. Each report shall be submitted within 30 days after the deviation occurs.
- f) Testing Requirements
- (1) Compliance with the emissions limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emissions Limitation:

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

Applicable Compliance Method:

Compliance with the visible particulate emissions limitation shall be determined according to USEPA Method 9.
 - b. Emissions Limitation:

PM/PM₁₀ emissions shall not exceed 0.004 lb/MMBtu when only burning natural gas.

Applicable Compliance Method:

This emissions limitation has been established based upon manufacturer's data for natural gas combustion.

If required, the permittee shall demonstrate compliance with this emissions limitation through the emission testing methods and procedures specified in f)(2) while burning only natural gas.

c. Emissions Limitation:

PM/PM10 emissions shall not exceed 0.0145 lb/MMBtu when burning a blend of natural gas and clean blast furnace gas.

Applicable Compliance Method:

This emissions limitation has been established based upon a manufacturer's performance guarantee. The worst-case emission condition is the combustion of 95% clean blast furnace gas (0.0151 lb/ MMBtu) and 5% natural gas (0.004 lb/MMBtu). $0.0151 \times 0.95 + 0.004 \times 0.05 = 0.0145$ lb/MMBtu

If required, compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

d. Emissions Limitation:

PM/PM10 emissions shall not exceed 0.012 lb/MMBtu when only burning COG.

Applicable Compliance Method:

This emissions limitation has been established based upon AP-42 Table 12.5-1(October 1986).

Compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

e. Emissions Limitation:

PM2.5 emissions shall not exceed 0.011 lb/MMBtu when burning COG.

Applicable Compliance Method:

This emissions limitation has been established based upon AP-42 Table 12.2-19 (combustion stack) (October 1986) (0.94*PM).

Compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

f. Emissions Limitation:

PM2.5 emissions shall not exceed 0.0145 lb/MMBtu when burning a blend of natural gas and clean blast furnace gas.

Applicable Compliance Method:

This emissions limitation has been established based upon a manufacturer's performance guarantee. The worst-case emission condition is the combustion of

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95% clean blast furnace gas (0.0151 lb/ MMBtu) and 5% natural gas (0.004 lb/MMBtu). $0.0151 \times 0.95 + 0.004 \times 0.05 = 0.0145$ lb/MMBtu

Compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

g. Emissions Limitation:

PM2.5 emissions shall not exceed 0.004 lb/MMBtu when burning only natural gas.

Applicable Compliance Method:

This emissions limitation has been established based upon manufacturer's data for natural gas combustion.

Compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

h. Emissions Limitation:

PM/PM10 emissions shall not exceed 11.4 tons/year.

Applicable Compliance Method:

This emissions limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided that the permittee complies with the hourly emission limitation, compliance with this emission limitation will also be demonstrated.

i. Emissions Limitation:

PM/PM10 emissions shall not exceed 2.6 lbs/hr.

Applicable Compliance Method:

This emissions limitation has been established based upon a manufacturer's performance guarantee. The worst-case emission condition is the combustion of 95% clean blast furnace gas (0.0151 lb/ MMBtu) and 5% natural gas (0.004 lb/ MMBtu). $180 \times [(0.0151 \times 0.95 + 0.004 \times 0.05)] = 2.6$ lbs/hr.

The permittee shall demonstrate compliance through the emission testing methods and procedures specified in f)(2).

j. Emissions Limitation:

PM2.5 emissions shall not exceed 2.61 lbs/hr.

Applicable Compliance Method:

This emissions limitation has been established based upon a manufacturer's performance guarantee. The worst-case emission condition is the combustion of 95% clean blast furnace gas (0.0151 lb/ MMBtu) and 5% natural gas (0.004 lb/ MMBtu). $180 \times [(0.0151 \times 0.95 + 0.004 \times 0.05)] = 2.61 \text{ lbs/hr.}$

Compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

k. Emissions Limitation:

PM2.5 emissions shall not exceed 11.43 tons/year.

Applicable Compliance Method:

The annual emissions limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided that the permittee complies with the hourly emission limitation, compliance with the annual emission limitation will also be demonstrated.

l. Emissions Limitations:

VOC emissions shall not exceed 1.0 lb/hr.

VOC emissions shall not exceed 4.38 tons/year.

Applicable Compliance Methods:

The hourly emissions limitation has been established by multiplying the maximum gas burning capacity of the emissions unit by the AP-42 emission factor of 5.5 lbs VOC/MMSCF (Table 1.4-2, July, 1998) and is based on the worst case emission condition of 100% natural gas.

$$180 \text{ MMBtu/hr} \times 5.5 \text{ lbs/MMCF} / 1000 \text{ MMBtu/MMCF} = 1.0 \text{ lb/hr.}$$

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing methods and procedures specified in f)(2).

The annual emissions limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided that the permittee complies with the hourly emission limitation, compliance with the annual emission limitation will also be demonstrated.

m. Emissions Limitations:

NOx emissions shall not exceed 0.16 lb/MMBtu, as a 3-hour average, when burning COG.

NOx emissions shall not exceed 0.20 lb/MMBtu, as a 3-hour average, when burning natural gas or a blend of natural gas and clean blast furnace gas.

NOx emissions shall not exceed 36.0 lbs/hr, as a 3-hour average.

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NOx emissions shall not exceed 157.7 tons/year.

Applicable Compliance Methods:

The lb/MMBtu NOx emissions limitations have been established based upon a manufacturer's performance guarantee. The lb/hr emission limitation has been established by multiplying the lb/MMBtu emission limitation by the emissions unit's maximum heat input capacity and is based on the worst case emission condition of 100% natural gas. (0.20 x 180 =36.0)

The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2,000 lbs/ton.

