



west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

September 22, 2015

CERTIFIED MAIL

91 7199 9991 7034 1378 6386

Mr. Lawrence R. Hermes
Vice President and CFO
Mountain State Carbon, LLC
1851 Main Street
Follansbee, WV 26037

Re: Mountain State Carbon, LLC
Follansbee Coke Plant
Permit No. R13-2591E
Plant ID No. 009-00002

Dear Mr. Hermes:

Your application for a permit as required by Section 5 of 45CSR13 - "Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permit, General Permit, and Procedures for Evaluation" has been approved. The enclosed permit R13-2591E is hereby issued pursuant to Subsection 5.7 of 45CSR13. Please be aware of the notification requirements in the permit which pertain to commencement of construction, modification, or relocation activities; startup of operations; and suspension of operations.

The source is subject to 45CSR30. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

In accordance with 45CSR30- Operating Permit Program, the permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

Promoting a healthy environment.

Permit Cover Letter to Mr. Hermes
September 22, 2015
Page 2 of 2

Should you have any questions or comments, please contact me at (304) 926-0499, extension 1214.

Sincerely,



Edward S. Andrews, P.E.
Engineer

Enclosures

c: WVDEP - Division of Air Quality, NRPO
Patrick Smith, Environmental Manager

West Virginia Department of Environmental Protection
Earl Ray Tomblin
Governor

Division of Air Quality

Randy C. Huffman
Cabinet Secretary

Permit to Administratively Update



R13-2591E

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

**Mountain State Carbon LLC
Follansbee Coke Plant
009-00002**

A handwritten signature in blue ink, appearing to read "William F. Durham", written over a horizontal line.

William F. Durham
Director

Issued: September 22, 2015

This permit will supercede and replace Permit R13-2591D.

Facility Location: 1851 Main Street (State Route 2)
Follansbee, Brooke County, West Virginia

Mailing Address: P.O. Box 670
Follansbee, WV 26037

Facility Description: Metallurgical Coke Manufacturing Plant

NAICS Codes: 324199

UTM Coordinates: 553.4 km Easting • 4,465.8 km Northing • Zone 17

Permit Type: Class II Administrative Update

Description of Change: This action is to “replace the term “average heat content” with “nominal lower heating value” in Conditions 4.1.2. though 4.1.4. and correct an citation error in Condition 4.4.5.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

The source is subject to 45CSR30. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

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1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S1	E3	Boiler #9 with oxygen trim system		98 MMBtu/hr	None
S2	E1	Boiler #6 with oxygen trim system		98 MMBtu/hr	None
S3	E1	Boiler #7 with oxygen trim system		98 MMBtu/hr	None
S4	E2	Boiler #8 (Natural Gas Fired)	2014	78.5 MMBtu/hr	None
S5	E4	Boiler #10 with oxygen trim system		98 MMBtu/hr	None
S6	E5	Stand-by Diesel Generator		350 kW	None
1S _a	1E _a	South Quench Tower		175 TPH	None
1S _b	1E _b	North Backup Quench Tower		175 TPH	None

2.0. General Conditions

2.1. Definitions

- 2.1.1. All references to the “West Virginia Air Pollution Control Act” or the “Air Pollution Control Act” mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The “Clean Air Act” means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. “Secretary” means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary’s designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NO_x	Nitrogen Oxides
CBI	Confidential Business Information	NSPS	New Source Performance Standards
CEM	Continuous Emission Monitor	PM	Particulate Matter
CES	Certified Emission Statement	PM_{2.5}	Particulate Matter less than 2.5 µm in diameter
C.F.R. or CFR	Code of Federal Regulations	PM₁₀	Particulate Matter less than 10µm in diameter
CO	Carbon Monoxide	Ppb	Pounds per Batch
C.S.R. or CSR	Codes of State Rules	Pph	Pounds per Hour
DAQ	Division of Air Quality	Ppm	Parts per Million
DEP	Department of Environmental Protection	Ppm_v or ppmv	Parts per Million by Volume
dscm	Dry Standard Cubic Meter	PSD	Prevention of Significant Deterioration
FOIA	Freedom of Information Act	Psi	Pounds per Square Inch
HAP	Hazardous Air Pollutant	SIC	Standard Industrial Classification
HON	Hazardous Organic NESHAP	SIP	State Implementation Plan
HP	Horsepower	SO₂	Sulfur Dioxide
lbs/hr	Pounds per Hour	TAP	Toxic Air Pollutant
LDAR	Leak Detection and Repair	TPY	Tons per Year
M	Thousand	TRS	Total Reduced Sulfur
MACT	Maximum Achievable Control Technology	TSP	Total Suspended Particulate
MDHI	Maximum Design Heat Input	USEPA	United States Environmental Protection Agency
MM	Million	UTM	Universal Transverse Mercator
MMBtu/hr or mmbtu/hr	Million British Thermal Units per Hour	VEE	Visual Emissions Evaluation
MMCF/hr or mmcf/hr	Million Cubic Feet per Hour	VOC	Volatile Organic Compounds
NA	Not Applicable	VOL	Volatile Organic Liquids
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Act W.Va. Code §§ 22-5-1, et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation;*
- 2.3.2. 45CSR14 – *Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration;*
- 2.3.3. 45CSR19 – *Requirements for Pre-Construction Review, Determination of Emission Offsets for Proposed New or Modified Stationary Sources of Air Pollution and Emission Trading for Intrasource Pollutants.*

