TITLE V RENEWAL PERMIT APPLICATION
PERMIT R30-02900001-2006

BOILERS (PART 1 OF 3)

ARCELORMITTAL WEIRTON INC.
(Formerly ISG Weirton Inc.)

November 2010

Prepared for:

ArcelorMittal Weirton Inc.
100 Pennsylvania Avenue
Weirton, West Virginia 26062

Prepared by:

Air/Compliance Consultants, Inc.
1050 William Pitt Way
Pittsburgh, Pennsylvania 15238
(412) 826-3636

Project Number 10-200

Air/Compliance Consultants, Inc.

TITLE V RENEWAL PERMIT APPLICATION
PERMIT R30-02900001-2006 (Part 1 of 3)
BOILER OPERATIONS

ARCELORMITTAL WEIRTON INC.
(Formerly ISG Weirton Inc.)

TABLE OF CONTENTS

Initial/Renewal Title V Permit Application – General Forms

ATTACHMENTS

Attachment A.	Area Maps
Attachment B.	Plot Plans
Attachment C.	Process Flow Diagram
Attachment D.	Title V Equipment Table
Attachment E.	Emission Unit Forms
	• High Pressure Boiler 3
	• High Pressure Boiler 4
	• High Pressure Boiler 5
	• Caterpillar Emergency Generator
Attachment F.	Schedule of Compliance Form (Not Applicable, attachment not submitted)
Attachment G.	Air Pollution Control Device Form (Not Applicable, attachment not submitted)
Attachment H.	Compliance Assurance Monitoring (CAM) Plan (Not Applicable, attachment not submitted)
Attachment I.	Regulatory Applicable Requirements
Attachment J.	2010 Potential Emissions Inventory
Attachment K	Revised Appendix C Rule 2 and 10 Monitoring Plans
Attachment L	CD of Application Files

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475
www.wvdep.org/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. Name of Applicant (As registered with the WV Secretary of State's Office): **ArcelorMittal Weirton Inc.**	2. Facility Name or Location: **ArcelorMittal Weirton Inc.** **Weirton, WV 26062**
3. DAQ Plant ID No.: **029— 00001**	**4.** Federal Employer ID No. (FEIN): **56 - 2435202**

5. **Permit Application Type:**

☐ Initial Permit — When did operations commence? MM/DD/YYYY
☒ Permit Renewal — What is the expiration date of the existing permit? **05/31/2011**
☐ Update to Initial/Renewal Permit Application

6. Type of Business Entity:

☒ Corporation ☐ Governmental Agency
☐ Partnership ☐ Limited Partnership

7. Is the Applicant the:

☐ Owner ☐ Operator ☒ Both

If the Applicant is not both the owner and operator, please provide the name and address of the other party.

_____

8. Number of onsite employees:

975

9. Governmental Code:

☒ Privately owned and operated; 0
☐ Federally owned and operated; 1
☐ State government owned and operated; 2
☐ County government owned and operated; 3
☐ Municipality government owned and operated; 4
☐ District government owned and operated; 5

10. Business Confidentiality Claims

Does this application include confidential information (per 45CSR31)? ☐ Yes ☒ No

If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's *"PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY"* guidance.

11. Mailing Address		
Street or P.O. Box: 100 Pennsylvania Avenue		
City: Weirton	**State:** WV	**Zip:** 26062
Telephone Number: (304) 797-3908	**Fax Number:** (304) 797-2391	

12. Facility Location		
Street: 100 Pennsylvania Avenue	**City:** Weirton	**County**: Hancock
UTM Easting: 534268.1 km	**UTM Northing:** 4474575.6 km	**Zone:** ☒ 17 or ☐ 18

- ❑ **Directions:** Traveling East or West on **US 22** into West Virginia, take **Exit 2**
- ❑ Continue on either exit ramp at sign reading "Exit **2 WV-2 North** to **Downtown Weirton**" and go 0.6 miles to first traffic light
- ❑ Continue on **WV-2 North, Main Street** and go approximately 3 miles through 9 traffic lights [after the 9th light, you will travel up a slight incline and pass over an elevated roadway]
- ❑ As you approach the 10th light [intersection with **Pennsylvania Avenue** (County **Route 105**)], turn right into the driveway/parking lot located adjacent to a 3-story brick building [MAB (Mill Administration Building)]
- ❑ Environmental Control Offices are located on the 1st floor of the MAB in Rooms 116 and 117 [Phone extension x2288 for Dave Minda or x3908 for Mike Mieczkowski from either lobby telephone for building access]