The permittee shall demonstrate initial compliance with the COG lb/MMBtu and hourly emission limitations through the emission testing methods and procedures in f)(2).

Ongoing compliance with these emissions limitations shall be demonstrated based upon the records required pursuant to d)(2), d)(8), d)(11) and d)(12).

n. **Emissions Limitations:**

CO emissions shall not exceed 0.038 lb/MMBtu when burning COG.

CO emissions shall not exceed 0.045 lb/ MMBtu when burning natural gas, a blend of natural gas and clean blast furnace gas.

CO emissions shall not exceed 8.1 lbs/hr.

CO emissions shall not exceed 35.5 tons/year.

Applicable Compliance Methods:

The lb/MMBtu emission limitation for both natural gas and clean blast furnace gas has been established based upon a manufacturer's performance guarantee. The lb/MMBtu emission limitation for COG has been established based upon the AIRS Facility Subsystem SCC and emission factor listing for Criteria Pollutants. The hourly emission limitation has been established by multiplying the lb/MMBtu emission limitation by the emissions unit's maximum heat input capacity and is based on the worst case emission condition of 100% natural gas. (0.045 x 180 = 8.1)

The permittee shall demonstrate compliance with the COG lb/MMBtu and hourly emissions limitations through the emission testing methods and procedures specified in f)(2).

The annual emissions limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided that the permittee complies with the hourly emission limitation, compliance with the annual emission limitation will also be demonstrated.

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o. Emissions Limitations:

Sulfur dioxide (SO₂) emissions shall not exceed 45.7 lbs/hr, as a 3-hour average, when burning natural gas or natural gas/blast furnace gas blend.

Sulfur dioxide (SO₂) emissions shall not exceed 49.5 lbs/hr, as a 3-hour average, when burning COG.

SO₂ emissions shall not exceed 216.8 tons/year.

Applicable Compliance Methods:

The hourly emissions limitation was established based upon the results of July, 1999 emission testing conducted while burning blast furnace/natural gas blend.

The permittee shall demonstrate compliance with the hourly emissions limitation through the emission testing methods and procedures specified in f)(2).

Ongoing compliance with the hourly emission limitation when burning COG shall be determined based on the following equation:

$$X = \frac{(Y * Z * 10) * 64 \text{ mol}/34 \text{ mol} * 1 \text{ lb}/7,000 \text{ grains}}{4}$$

X = average SO₂ emissions, as a 3-hour average

Y = H₂S content (grains/100 dry standard cubic feet) for each 12-hr block

Z = fuel consumption (1000 cubic feet) for each 12-hour block

The annual emissions limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided that the permittee complies with the hourly emission limitation, compliance with the annual emission limitation will also be demonstrated.

p. Emissions Limitation:

NOx emissions shall not exceed 403.6 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.

Applicable Compliance Method:

Compliance with this emission limitation shall be demonstrated based upon the records required pursuant to d)(2), d)(8), d)(11), and d)(12).

q. Emissions Limitation:

CO emissions shall not exceed 141.9 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.

Applicable Compliance Method:

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Compliance with this emissions limitation shall be based upon the equation specified in c)(1), the records required pursuant to d)(3), and the following emissions factors:

- For natural gas, 0.045 lb/MMBtu, based on manufacturer's guarantee.
- For clean blast furnace gas, the emission factor derived from the results of the most recent emission test that demonstrated that the emissions units were in compliance.
- For COG, 0.038 lb/MMBtu, or on the most recent test that demonstrated that the emissions units were in compliance.

r. Emissions Limitation:

VOC emissions shall not exceed 8.4 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.

Applicable Compliance Method:

Compliance with this emissions limitation shall be based upon the equation specified in c)(1), the records required pursuant to d)(3), and the following emissions factors:

- For natural gas, 5.5 lbs/mmcf, (AP-42 Section 1.4-2, July 1998)
- For clean blast furnace gas, the emission factor derived from the results of the most recent emission test that demonstrated that the emissions units were in compliance.
- For COG, 1.2 lbs/mmcf, or on the most recent test that demonstrated that the emissions units were in compliance.

s. Emissions Limitation:

PM/PM10 emissions shall not exceed 45.7 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.

Applicable Compliance Method:

Compliance with this emissions limitation shall be based upon the equation specified in c)(1), the records required pursuant to d)(3), and the following emissions factors:

- For natural gas, 0.004 lb/MMBtu, based on manufacturer's guarantee.
- For clean blast furnace gas, the emission factor derived from the results of the most recent emission test that demonstrated that the emissions units were in compliance.
- For COG, 0.012 lb/MMBtu, or on the most recent test that demonstrated that the emissions units were in compliance.

t. Emissions Limitation:

SO₂ emissions shall not exceed 500.0 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.

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Applicable Compliance Method:

Compliance with this emissions limitation shall be based upon the equation specified in c)(1), the records required pursuant to d)(3) and d)(4), and the following emissions factors:

For natural gas, 0.6 lbs/mmcf, (AP-42 Section 1.4-2, July 1998)

For clean blast furnace gas, the emission factor derived from the results of the most recent emission test that demonstrated that the emissions units were in compliance.