2.4. Term and Renewal

- 2.4.1. This permit supersedes and replaces previously issued Permit R13-2591D. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13- R13-2591, R13-2591A, R13-2591C, R13-2591D, R13-2591E, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and 10.3.]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along

with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. Emergency

- 2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate

corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

- 2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.
- 2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
 - d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- 2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- 2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. [45CSR§13-10.1.]

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1] *[State Enforceable Only]*
- 3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]
- 3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

[Reserved]

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary

exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language;
 2. The result of the test for each permit or rule condition; and,
 3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded

in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

- 3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§4. *State Enforceable Only.*]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

If to the US EPA:

Associate Director
Office of Air Enforcement and Compliance Assistance
(3AP20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. Operating Fee

- 3.5.4.1. In accordance with 45CSR30 – Operating Permit Program, the permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

- 3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. This permit shall establish the requirements and operating limits associated with the emission sources, pollution control equipment, and associated emission points listed in the following table:

Table 4.1.1.				
Emission Source		Proposed Activity	Control Device	Emission Point ID No.
ID No.	Description			
S1	Boiler #9	New Construction (R13-2591)	None	E3
S2	Boiler #6	Increase Capacity (R13-2591)	None	E1
S3	Boiler #7	Increase Capacity (R13-2591)	None	E1
S4	Boiler #8	Increase Capacity (R13-2591)	None	E2
S5	Boiler #10	New Construction (R13-2591)	None	E4
S6	Standby Diesel Gen.	New Construction (R13-2591)	None	E5
1S _a	South quench tower	None	None	1E _a
1S _b	North quench tower (backup)	New Construction (R13-2591A)	None	1E _b

4.1.2. The following operating limits and conditions are specific to the construction of Boiler #9 (Source S1):

- a. The primary fuel shall be coke oven gas with a nominal lower heating value of 489 Btu per cubic foot and a monthly average hydrogen sulfide concentration of 40 grains per 100 standard cubic feet. Natural gas, with an average rating of 1,000 Btu per cubic foot, shall be available as a secondary fuel to the boiler.
- b. Coke oven gas with an increased hydrogen sulfide concentration having a daily average of 275 grains per 100 standard cubic feet shall be burned during periods of desulfurization maintenance. The duration of the desulfurization maintenance outages shall not exceed 528 hours per year.
- c. The maximum heat input shall be limited to 98 MMBtu per hour and 858,480 MMBtu per year.
- d. The emissions from Source S1 shall be vented through Emission Point E3.
- e. The coke oven gas supply pipeline shall be sampled with a continuous monitoring system (CMS) for the purpose of monitoring the hydrogen sulfide content of the coke oven gas fired in the boiler.

- f. Emissions vented through Emission Point E3 shall be limited to the following pollutants and associated emission rates shown in Table 4.1.2.f.:

Table 4.1.2.f. Emission Limits for Boiler #9			
Pollutant	Emission Factor	Proposed Emissions	
		Hourly (lbs/hr)	Annual⁴ (tons/yr)
CO	18.4 lb/MMCF ¹	3.7	16.2
NO _x	80 lb/MMCF ¹	16.1	70.3
SO ₂	Routine Operation ²	27.0	127.9
	Desulfurization/Maintenance ³	148.2	
PM	0.012 lb/MMBtu	1.2	5.2
PM ₁₀	0.012 lb/MMBtu	1.2	5.2
VOC	1.2 lb/MMCF	0.3	1.1

- 1- Emission factor specific to the combustion of coke oven gas.
 2- Based on COG with a maximum H₂S concentration of 50 grains per 100 standard cubic feet.
 3- Based on COG with a maximum H₂S concentration of 275 grains per 100 standard cubic feet.
 4- Annual emissions are based on a total of routine operations for 8,232 hours and the desulfurization maintenance for 528 hours.