Portable Source? ☐ Yes ☒ No

Is facility located within a nonattainment area? ☒ Yes ☐ No	**If yes, for what air pollutants?** PM2.5
Is facility located within 50 miles of another state? ☒ Yes ☐ No	**If yes, name the affected state(s).** Ohio ; Pennsylvania
Is facility located within 100 km of a Class I Area[1]? ☐ Yes ☒ No **If no, do emissions impact a Class I Area[1]?** ☐ Yes ☒ No	**If yes, name the area(s).**

[1] *Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.*

13. Contact Information		
Responsible Official: Brian James		**Title:** General Manager
Street or P.O. Box: 100 Pennsylvania Avenue		
City: Weirton	**State:** WV	**Zip:** 26062
Telephone Number: (304) 797-2296	**Fax Number:** (304) 797-3419	
E-mail address: brian.james@arcelormittal.com		
Environmental Contact: Mike Mieczkowski		**Title:** Process Specialist
Street or P.O. Box: 100 Pennsylvania Avenue		
City: Weirton	**State:** WV	**Zip:** 26062
Telephone Number: (304) 797-3908	**Fax Number:** (304) 797-2391	
E-mail address: mike.mieczkowski@arcelormittal.com		
Application Preparer: Nancy Hirko		**Title:** Sr. Environmental Engineer
Company: Air/Compliance Consultants, Inc.		
Street or P.O. Box: 1050 William Pitt Way		
City: Pittsburgh	**State:** PA	**Zip:** 15238
Telephone Number: (412) 826-3636	**Fax Number:** (412) 826-3640	
E-mail address: nhirko@air-comp.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Tin Mill – Primary Process	Plated steel (zinc, tin, chrome)	331111	3312
Heat Treating - Annealing	Steel	331111	3312
Steel Pickling	Steel	331111	3312
Cold Rolling	Steel	331111	3312
Hydrogen Plant	Hydrogen	325120	2813

Provide a general description of operations.

This application covers the operation of the three industrial boilers at the ArcelorMittal Weirton facility as described in the current Title V Permit R30-02900001-2006 (Part 1 of 3).

ArcelorMittal Weirton operates a steel finishing facility that includes a Strip Mill (steel pickling and cold rolling operations), Tin Mill (tempering and electrolytic plating [zinc, tin, and chrome], Hydrogen Plant, and Boilers. Facility operations are supported by three industrial boilers, High Pressure Boiler 3, High Pressure Boiler 4, and High Pressure Boiler 5. Boilers 3 and 4 are rated at 540 MMBtu/hr heat input and can fire natural gas, No. 6 fuel oil and/or mixed gas (diluted natural gas – 70-75% natural gas – 25-30% air/oxygen). Boiler 5 is rated at 600 MMBtu/hr heat input and can fire natural gas and/or No. 6 fuel oil. All three boilers participate in the CAIR NOx Ozone Season Trading Program.

Other operations at the Facility include emergency generator, storage tanks, wastewater treatment plants, support/maintenance shops and other insignificant sources. The Facility also includes the following idled operations: Blast Furnaces, Basic Oxygen Plant, Continuous Caster, Sheet Mill, Hydrochloric Acid Regeneration Plant, and two Foster Wheeler Boilers.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
☒ SIP	☐ FIP
☐ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☐ NESHAP (45CSR15)	☐ Nonattainment NSR (45CSR19)
☐ Section 111 NSPS	☒ Section 112(d) MACT standards
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☒ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☐ 45CSR27 State enforceable only rule
☒ 45CSR4 State enforceable only rule (Odor)	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☐ **C**ompliance **A**ssurance **M**onitoring (40CFR64)
☐ CAIR NO_x Annual Trading Program (45CSR39)	☒ CAIR NO_x Ozone Season Trading Program (45CSR40)
☐ CAIR SO_2 Trading Program (45CSR41)	

19. Non Applicability Determinations

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

45 CSR 13

Permit R13-501 authorizes the construction of 2 LP natural gas fired boilers, however Consent Order #8-2003 prohibits the company from operating the LP boilers, therefore, the conditions from this permit were not included in the existing Title V Permit.