For COG, the following equation shall be used to determine monthly SO₂ emissions:

$$X_j = \sum_{i=1}^n (Y_i * Z_i * 10) * 64 \text{ mol}/34 \text{ mol} * 1 \text{ lb}/7,000 \text{ grains} * 1 \text{ ton}/2,000 \text{ lbs}$$

where:

X_j = total tons of SO₂ emissions per month

Y_i = H₂S content (grains/100 dry standard cubic feet) for each 12-hour block average for the month for B001-B004, combined

Z_i = total COG consumption (1000 cubic feet) for each 12-hour block for the month for B001-B004, combined

N = number of 12-hour blocks for the month

u. Emissions Limitation:

The H₂S content of the COG combusted in this emissions unit shall not exceed 50 grains of H₂S per 100 dscf of COG.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring requirements specified in d)(14).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit within 3 months of issuance of this permit, or within 3 months of installation of the new burner, whichever comes later, in accordance with the following requirements:

a. The emission testing shall be conducted to demonstrate compliance with the PM_{2.5}, PM₁₀, visible particulate, VOC, NO_x, SO₂, and CO emission limitations.

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

for PM_{2.5}, Method 201 or 201A and 202 of 40 CFR Part 51, Appendix M;

for PM₁₀, Methods 1 through 4 of 40 CFR Part 60, Appendix A, and Method 201 or 201A of 40 CFR Part 51, Appendix M;

for visible particulate emissions, Method 9 of 40 CFR 60 Appendix A;

for VOC, Methods 1 through 4 and Method 25 of 40 CFR 60 Appendix A;

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for NO_x, Methods 1 through 4 and Method 7 of 40 CFR 60, Appendix A;
for SO₂, Methods 1 through 4 and Method 6 of 40 CFR 60, Appendix A; and
for CO, Methods 1 through 4 and Method 10 of 40 CFR 60 Appendix A.

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

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

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. 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, Southeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Southeast District Office 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 emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office 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 Ohio EPA, Southeast District Office.

g) Miscellaneous Requirements

- (1) None.

2. B004, Boiler 4

Operations, Property and/or Equipment Description:

The 180 MMBtu/hr boiler is fired with natural gas, a blend of natural gas and clean blast furnace gas, or desulfurized COG. The emission unit has continuous emission monitoring for NOx and SO₂ and reduces NOx emissions when burning COG by using liquid injection. This permit is a Chapter 31 modification to 06-06309, issued July 27, 2004, based on installation of a new multi-fuel burner. This permit action does not constitute a major modification based on the actual to future projected applicability test specified in OAC rule 3745-31-01(AAAAA).

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Particulate matter (PM) and particulate matter emissions with a diameter less than 10 microns (PM10) shall not exceed 0.0145 lb/MMBtu when burning a blend of natural gas and clean blast furnace gas. PM/PM10 emissions shall not exceed 0.004 lb/MMBtu when only burning natural gas. PM/PM10 emissions shall not exceed 0.012 lb/MMBtu when burning COG. PM2.5 emissions shall not exceed 0.0145 lb/MMBtu when burning a blend of natural gas and clean blast furnace gas. PM2.5 emissions shall not exceed 0.004 lb/MMBtu when only burning natural gas. PM2.5 emissions shall not exceed 0.011 lb/MMBtu when burning COG.

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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>PM/PM10 emissions shall not exceed 2.6 lbs/hr.</p> <p>PM2.5 emissions shall not exceed 2.61 lbs/hr.</p> <p>PM/PM10 emissions shall not exceed 11.4 tons/year.</p> <p>PM2.5 emissions shall not exceed 11.4 tons/year.</p> <p>Nitrogen oxides (NOx) emissions shall not exceed 0.20 lb/MMBtu , as a 3-hour average, when burning natural gas or natural gas/blast furnace gas blend.</p> <p>Nitrogen oxides (NOx) emissions shall not exceed 0.16 lb/MMBtu , as a 3-hour average, when burning COG.</p> <p>NOx emissions shall not exceed 36.0 lbs/hr, as a 3-hour average.</p> <p>NOx emissions shall not exceed 157.7 tons/year.</p> <p>See b)(2)c.</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.045 lb/MMBtu when burning natural gas or natural gas/blast furnace gas blend.</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.038 lb/MMBtu when burning COG.</p> <p>CO emissions shall not exceed 8.1 lbs/hr.</p> <p>CO emissions shall not exceed 35.5 tons/year.</p> <p>Volatile organic compound (VOC) emissions shall not exceed 1.0 lb/hr.</p>

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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>VOC emissions shall not exceed 4.38 tons/year.</p> <p>Sulfur dioxide (SO₂) emissions shall not exceed 45.7 lbs/hr, as a 3-hour average, when burning natural gas or natural gas/blast furnace gas blend.</p> <p>Sulfur dioxide (SO₂) emissions shall not exceed 49.5 lbs/hr, as a 3-hour average, when burning COG.</p> <p>SO₂ emissions shall not exceed 216.8 tons/year.</p> <p>See b)(2)e.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), and 3745-31-05(D), and 3745-18-47(C).</p>
b.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD established in PTI 06-06309)	<p>PM/PM10 emissions shall not exceed 45.7 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.</p> <p>NOx emissions shall not exceed 403.6 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.</p> <p>CO emissions shall not exceed 141.9 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.</p> <p>VOC emissions shall not exceed 8.4 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.</p> <p>SO₂ emissions shall not exceed 500.0 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.</p>

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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-10	See Section B.3.c)
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
e.	OAC rule 3745-17-10(B)(1)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitations established pursuant to OAC rule 3745-31-05(A)(3).
f.	OAC rule 3745-18-47(C)	The hydrogen sulfide (H ₂ S) content of the COG combusted in this emissions unit shall not exceed 50 grains of H ₂ S per 100 dscf of COG.
g.	40 CFR Part 60, Subpart Db	The NO _x emission limitation specified by this rule is less stringent than or equivalent to the NO _x emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
h.	40 CFR 63.52(a)(2)	See b)(2)d.