- 4.1.3. The following operating limits and conditions are specific to the construction of Boiler #10 (Source S5):

- a. The primary fuel shall be coke oven gas with a nominal lower heating value of 489 Btu per cubic foot and a monthly average hydrogen sulfide concentration of 40 grains per 100 standard cubic feet. Natural gas, with an average rating of 1,000 Btu per cubic foot, shall be available as a secondary fuel to the boiler.
- b. Coke oven gas with an increased hydrogen sulfide concentration having a daily average of 275 grains per 100 standard cubic feet shall be burned during periods of desulfurization maintenance. The duration of the desulfurization maintenance outages shall not exceed 528 hours per year.
- c. The maximum heat input shall be limited to 98 MMBtu per hour and 858,480 MMBtu per year.
- d. The emissions from Source S5 shall be vented through Emission Point E4.
- e. The coke oven gas supply pipeline shall be sampled with a continuous monitoring system (CMS) for the purpose of monitoring the hydrogen sulfide content of the coke oven gas fired in the boiler.
- f. Emissions vented through Emission Point E5 shall be limited to the following pollutants and associated emission rates shown in Table 4.1.3.f:

Table 4.1.3.f. Emission Limits for Boiler #10			
Pollutant	Emission Factor	Proposed Emissions	
		Hourly (lbs/hr)	Annual⁴ (tons/yr)
CO	18.4 lb/MMCF1	3.7	16.2
NO _x	80 lb/MMCF ¹	16.1	70.3
SO ₂	Routine Operation ²	27.0	127.9
	Desulfurization/Maintenance ³	148.2	
PM	0.012 lb/MMBtu	1.2	5.2
PM ₁₀	0.012 lb/MMBtu	1.2	5.2
VOC	1.2 lb/MMCF	0.3	1.1

- 1- Emission factor specific to the combustion of coke oven gas.
- 2- Based on COG with a maximum H₂S concentration of 50 grains per 100 standard cubic feet.
- 3- Based on COG with a maximum H₂S concentration of 275 grains per 100 standard cubic feet.
- 4- Annual emissions are based on a total of routine operations for 8,232 hours and the desulfurization maintenance for 528 hours.

4.1.4. The following operating limits and conditions are specific to the construction of Boiler #6 (Source S2) and Boiler #7 (Source S3):

- a. The primary fuel shall be coke oven gas with a nominal lower heating value of 489 Btu per cubic foot and a monthly average hydrogen sulfide concentration of 40 grains per 100 standard cubic feet. Natural gas, with an average rating of 1,000 Btu per cubic foot, shall be available as a secondary fuel to the boiler.
- b. Coke oven gas with an increased hydrogen sulfide concentration having a daily average of 275 grains per 100 standard cubic feet shall be burned during periods of desulfurization maintenance. The duration of the desulfurization maintenance outages shall not exceed 528 hours per year.
- c. The maximum heat input shall be limited to 90 MMBtu per hour and 788,400 MMBtu per year.
- d. The emissions from Source S2 and Source S3 shall be vented through Emission Point E1.
- e. The coke oven gas supply pipeline shall be sampled with a continuous monitoring system (CMS) for the purpose of monitoring the hydrogen sulfide content of the coke oven gas fired in the boiler.
- f. Emissions vented though Emission Point E1 shall be limited to the following pollutants and associated emission rates shown in Table 4.1.4.f:

Table 4.1.4.f. Emission Limits for Boilers #6 & #7 through Emission Point E1			
Pollutant	Emission Factor	Proposed Emissions	
		Hourly (lbs/hr)	Annual⁴ (tons/yr)
CO	18.4 lb/MMCF ¹	6.8	29.7
NO _x	0.16 lb/MMBtu ¹	29.5	129.0
SO ₂	Routine Operation ²	49.5	234.8
	Desulfurization/Maintenance ³	272.3	
PM	0.012 lb/MMBtu	2.2	9.5
PM ₁₀	0.012 lb/MMBtu	2.2	9.5
VOC	1.2 lb/MMCF	0.5	2.0

- 1- Emission factor specific to the combustion of coke oven gas.
- 2- Based on COG with a maximum H₂S concentration of 50 grains per 100 standard cubic feet.
- 3- Based on COG with a maximum H₂S concentration of 275 grains per 100 standard cubic feet.
- 4- Annual emissions are based on a total of routine operations for 8,232 hours and the desulfurization maintenance for 528 hours.