November 1990 Consent Order

The November 1990 Consent Order authorized PM and SO_2 limits on the HP and LP boilers and was entered in the State Implementation Plan (SIP). However, the SIP was found to be inadequate to attain and maintain the NAAQS for SO_2 and a subsequent, more stringent Consent Order was signed in January 1995. Therefore the requirements from the November 1990 Consent Order were not included in the existing Title V Permit.

January 1995 Consent Order

The January 1995 Consent Order authorized SO_2 emission limits on the HP boilers, restricted the fuel type to the Foster Wheeler boilers and prohibited operation of the LP boilers and was entered into the SIP. It was determined that more stringent requirements were necessary, therefore the August 2003 Consent Order was developed and the requirements from the January 1995 Consent Order were not included in the Title V Permit.

☒ Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*).

SEE ATTACHMENT I.

☒ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

SEE ATTACHMENT I.

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

21. Active Permits/Consent Orders		
Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit *(if any)*
R13-501	06/04/1979	CO-SIP-C-2003-28
R13-515	03/07/1980	
CO-7-1987	07/17/1987	
CO-11-1990	11/08/1990	CO-SIP-95-2
CO-SIP-95-2	01/09/1995	CO-SIP-C-2003-28
CO-SIP-C-2003-28	08/04/2003	
R30-02900001-2006 (Part 1 of 3)	05/31/2006	Current Title V Permit - Boilers
R30-02900001-2006 (Part 2 of 3)	08/21/2006	Current Title V Permit – Cold Operations
R30-02900001-2006 (Part 3 of 3)	12/15/2006	Current Title V Permit – Hot Operations

22. Inactive Permits/Obsolete Permit Conditions		
Permit Number	Date of Issuance	Permit Condition Number
R30-02900001-2006 (Part 1 of 3)	05/31/2006	3.1.9 NOx Budget Trading Program is no longer applicable. Facility boilers are now subject to CAIR NOx Ozone Season Trading Program.
R30-02900001-2006 (Part 1 of 3)	05/31/2006	4.1.8; 4.1.9.e.; 4.1.10; 4.2.8 Foster Wheeler Boilers are permanently shutdown.
R30-02900001-2006 (Part 1 of 3)	05/31/2006	40 CFR Part 60; Subpart D no longer applies because the two Foster Wheeler Boilers are permanently shutdown.
R30-02900001-2006 (Part 1 of 3)	05/31/2006	Appendix C – Rule 2 and 10 Monitoring Plans References to the Foster Wheeler Boilers and use of blast furnace gas have been deleted.
CO-SIP-C-2003-28	08/04/2003	IV.3.g.; V.5. Foster Wheeler Boilers are permanently shutdown.

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year] – PART 1 BOILERS	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	561.91
Nitrogen Oxides (NO_X)	1873.05
Lead (Pb)	0.047
Particulate Matter ($PM_{2.5}$)[1]	397.56
Particulate Matter (PM_{10})[1]	542.82
Total Particulate Matter (TSP)	764.54
Sulfur Dioxide (SO_2)	11,350.52
Volatile Organic Compounds (VOC)	36.79
Hazardous Air Pollutants[2]	Potential Emissions
Formaldehyde	1.03
Hexane	12.0
Nickel	2.63
TOTAL	16.58
FOR OTHER HAPS:	
SEE ATTACHMENT J; Table 2.3	
Regulated Pollutants other than Criteria and HAP	Potential Emissions
SEE ATTACHMENT J	

[1]$PM_{2.5}$ and PM_{10} are components of TSP.
[2]For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)		
☒	1.	Air compressors and pneumatically operated equipment, including hand tools.
☒	2.	Air contaminant detectors or recorders, combustion controllers or shutoffs.
☐	3.	Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
☐	4.	Bathroom/toilet vent emissions.
☐	5.	Batteries and battery charging stations, except at battery manufacturing plants.
☐	6.	Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
☐	7.	Blacksmith forges.
☒	8.	Boiler water treatment operations, not including cooling towers.
☒	9.	Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
☐	10.	CO_2 lasers, used only on metals and other materials which do not emit HAP in the process.
☒	11.	Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
☒	12.	Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
☒	13.	Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
☐	14.	Demineralized water tanks and demineralizer vents.
☐	15.	Drop hammers or hydraulic presses for forging or metalworking.
☐	16.	Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
☐	17.	Emergency (backup) electrical generators at residential locations.
☐	18.	Emergency road flares.
☐	19.	Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO_2, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:

24. Insignificant Activities (Check all that apply)		
☐	20.	Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27. Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:
☐	21.	Environmental chambers not using hazardous air pollutant (HAP) gases.
☐	22.	Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
☐	23.	Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
☒	24.	Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
☐	25.	Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
☒	26.	Fire suppression systems.
☐	27.	Firefighting equipment and the equipment used to train firefighters.
☐	28.	Flares used solely to indicate danger to the public.
☐	29.	Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
☐	30.	Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
☒	31.	Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
☐	32.	Humidity chambers.
☒	33.	Hydraulic and hydrostatic testing equipment.
☐	34.	Indoor or outdoor kerosene heaters.
☐	35.	Internal combustion engines used for landscaping purposes.
☐	36.	Laser trimmers using dust collection to prevent fugitive emissions.
☐	37.	Laundry activities, except for dry-cleaning and steam boilers.
☒	38.	Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
☐	39.	Oxygen scavenging (de-aeration) of water.
☐	40.	Ozone generators.
☒	41.	Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)

24. Insignificant Activities (Check all that apply)		
☒	42.	Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
☐	43.	Process water filtration systems and demineralizers.
☒	44.	Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
☒	45.	Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
☐	46.	Routing calibration and maintenance of laboratory equipment or other analytical instruments.
☐	47.	Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
☐	48.	Shock chambers.
☐	49.	Solar simulators.
☒	50.	Space heaters operating by direct heat transfer.
☒	51.	Steam cleaning operations.
☒	52.	Steam leaks.
☐	53.	Steam sterilizers.
☒	54.	Steam vents and safety relief valves.
☐	55.	Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
☒	56.	Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
☐	57.	Such other sources or activities as the Director may determine.
☐	58.	Tobacco smoking rooms and areas.
☒	59.	Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the **Title V Equipment Table** and provide it as **ATTACHMENT D**.
26. Emission Units
For each emission unit listed in the **Title V Equipment Table**, fill out and provide an **Emission Unit Form** as **ATTACHMENT E**.
For each emission unit not in compliance with an applicable requirement, fill out a **Schedule of Compliance Form** as **ATTACHMENT F**. NOT APPLICABLE
27. Control Devices
For each control device listed in the **Title V Equipment Table**, fill out and provide an **Air Pollution Control Device Form** as **ATTACHMENT G**. NOT APPLICABLE
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the **Compliance Assurance Monitoring (CAM) Form(s)** for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as **ATTACHMENT H**. NOT APPLICABLE

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name: Brian James	Title: General Manager

Responsible official's signature:

Signature: _____ Signature Date: _____

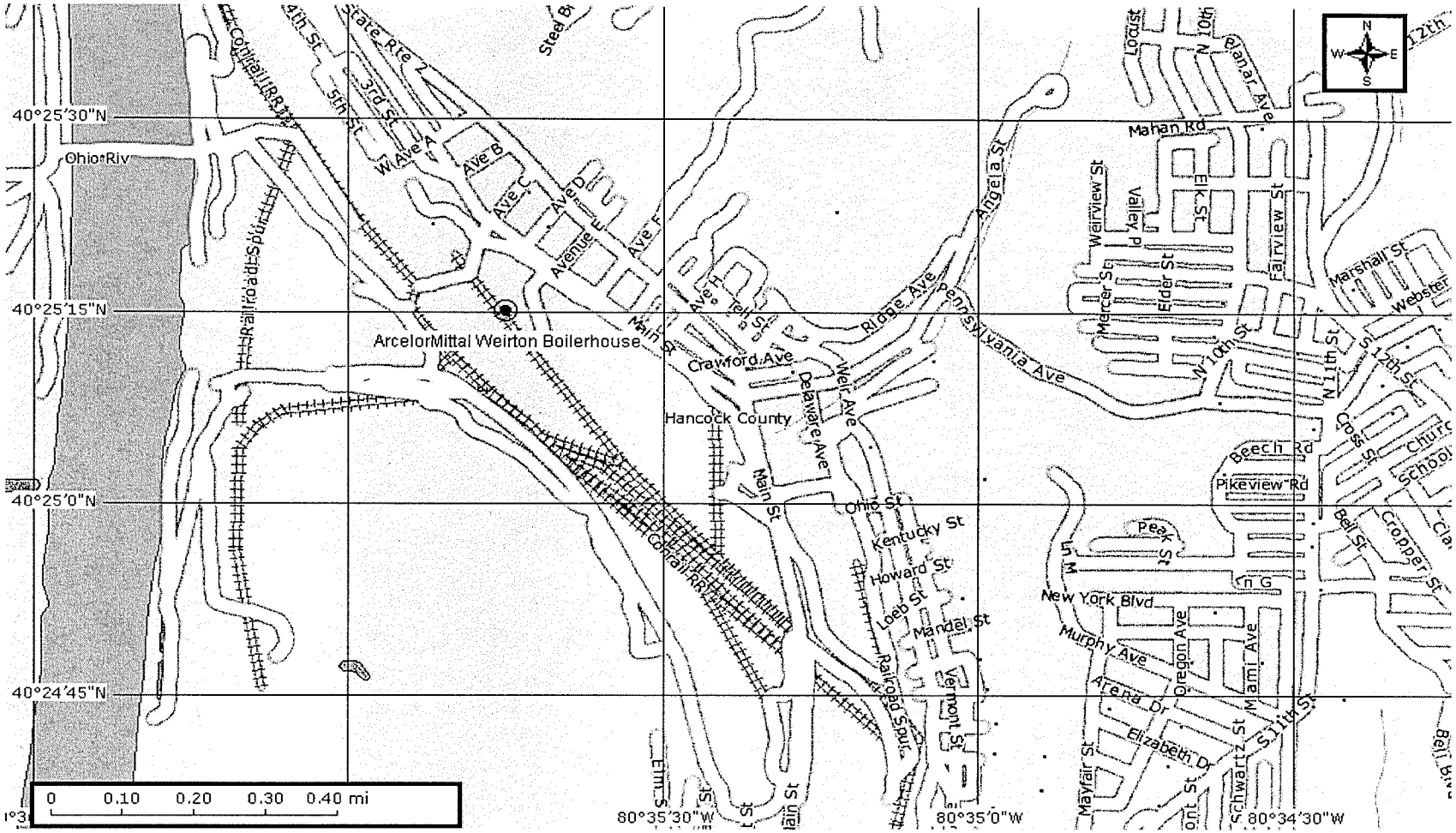
(Must be signed and dated in blue ink)

Note: Please check all applicable attachments included with this permit application:

☒	ATTACHMENT A: Area Map
☒	ATTACHMENT B: Plot Plan(s)
☒	ATTACHMENT C: Process Flow Diagram(s)
☒	ATTACHMENT D: Equipment Table
☒	ATTACHMENT E: Emission Unit Form(s)
☐	ATTACHMENT F: Schedule of Compliance Form(s)
☐	ATTACHMENT G: Air Pollution Control Device Form(s)
☐	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)
☒	ATTACHMENT I: Regulatory Applicable Requirements
☒	ATTACHMENT J: Potential to Emit - Data for Emission Units

ATTACHMENT A

Area Map



Air/Compliance Consultants, Inc.