(2) Additional Terms and Conditions

- a. For purposes of this permit, "clean blast furnace gas" is defined as blast furnace gas which has had particulate matter controlled by Severstal Wheeling, Inc. formerly Wheeling-Pittsburgh Steel's properly operating scrubber system on Blast Furnace Number 5.
- b. For purposes of this permit, "desulfurized COG" is defined as COG which has undergone H₂S removal as described in Section B.3.c).
- c. The NO_x emissions from this emissions unit shall be controlled through water injection at all times when the emissions unit is combusting COG.
- d. This emissions unit is subject to a case-by-case MACT determination pursuant to section 112(j) of the Clean Air Act (CAA) due to the June 8, 2007 D.C. Circuit Court of Appeals decision to vacate the Boiler MACT (40 CFR Part 63, Subpart DDDDD).

If notified by the Ohio EPA or U.S. EPA, the permittee shall submit an application that meets the requirements of 40 CFR 63.52(a)(2) pertaining to case-by-case MACT determinations. The 30-day clock for submittal of a 112(j) application does not begin until such notification is made by Ohio EPA or U.S. EPA.

- e. The permittee shall operate and maintain the fuel burner in accordance with the manufacturer's recommendations to ensure efficient combustion of the fuel(s)

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and to ensure compliance with the applicable emissions limitations. In accordance with the permit application, the permittee has committed to installation and operation of a burner management system and combustion control system in order to satisfy this requirement.

c) Operational Restrictions

- (1) Fuel usage in emissions units B001-B004, combined, shall not cause PM/PM10, CO, VOC, and SO₂ emissions to exceed the rolling, 12-month emissions limitations specified in b)(1)b. based on the following equation:

$$n=12$$
$$\sum_{i,j,k=1} [(X_i * Y_i) + (X_j * Y_j) + (X_k * Y_k)] / 2,000 \text{ lbs/ton}$$

Where:

X_i = emissions factor for natural gas

Y_i = monthly natural gas usage

X_j = emissions factor for clean blast furnace/natural gas blend

Y_j = monthly clean blast furnace/natural gas blend usage

X_k = emissions factor for COG*

Y_k = monthly COG usage*

See f)(1)q-t. for emissions factors to be used in this equation.

*For SO₂, in lieu of the variables X_k and Y_k above, use the equation given in f)(1)t. to determine the monthly COG SO₂ emissions.

- (2) This emissions unit shall be operated only in conjunction with the permanent shutdown of the Wheeling-Pittsburgh Steel Corporation Mingo Junction Boiler House, emissions units B005, B006, B007, B008, B009, B010, B011, and B012 under Ohio EPA premise number 0641090010.
- (3) The permittee shall burn only natural gas or a combination of natural gas and clean blast furnace gas, or desulfurized COG in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas or a combination of natural gas and clean blast furnace gas, or desulfurized COG, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (2) In order to accurately determine the heat input rates for this emissions unit, the permittee shall install, operate, and maintain equipment to continuously monitor and record the actual natural gas, clean blast furnace gas, and COG fuel flow rates to this emissions unit when the emissions unit is in operation. The permittee shall demonstrate that each fuel flowmeter used meets a flowmeter accuracy of 2.0 percent. This shall be accomplished not later than 60 days after the issuance of this permit by performing an initial transmitter accuracy test and a primary element visual inspection. Thereafter, the

permittee shall perform a transmitter accuracy test once every four fuel flowmeter quality assurance (QA) operating quarters (as defined in 40 CFR Part 72.2) and a primary element visual inspection once every 12 calendar quarters. The transmitter accuracy tests and primary element visual inspections shall be performed in accordance with the procedures specified in 40 CFR Part 75, Appendix D, Sections 2.1.6.1(a) through (c) (Transmitter Accuracy Test), 2.1.6.3 (Failure of Transmitter(s)), and 2.1.6.4 (Primary Element Inspection). If the fuel flow monitoring and/or recording equipment is (are) not in service when the emissions unit is in operation, the permittee shall comply with the appropriate missing data procedures specified in 40 CFR Part 75, Appendix D, Section 2.4.2. If the fuel flowmeter is replaced, the replacement meter shall be certified within 60 days after installation, in accordance with the procedures specified above.

- (3) The permittee shall maintain monthly records of the following information for emissions units B001, B002, B003, and B004, combined:
 - a. the total quantity of natural gas burned, in mmcf;
 - b. the total quantity of clean blast furnace gas burned, in mmcf;
 - c. the total quantity of COG burned, in mmcf;
 - e. the total PM/PM10, CO, VOC, and SO₂ emissions, in tons; and
 - f. the rolling, 12-month summations of the PM/PM10, CO, VOC, and SO₂ emissions, in tons.
- (4) The permittee shall maintain records of the total COG consumption (in 1000 cubic feet) for each 12-hour block for emissions units B001, B002, B003, and B004, combined.
- (5) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
- (6) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable range or limit for the water injection control system liquid flow rate shall be based upon the manufacturer's specifications until such time as any required

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performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.

- (7) The permittee shall properly install, operate, and maintain equipment to continuously monitor the liquid flow rate (in gallons per minute) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the flow rate on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable liquid flow rate shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) 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 the 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 flow rate 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.

These range(s) and/or limit(s) for the liquid flow rate are 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 range or limit for the liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable NO_x emission rate for these emissions units. 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 an administrative modification.

- (8) The permittee shall operate and maintain equipment to continuously monitor and record NO_x emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous NO_x monitoring system including, but not limited to:

- a. emissions of NO_x in parts per million on an instantaneous (one-minute) basis;
 - b. emissions of NO_x in all units of the applicable standard(s) in the appropriate averaging period (i.e., lb/MMBtu, lb/hr, lb/hr as a 3-hr average, tons/month, and tons/rolling, 12- month 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 NO_x 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 NO_x 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 NO_x 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).
- (9) The permittee shall maintain a written quality assurance/quality control plan for the continuous NO_x monitoring system, designed to ensure continuous valid and representative readings of NO_x emissions 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 NO_x

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.