- 4.1.5. The following conditions and requirements are specific to Boiler #8:
- a. CO emissions emitted to the atmosphere from the boiler shall not exceed 6.6 pounds per hour with an annual rate not to exceed 28.9 tpy. Compliance with this limit shall be satisfied by optimization of the CO concentration from the unit during the tune-up as required in Condition 4.1.7. and satisfying item d of this condition.
 - b. NO_x emissions emitted to the atmosphere from the boiler shall not exceed 7.9 pounds per hour with an annual rate not to exceed of 34.4 tons per year. Compliance with this limit is satisfied by verifying the manufacturer’s NO_x emission setting and/or specification, if available, during the tune-up of the unit. Compliance with the annual limit is satisfied by complying with item d of this condition.
 - c. The boiler shall only be fired with pipeline quality natural gas. This condition satisfies compliance with the limitations of 45CSR§2-3.1., 45CSR§2-4.1.b., and 45CSR§10-3.1.e.
 - d. The heat input of the boiler shall not be greater than 78.5 MMBtu/hr. Compliance with this limit for each boiler shall be satisfied by limiting the annual consumption of natural gas to 687.7 MM cubic feet, measured as a rolling 12 month rolling total.
[45CSR§2A-3.1.a., 45CSR§10-10.3., and 45CSR§10A-3.1.b.]
- 4.1.6. Visible emissions from Emission Points E1, E2, E3, and E4 shall not exceed a maximum of 10% opacity on a 6-minute averaging period except as authorized per 45CSR2, Section 3.3.
[45CSR§2-3.1]
- 4.1.7. The permittee shall conduct an annual tune-up for each applicable boiler listed in Table 1.0 with the initial tune-up to complete by no later than January 31, 2016 (40 CFR §63.7510(e) in accordance with the applicable requirements of 40 CFR 63, Subpart DDDDD. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar

days of startup. Subsequent tune-ups shall be no more than 13 months after previous tune-up and shall consist of the following:

- i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (permittee may delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
- ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
- iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);
- iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications,
- v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

[40 CFR §63.7500(a)(1), §63.7505(a), §63.7510(e), §63.7515(d), §63.7540(a)(10), and Table 3 to Subpart DDDDD of Part 63—Work Practice Standards]

4.1.8. The permittee shall conduct a one-time energy assessment of the facility which shall include applicable boilers listed in Table 1.0. of this permit, as specified in Table 3 of 40 CFR 63 Subpart DDDDD. Pursuant to 40 CFR §63.7510(e), the energy assessment shall be completed no later than January 31, 2016.

[40 CFR §63.7500(a)(1), §63.7505(a), and Table 3 of 40 CFR 63 Subpart DDDDD]

4.1.9. The following operating limits and conditions are specific to the construction of the Emergency Diesel Engine-powered Generator (Source S6):

- a. The generator shall be powered by a diesel engine with a maximum output rating of 527 horsepower (350 kilowatts).
- b. The maximum fuel consumption rate of the generator shall be limited to 24.7 gallons per hour and 12,350 gallons per year.
- c. The maximum annual operating schedule of the generator shall not exceed 500 hours per year.
- d. The emissions from Source S6 shall be vented through Emission Point E5.

4.1.10. The permitted quenching operation shall comply with the following applicable requirements of 40CFR63, Subpart CCCCC - *National Emissions Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks*, with the exception of any more stringent limitations set forth in this permit.

§ 63.7295 What requirements must I meet for quenching?