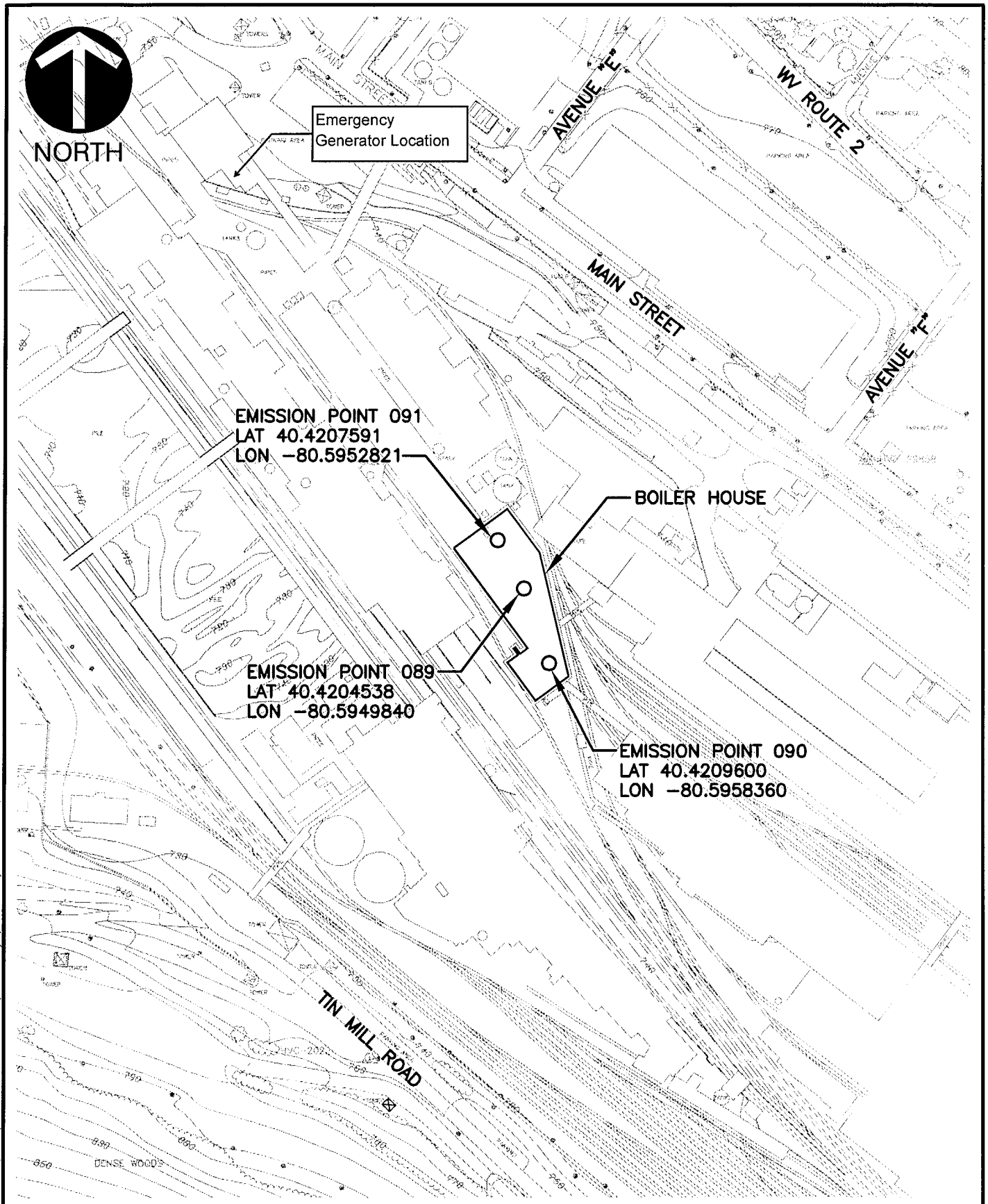
Arcelor Mittal Weirton Inc., Weirton, WV Area Map Location of Boilerhouse	Figure A-1

Air/Compliance Consultants, Inc.

Arcelor Mittal Weirton Inc., Weirton, WV **Area Map** **Location of Boilerhouse**	**Figure** **A-2**