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

- (11) The F-factor for clean blast furnace gas shall be calculated on an hourly basis in accordance with equation 19-13 of 40 CFR Part 60, Appendix A, Method 19. The heat input for clean blast furnace gas shall be calculated on an hourly basis in accordance with equation F-20 of 40 CFR 75, Appendix F. The hourly F-factor and heat input calculations shall be based upon the clean blast furnace gas constituent concentrations as measured by Severstal Wheeling, Inc. formerly Wheeling-Pittsburgh Steel, the calculated clean blast furnace gas density, and the clean blast furnace gas flow rates and stack oxygen concentrations measured by the permittee. If the permittee demonstrates to the satisfaction of the Ohio EPA that a reasonably accurate default F-factor and heat value for clean blast furnace gas may be calculated using worst-case assumptions, the permittee may submit a written request to the Ohio EPA to discontinue hourly calculations of the F-factor and heat input. The F-factor for natural gas shall be based upon the data from Table 19-1 of 40 CFR Part 60, Appendix A, Method 19. The heat input for natural gas shall be calculated in accordance with equation F-20 of 40 CFR 75, Appendix F, using a default natural gas gross calorific value found in 40 CFR 75.19(e)(6), Table LM-5, and natural gas flow rates. For COG, the F-factor shall be calculated on a monthly basis in accordance with equation 19-13 of 40 CFR Part 60, Appendix A, Method 19. The heat input for COG shall be calculated on an hourly basis in accordance with equation F-20 of 40 CFR 75, Appendix F. The monthly F-factor and hourly heat input calculations shall be based upon the COG constituent concentrations as measured by Mountain State Carbon, the calculated COG density, and the COG flow rates and stack oxygen concentrations measured by the permittee.

The combined F-factor for natural gas and clean blast furnace gas shall be calculated in accordance with equation 19-16 of 40 CFR Part 60, Appendix A, Method 19. The combined F-factor for natural gas and clean blast furnace gas shall be used in conjunction with the NO_x and SO₂ continuous monitoring systems data to determine the NO_x and SO₂ emission rates.

- (12) The permittee shall install, operate and maintain equipment to continuously monitor and record the percent oxygen in the stack serving this emissions unit when the emissions unit is in operation. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60. The monitoring and recording equipment shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
- (13) Mingo Junction Energy Center shall maintain records of all data obtained by the continuous H₂S monitoring system including, but not limited to, emissions of H₂S in units of the applicable standard in the appropriate averaging period (i.e., in grains/100 dscf on a one minute basis and as the 12-hour averages from midnight to noon and noon to midnight each day), results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.

Each day that COG is combusted in this emissions unit, the permittee shall record two consecutive 12-hour averages (midnight to noon and noon to midnight) each day from the hourly H₂S concentrations recorded by the continuous emission monitoring system. These 12-hour averages shall be the basis of determining compliance with OAC rule 3745-18-47(C).

- (14) If use of the continuous emissions monitoring system for SO₂ is discontinued, the permittee shall maintain the following records each day that COG is combusted in this emissions unit:
- a. two consecutive 12-hour averages (midnight to noon and noon to midnight) from the hourly H₂S concentrations recorded by the continuous emission monitoring system(in gr/100dscf);
 - b. the total COG consumption (in 1000 cubic feet) for each 12-hour block; and
 - c. the average SO₂ emissions, as a 3-hour average, for each 12-hour block.
- (15) The permittee shall maintain all required documentation to demonstrate that the burner management system and combustion control system are being operated within manufacturer's specifications.
- (16) The permittee shall operate and maintain equipment to continuously monitor and record SO₂ emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous SO₂ monitoring system including, but not limited to:

- a. emissions of SO₂ in parts per million on an instantaneous (one-minute) basis;

- b. emissions of SO₂ in all units of the applicable standard(s) in the appropriate averaging period (i.e., lb/hr, lb/hr as a 3-hr average, tons/month, and tons/rolling, 12-month 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 SO₂ 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 SO₂ 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 SO₂ 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).
- (17) The permittee shall maintain a written quality assurance/quality control plan for the continuous SO₂ monitoring system, designed to ensure continuous valid and representative readings of SO₂ emissions 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 SO₂ 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.
- (18) The permittee shall maintain on-site, the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous SO₂ monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6. The letter(s)/document(s) of certification shall be made available to the 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.

(19) Petition for Discontinued Use of the SO₂ Monitoring System

The permittee may petition the Director of the Ohio EPA for permission to discontinue the use of the SO₂ monitoring system if all of the following conditions are met:

- a. Ohio EPA has determined that the system meets all requirements of ORC section 3704.03(l) and 40 CFR Part 60, Appendix B, Performance Specification 2; and
- b. the SO₂ monitoring system has collected at least 180 days of valid data (after the certification of the monitoring system is completed) during which this emissions unit was operating with clean blast furnace gas as fuel; and
- c. the permittee has developed an accurate, representative SO₂ emission factor for SO₂ emissions during the use of blast furnace gas as fuel by using the SO₂ monitoring system data and has developed justification concerning why the emission factor should be used as an alternative to the SO₂ monitoring system for calculating SO₂ emissions.

The petition to the Director shall include documentation to demonstrate that the above conditions have been met.