- a. You must meet the requirements in paragraphs (a)(1) and (2) of this section for each quench tower and backup quench station at a new or existing coke oven battery.
 1. For the quenching of hot coke, you must meet the requirements in paragraph (a)(1)(i) or (ii) of this section.
 - i. The concentration of total dissolved solids (TDS) in the water used for quenching must not exceed 1,100 milligrams per liter (mg/L); or
 - ii. The sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in the water used for quenching must not exceed the applicable site-specific limit approved by the permitting authority.
 2. You must use acceptable makeup water, as defined in §63.7352, as makeup water for quenching.
 - b. For each quench tower at a new or existing coke oven battery and each backup quench station at a new coke oven battery, you must meet each of the requirements in paragraphs (b)(1) through (4) of this section.
 1. You must equip each quench tower with baffles such that no more than 5 percent of the cross sectional area of the tower may be uncovered or open to the sky.
 2. You must wash the baffles in each quench tower once each day that the tower is used to quench coke, except as specified in paragraphs (b)(2)(i) and (ii) of this section.
 - i. You are not required to wash the baffles in a quench tower if the highest measured ambient temperature remains less than 30 degrees Fahrenheit throughout that day (24-hour period). If the measured ambient temperature rises to 30 degrees Fahrenheit or more during the day, you must resume daily washing according to the schedule in your operation and maintenance plan.
 - ii. You must continuously record the ambient temperature on days that the baffles were not washed.
 3. You must inspect each quench tower monthly for damaged or missing baffles and blockage.
 4. You must initiate repair or replacement of damaged or missing baffles within 30 days and complete as soon as practicable.
 - c. As provided in §63.6(g), you may request to use an alternative to the work practice standards in paragraph (b) of this section.
- 4.1.11. The following operating limits and conditions are specific to the operation of the South Quench Tower (Source 1S_a) and the backup North Quench Tower (Source 1S_b) employed by Battery No. 8:
- a. Coke product from Battery No. 8 shall be charged to the South Quench Tower or the backup North Quench Tower. Coke product shall never be charged to both quench towers simultaneously.
 - b. The facility shall provide makeup water from MACT acceptable sources as defined by 40CFR63.7352. *Acceptable makeup water* means surface water from a river, lake, or stream; water meeting drinking water standards; storm water runoff and production area clean up

water except for water from the by-product recovery plant area; process wastewater treated to meet effluent limitations guidelines in 40 CFR part 420; water from any of these sources that has been used only for non-contact cooling or in water seals; or water from scrubbers used to control pushing emissions. [§ 63.7295(a)(2)]

- c. The makeup water administered in the quenching process shall have a total dissolved solids concentration less than 800 milligrams per liter and total suspended solids concentration of less than 100 milligrams per liter. [45 CSR 7, Section 3.4.g.]
- d. Product charged to the quench towers shall not exceed a maximum hourly rate of 175 tons per hour, or a total combined maximum annual rate of 1,238,376 tons per year.
- e. The total combined emissions vented through Emission Point 1E_a and 1E_b shall be limited to the pollutants and associated emission rates shown in the following Table 4.1.9.5:

Table 4.1.10.e. Emission Limits for Quench Towers		
Pollutant	Proposed Emissions²	
	Hourly (lbs/hr)	Annual¹ (tons/yr)
PM	94.5	334.4
PM ₁₀	9.3	32.8
Benzo(a)Pyrene	0.03	0.1
Naphthalene	0.03	0.1
Benzene	0.02	0.05
Lead	0.01	0.003

1- Annual emissions are based on a maximum permitted throughput of 1,238,376 tons per year.
 2- All emission rates based on AP-42 emission standards

- 4.1.12. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary. [45CSR§13-5.11.]

4.2. Monitoring Requirements

- 4.2.1. 4.2.1. For the purpose of determining compliance with the operating and emission limits set forth by Section 4.1.2., 4.1.3, 4.1.4, and 4.1.5., of this permit, the permittee shall monitor the fuel consumption and operating schedule of Sources S1, S2, S3, and S5. Such records shall be maintained in accordance with Condition 3.4.1. of this permit.
- 4.2.2. For the purpose of determining compliance with the continuous hydrogen sulfide monitoring requirements set forth by Section 4.1.2., 4.1.3., and 4.1.4. of this permit, the permittee shall operate and maintain existing continuous hydrogen sulfide monitors in accordance with the requirements set forth by 40 CFR 60.13; 40 CFR Part 60, Appendix B - Performance

Specifications 7; and 40 CFR Part 60, Appendix F - Quality Assurance Procedure Number 1. Such records shall be maintained in accordance with Condition 3.4.1. of this permit.