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or clean blast furnace gas or desulfurized COG was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA, Southeast District Office by February 15 and August 15 of each year and shall cover the previous 6-month period.
- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling, 12-month PM/PM10, CO, VOC, and SO₂ emission limitations.
 - b. each period of time (start time and date, and end time and date) when the liquid flow rate was outside of the appropriate range or limit specified by the manufacturer and outside of the acceptable range for each parameter following any required compliance demonstration;
 - c. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not controlled through water injection;

- d. each incident of deviation described in “b” or “c” (above) where a prompt investigation was not conducted;
- e. each incident of deviation described in “b” or “c” where prompt corrective action, that would bring the liquid flow rate into compliance with the acceptable range, was determined to be necessary and was not taken; and
- f. each incident of deviation described in “b” or “c” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

The quarterly report shall be submitted by January 31, April 30, July 31, and October 31 and shall cover the previous calendar quarter.

- (4) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NO_x monitoring system:

- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 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 NO_x emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapters 3745-14 and 3745-23, 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).
- b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous NO_x 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 NO_x emissions for the calendar quarter (tons);
 - vi. the total NO_x emissions (in tons) for each rolling, 12-month period during the calendar quarter;
 - vii. the total operating time (hours) of the emissions unit;

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- viii. the total operating time of the continuous NO_x monitoring system while the emissions unit was in operation;
- ix. results and dates of quarterly cylinder gas audits;
- x. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- xi. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO_x monitor out-of-control and the compliant results following any corrective actions;
- xii. the date, time, and duration of any/each malfunction** of the continuous NO_x monitoring system, emissions unit, and/or control equipment;
- xiii. the date, time, and duration of any downtime** of the continuous NO_x monitoring system and/or control equipment while the emissions unit was in operation; and
- xiv. 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.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

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

- (5) The permittee shall also submit annual reports that specify the total, PM_{2.5}, PM/PM₁₀, NO_x, CO, VOC, and SO₂ emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.
- (6) The permittee shall submit quarterly excess emission reports from the COG desulfurization unit to the Ohio EPA, Southeast District Office regarding the operation of the continuous emission monitoring system for H₂S. These reports shall include all 12-hour periods above the applicable emission limitations. The report shall also include the date, magnitude (grains/100 dscf), reason (if known), and corrective action taken (if any) for each exceedance. Any continuous emission monitoring system downtime while the source is on-line shall be documented and included in the report along with any corrective action(s) taken. The quarterly report shall be submitted by January 31, April 30, July 31, and October 31 and shall cover the previous calendar quarter.

- (7) The permittee shall submit deviation (excursion) reports that identify all instances where the burner management system and combustion control system were not maintained in accordance with the manufacturer's recommendations. Each report shall be submitted within 30 days after the deviation occurs.
- (8) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO₂ 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 SO₂ 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).
 - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous SO₂ 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 SO₂ emissions for the calendar quarter (tons);
 - vi. the total SO₂ emissions (in tons) for each rolling, 12-month period during the calendar quarter;
 - vii. the total operating time (hours) of the emissions unit;
 - viii. the total operating time of the continuous SO₂ monitoring system while the emissions unit was in operation;
 - ix. results and dates of quarterly cylinder gas audits;
 - x. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));

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- xi. unless previously submitted, the results of any relative accuracy test audit showing the continuous SO₂ monitor out-of-control and the compliant results following any corrective actions;
- xii. the date, time, and duration of any/each malfunction** of the continuous SO₂ monitoring system, emissions unit, and/or control equipment;
- xiii. the date, time, and duration of any downtime** of the continuous SO₂ monitoring system and/or control equipment while the emissions unit was in operation; and
- xiv. 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.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

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

- (9) If use of the continuous emissions monitoring system for SO₂ is discontinued, the permittee shall submit quarterly deviation (excursion) reports of all exceedances, when COG is burned, of the allowable SO₂ emissions, as a 3-hour average. The quarterly report shall be submitted by January 31, April 30, July 31, and October 31 and shall cover the previous calendar quarter.

f) Testing Requirements

- (1) Compliance with the emissions limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitation:

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

Applicable Compliance Method:

Compliance with the visible particulate emissions limitation shall be determined according to USEPA Method 9.

- b. Emissions Limitation:

PM/PM10 emissions shall not exceed 0.004 lb/MMBtu when only burning natural gas.

Applicable Compliance Method:

This emissions limitation has been established based upon manufacturer's data for natural gas combustion.

If required, the permittee shall demonstrate compliance with this emissions limitation through the emission testing methods and procedures specified in f)(2) while burning only natural gas.

c. Emissions Limitation:

PM/PM10 emissions shall not exceed 0.0145 lb/MMBtu when burning a blend of natural gas and clean blast furnace gas.

Applicable Compliance Method:

This emissions limitation has been established based upon a manufacturer's performance guarantee. The worst-case emission condition is the combustion of 95% clean blast furnace gas (0.0151 lb/ MMBtu) and 5% natural gas (0.004 lb/MMBtu). $0.0151 \times 0.95 + 0.004 \times 0.05 = 0.0145$ lb/MMBtu

If required, compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

d. Emissions Limitation:

PM/PM10 emissions shall not exceed 0.012 lb/MMBtu when only burning COG.

Applicable Compliance Method:

This emissions limitation has been established based upon AP-42 Table 12.5-1(October 1986).

Compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

e. Emissions Limitation:

PM2.5 emissions shall not exceed 0.011 lb/MMBtu when burning COG.

Applicable Compliance Method:

This emissions limitation has been established based upon AP-42 Table 12.2-19 (combustion stack) (October 1986) (0.94*PM).

Compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

f. Emissions Limitation:

PM2.5 emissions shall not exceed 0.0145 lb/MMBtu when burning a blend of natural gas and clean blast furnace gas.

Applicable Compliance Method:

This emissions limitation has been established based upon a manufacturer's performance guarantee. The worst-case emission condition is the combustion of 95% clean blast furnace gas (0.0151 lb/ MMBtu) and 5% natural gas (0.004 lb/MMBtu). $0.0151 \times 0.95 + 0.004 \times 0.05 = 0.0145$ lb/MMBtu

Compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

g. Emissions Limitation:

PM2.5 emissions shall not exceed 0.004 lb/MMBtu when burning only natural gas.

Applicable Compliance Method:

This emissions limitation has been established based upon manufacturer's data for natural gas combustion.

Compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

h. Emissions Limitation:

PM/PM10 emissions shall not exceed 11.4 tons/year.

Applicable Compliance Method:

This emissions limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided that the permittee complies with the hourly emission limitation, compliance with this emission limitation will also be demonstrated.

i. Emissions Limitation:

PM/PM10 emissions shall not exceed 2.6 lbs/hr.

Applicable Compliance Method:

This emissions limitation has been established based upon a manufacturer's performance guarantee. The worst-case emission condition is the combustion of

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95% clean blast furnace gas (0.0151 lb/ MMBtu) and 5% natural gas (0.004 lb/ MMBtu). $180 \times [(0.0151 \times 0.95 + 0.004 \times 0.05)] = 2.6 \text{ lbs/hr.}$

The permittee shall demonstrate compliance through the emission testing methods and procedures specified in f)(2).

j. Emissions Limitation:

PM2.5 emissions shall not exceed 2.61 lbs/hr.

Applicable Compliance Method:

This emissions limitation has been established based upon a manufacturer's performance guarantee. The worst-case emission condition is the combustion of 95% clean blast furnace gas (0.0151 lb/ MMBtu) and 5% natural gas (0.004 lb/ MMBtu). $180 \times [(0.0151 \times 0.95 + 0.004 \times 0.05)] = 2.61 \text{ lbs/hr.}$

Compliance with this emissions limitation shall be determined through the emission testing methods and procedures specified in f)(2).

k. Emissions Limitation:

PM2.5 emissions shall not exceed 11.43 tons/year.

Applicable Compliance Method:

The annual emissions limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided that the permittee complies with the hourly emission limitation, compliance with the annual emission limitation will also be demonstrated.

l. Emissions Limitations:

VOC emissions shall not exceed 1.0 lb/hr.
VOC emissions shall not exceed 4.38 tons/year.

Applicable Compliance Methods:

The hourly emissions limitation has been established by multiplying the maximum gas burning capacity of the emissions unit by the AP-42 emission factor of 5.5 lbs VOC/MMSCF (Table 1.4-2, July, 1998) and is based on the worst case emission condition of 100% natural gas.

$180 \text{ MMBtu/hr} \times 5.5 \text{ lbs/MMCF} / 1000 \text{ MMBtu/MMCF} = 1.0 \text{ lb/hr.}$

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing methods and procedures specified in f)(2).

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The annual emissions limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided that the permittee complies with the hourly emission limitation, compliance with the annual emission limitation will also be demonstrated.

m. Emissions Limitations:

NOx emissions shall not exceed 0.16 lb/MMBtu, as a 3-hour average, when burning COG.

NOx emissions shall not exceed 0.20 lb/MMBtu, as a 3-hour average, when burning natural gas or a blend of natural gas and clean blast furnace gas.

NOx emissions shall not exceed 36.0 lbs/hr, as a 3-hour average.

NOx emissions shall not exceed 157.7 tons/year.

Applicable Compliance Methods:

The lb/MMBtu NOx emissions limitations have been established based upon a manufacturer's performance guarantee. The lb/hr emission limitation has been established by multiplying the lb/MMBtu emission limitation by the emissions unit's maximum heat input capacity and is based on the worst case emission condition of 100% natural gas. (0.20 x 180 =36.0)

The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2,000 lbs/ton.

The permittee shall demonstrate initial compliance with the COG lb/MMBtu and hourly emission limitations through the emission testing methods and procedures in f)(2).

Ongoing compliance with these emissions limitations shall be demonstrated based upon the records required pursuant to d)(2), d)(8), d)(11) and d)(12).

n. Emissions Limitations:

CO emissions shall not exceed 0.038 lb/MMBtu when burning COG.

CO emissions shall not exceed 0.045 lb/ MMBtu when burning natural gas, a blend of natural gas and clean blast furnace gas.

CO emissions shall not exceed 8.1 lbs/hr.

CO emissions shall not exceed 35.5 tons/year.

Applicable Compliance Methods:

The lb/MMBtu emission limitation for both natural gas and clean blast furnace gas has been established based upon a manufacturer's performance guarantee. The lb/MMBtu emission limitation for COG has been established based upon the AIRS Facility Subsystem SCC and emission factor listing for Criteria Pollutants. The hourly emission limitation has been established by multiplying the lb/MMBtu emission limitation by the emissions unit's maximum heat input capacity and is

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based on the worst case emission condition of 100% natural gas. (0.045 x 180 = 8.1)

The permittee shall demonstrate compliance with the COG lb/MMBtu and hourly emissions limitations through the emission testing methods and procedures specified in f)(2).

The annual emissions limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided that the permittee complies with the hourly emission limitation, compliance with the annual emission limitation will also be demonstrated.

o. Emissions Limitations:

SO₂ emissions shall not exceed 45.7 lbs/hr, as a 3-hour average, when burning natural gas or natural gas/blast furnace gas blend.

SO₂ emissions shall not exceed 49.5 lbs/hr, as a 3-hour average, when burning COG.

SO₂ emissions shall not exceed 216.8 tons/year.