- 4.2.3. For each month, the permittee shall record the hours of operation and amount of natural gas consumed by the Boiler #8 (S4) and shall calculate the rolling yearly total of natural gas consumed. Such records shall be maintained in accordance with Condition 3.4.1. of this permit. [40 CFR §60.48c(g)(2) and 45CSR§2A-7.1.a.1.
- 4.2.4. For the purpose of determining compliance with the baffle washing requirements set forth in Section 4.1.8. of this permit, the baffles must be washed once each day that the tower is employed in the coke quenching operation, except during periods when the ambient temperature remains less than 30 degrees Fahrenheit throughout that day (24-hour period). During days that the baffles are not washed, the permittee shall conduct continuous monitoring of the ambient temperature.
- 4.2.5. For the purpose of determining compliance with the throughput limits set forth in Condition item 4.1.10. of this permit, the permittee shall monitor the maximum averaged hourly and total annual coke product through the quench towers.
- 4.2.6. For the purpose of determining compliance with the water quality requirements set forth by items b. and c. of Condition 4.1.10. of this permit, and the particulate matter emission limits set forth by item e of Condition 4.1.10. of this permit, the permittee shall monitor the concentration of total dissolved solids and total suspended solids within the makeup water supplied to the quench towers. The permittee shall conduct monthly water quality testing. Testing shall be performed to determine the maximum concentration of total dissolved solids within the makeup water feed. Such records shall be maintained in accordance with Condition 3.4.1. of this permit.

4.3. Testing Requirements

4.3.1.

4.4. Recordkeeping Requirements

- 4.4.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit, and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.
- 4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
- 4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and

duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
 - f. Steps taken to correct the malfunction.
 - g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
- 4.4.4. For the purpose of documenting the monitoring requirements associated with the quench towers set forth in Conditions 4.2.4., 4.2.5., and 4.2.6. of this permit, the permittee shall maintain the following records in accordance with Condition 3.4.1.:
- a. Operating schedule of each quench tower.
 - b. Total dissolved solids concentration and total suspended solids concentration of makeup water.
 - c. Baffle inspection and cleaning, and the ambient temperature when applicable.
- 4.4.5. The permittee shall keep the following records in accordance with 40CFR§63.7555. This includes but not limited to the following information during the tune-up as required in Condition 4.1.7. and 40 CFR §63.7540:
- a. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater. If concentrations of NO_x were taken during the tune-up of the unit, record of such measurements shall be included; and
 - b. A description of any corrective actions taken as a part of the tune-up.
[40 CFR §§63.7540(a)(10)(vi) and 63.7555]

4.5. Reporting Requirements

- 4.5.1. The permittee shall submit a "Notification of Compliance Status" for boilers covered by this permit to the Director before the close of business on the sixtieth (60th) day after completion of the initial compliance demonstration as required in 40 CFR §63.7530(e) and (g). Such "Notification of Compliance Status" shall be in accordance with 40 CFR §63.9(h)(2)(ii) and contain the information specified in 40 CFR §§63.7545(e)(1), and (8), which includes a statement the one time energy assessment was completed as required in Condition 4.1.6., the initial tune-up for boilers was completed.

[40CFR§63.7545(e), §63.7530(e)]

- 4.5.2. The permittee shall submit “annual Compliance Report” for the boilers using CEDRI that is accessed through the EPA’s Center Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form for this report is not available in CEDRI at the time the report is due, the permittee shall submit the report to the Administrator and Director using the address listed in Condition 3.5.3. The first report being submitted by no later than January 31, 2017 and subsequent reports are due on January 31 from thereafter. Such reports shall contain the information specified in 40 CFR §§63.7550(c)(5)(i) through (iv) and (xiv) which are:
- a. Permittee and facility name, and address;
 - b. Process unit information, emission limitations, and operating limitations;
 - c. Date of report and beginning and ending dates of the reporting period;
 - d. The total operating time during the reporting period of each affected unit;
 - e. Include the date of the most recent tune-up for the boiler; and
 - f. Include the date of the most recent burner inspection if it was not done on annual tune-up period and was delayed until the next scheduled or unscheduled unit shutdown.

The permittee shall maintain records of these reports in accordance with Condition 3.4.1.
[40CFR §§63.7550(b), (b)(1), (c)(1), & (c)(5)(i) though (iv) and (xiv), and (h)(3)]

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature¹ _____
(please use blue ink) Responsible Official or Authorized Representative Date

Name & Title _____
(please print or type) Name Title

Telephone No. _____ Fax No. _____

¹ This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
 - (ii) the delegation of authority to such representative is approved in advance by the Director;
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.