Applicable Compliance Methods:

The hourly emissions limitation was established based upon the results of July, 1999 emission testing conducted while burning blast furnace/natural gas blend.

The permittee shall demonstrate compliance with the hourly emissions limitation through the emission testing methods and procedures specified in f)(2).

Ongoing compliance with these emissions limitations shall be demonstrated based upon the records required pursuant to d)(2), d)(12), d)(16), d)(17) and d)(18).

If use of the continuous emissions monitoring system for SO₂ is discontinued, ongoing compliance with the hourly emission limitation when burning COG shall be determined based on the following equation:

$$X = \frac{(Y * Z * 10) * 64 \text{ mol}/34 \text{ mol} * 1 \text{ lb}/7,000 \text{ grains}}{4}$$

X = average SO₂ emissions, as a 3-hour average

Y = H₂S content (grains/100 dry standard cubic feet) for each 12-hr block

Z = fuel consumption (1000 cubic feet) for each 12-hour block

The annual emissions limitation was established by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided that the permittee complies with the hourly emission limitation, compliance with the annual emission limitation will also be demonstrated.

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p. Emissions Limitation:

NOx emissions shall not exceed 403.6 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.

Applicable Compliance Method:

Compliance with this emission limitation shall be demonstrated based upon the records required pursuant to d)(2), d)(8), d)(11), and d)(12).

q. Emissions Limitation:

CO emissions shall not exceed 141.9 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.

Applicable Compliance Method:

Compliance with this emissions limitation shall be based upon the equation specified in c)(1), the records required pursuant to d)(3), and the following emissions factors:

For natural gas, 0.045 lb/MMBtu, based on manufacturer's guarantee.

For clean blast furnace gas, the emission factor derived from the results of the most recent emission test that demonstrated that the emissions units were in compliance.

For COG, 0.038 lb/MMBtu, or on the most recent test that demonstrated that the emissions units were in compliance.

r. Emissions Limitation:

VOC emissions shall not exceed 8.4 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.

Applicable Compliance Method:

Compliance with this emissions limitation shall be based upon the equation specified in c)(1), the records required pursuant to d)(3), and the following emissions factors:

For natural gas, 5.5 lbs/mmcf, (AP-42 Section 1.4-2, July 1998)

For clean blast furnace gas, the emission factor derived from the results of the most recent emission test that demonstrated that the emissions units were in compliance.

For COG, 1.2 lbs/mmcf, or on the most recent test that demonstrated that the emissions units were in compliance.

s. Emissions Limitation:

PM/PM10 emissions shall not exceed 45.7 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.

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Applicable Compliance Method:

Compliance with this emissions limitation shall be based upon the equation specified in c)(1), the records required pursuant to d)(3), and the following emissions factors:

- For natural gas, 0.004 lb/MMBtu, based on manufacturer's guarantee.
- For clean blast furnace gas, the emission factor derived from the results of the most recent emission test that demonstrated that the emissions units were in compliance.
- For COG, 0.012 lb/MMBtu, or on the most recent test that demonstrated that the emissions units were in compliance.

t. Emissions Limitation:

SO₂ emissions shall not exceed 500.0 tons/rolling, 12-month period, for emissions units B001, B002, B003, and B004, combined.

Applicable Compliance Method:

Compliance with this emissions limitation shall be based upon the equation specified in c)(1), the records required pursuant to d)(3) and d)(4), and the following emissions factors:

- For natural gas, 0.6 lbs/mmmcf, (AP-42 Section 1.4-2, July 1998)
- For clean blast furnace gas, the emission factor derived from the results of the most recent emission test that demonstrated that the emissions units were in compliance.
- For COG, the following equation shall be used to determine monthly SO₂ emissions:

$$X_j = \sum_{i=1}^n (Y_i * Z_i * 10) * 64 \text{ mol}/34 \text{ mol} * 1 \text{ lb}/7,000 \text{ grains} * 1 \text{ ton}/2,000 \text{ lbs}$$

where:

- X_j = total tons of SO₂ emissions per month
- Y_i = H₂S content (grains/100 dry standard cubic feet) for each 12-hour block average for the month for B001-B004, combined
- Z_i = total COG consumption (1000 cubic feet) for each 12-hour block for the month for B001-B004, combined
- N = number of 12-hour blocks for the month

u. Emissions Limitation:

The H₂S content of the COG combusted in this emissions unit shall not exceed 50 grains of H₂S per 100 dscf of COG.

Applicable Compliance Method:

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Compliance shall be demonstrated based upon the monitoring requirements specified in d)(13).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit within 3 months of issuance of this permit, or within 3 months of installation of the new burner, whichever comes later, in accordance with the following requirements:

- a. The emission testing shall be conducted to demonstrate compliance with the PM_{2.5}, PM₁₀, visible particulate, VOC, NO_x, SO₂, and CO emission limitations.
- b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

for PM_{2.5}, Method 201 or 201A and 202 of 40 CFR Part 51, Appendix M;
for PM₁₀, Methods 1 through 4 of 40 CFR Part 60, Appendix A, and Method 201 or 201A of 40 CFR Part 51, Appendix M;
for visible particulate emissions, Method 9 of 40 CFR 60 Appendix A;
for VOC, Methods 1 through 4 and Method 25 of 40 CFR 60 Appendix A;
for NO_x, Methods 1 through 4 and Method 7 of 40 CFR 60, Appendix A;
for SO₂, Methods 1 through 4 and Method 6 of 40 CFR 60, Appendix A; and
for CO, Methods 1 through 4 and Method 10 of 40 CFR 60 Appendix A.

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

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

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. 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, Southeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Southeast District Office 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 emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written

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report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.

g) Miscellaneous Requirements

(1) None.