ATTACHMENT B

Plot Plan



SCALE IN FEET

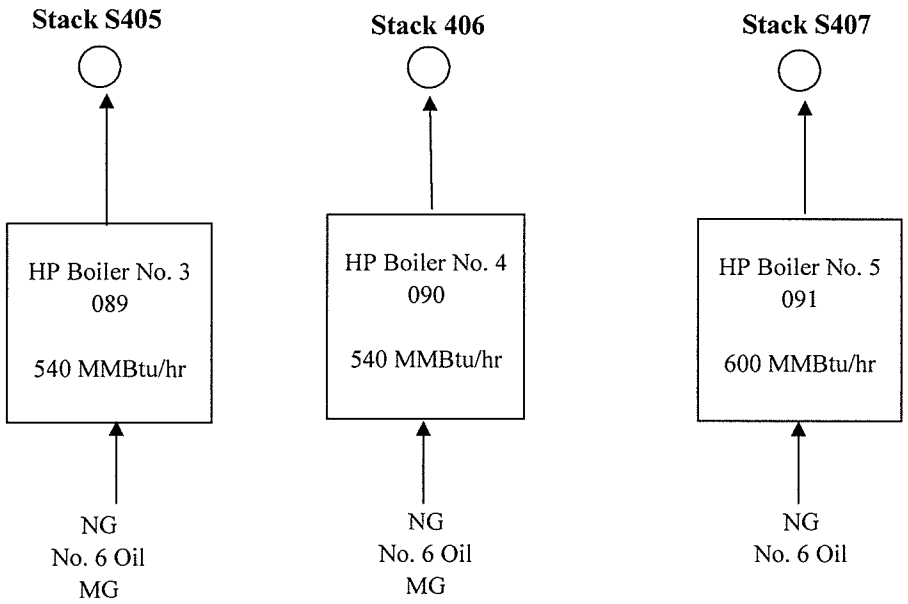
0 200 400

ARCELORMITTAL-WEIRTON BOILER HOUSE

P:\2009\090-342\-CADD\DWG\090342-FIGURE1.DWG{LAYOUT1} (JGILLIGAN) - NOV 22, 2010 - 10:20:25

ATTACHMENT C

Process Flow Diagrams



MG = Mixed Gas
NG = Natural Gas

Air/Compliance Consultants, Inc.

Arcelor Mittal Weirton Inc., Weirton, WV Process Flow Diagram Boilers	Figure C-1

ATTACHMENT D

Title V Equipment Table

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity	Year Installed/ Modified
089	NA	S405	HP Boiler 3; natural gas; mixed gas; fuel oil	540 MMBtu/hr	1940
090	NA	S406	HP Boiler 4; natural gas; mixed gas; fuel oil	540 MMBtu/hr	1947
091	NA	S407	HP Boiler 5; natural gas; fuel oil	600 MMBtu/hr	1952
	NA		Caterpillar Emergency Generator	455 KW	Pre-1995

[1]For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

ATTACHMENT E

Emission Unit Forms

High Pressure Boiler 3

ATTACHMENT E - Emission Unit Form

Emission Unit Description **– High Pressure Boiler 3**

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
089	High Pressure Boiler 3	NA

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

High Pressure Boiler 3 is used to produce steam for process and space heating. This boiler has a maximum heat input of 540 MMBTU/hr and has the ability to burn natural gas, mixed gas (diluted natural gas), or No. 6 fuel oil. Natural gas is the primary fuel for the boiler. This Boiler participates in the CAIR NOx Ozone Season trading program.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
NA	06/01/1940	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

540 MMBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
NA	NA	8760

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X_ Yes ___ No	**If yes, is it?** ___ Indirect Fired _X_ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 540 MMBTU/hr	**Type and Btu/hr rating of burners:**

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas	0.491 mmcf/hr	4,300 mmcf/yr
#6 Fuel Oil	2,100 gal/hr	18.40 mmgal/yr
Mixed Gas	0.655 mmcf/hr	5,738 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	Negligible	Negligible	1100 BTU/cf
#6 Fuel Oil	3.0% (Consent Order allowable) 2.62% (at max fuel oil firing rate – per Consent Order curve)	Negligible	165,000 Btu/1000 gal
Mixed Gas	Negligible	Negligible	825 BTU/cf

Emissions Data – See Attachment J		
Criteria Pollutants	**Potential Emissions - Natural Gas**	
	PPH	TPY
Carbon Monoxide (CO)	41.24	180.62
Nitrogen Oxides (NO_X)	137.45	602.05
Lead (Pb)	2.45×10^{-4}	1.08×10^{-3}
Particulate Matter ($PM_{2.5}$)	3.73	16.34
Particulate Matter (PM_{10})	3.73	16.34
Total Particulate Matter (TSP)	3.73	16.34
Sulfur Dioxide (SO_2)	0.29	1.29
Volatile Organic Compounds (VOC)	2.70	11.83
Hazardous Air Pollutants	**Potential Emissions - Natural Gas**	
	PPH	TPY
Formaldehyde	3.68×10^{-2}	0.16
Hexane	0.88	3.87
Total HAPS	0.93	4.06
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42 Factors were used to calculate potential emissions, Section 1.4, Natural Gas Combustion, 7/98.

All other pollutants not listed on this form can be found in Attachment J - Potential Emissions Inventory included in this application.

Emissions Data – See Attachment J		
Criteria Pollutants	**Potential Emissions– #6 Fuel Oil**	
	PPH	TPY
Carbon Monoxide (CO)	10.50	45.99
Nitrogen Oxides (NO_X)	98.70	432.31
Lead (Pb)	3.17×10^{-3}	1.39×10^{-2}
Particulate Matter ($PM_{2.5}$)	29.81	130.56
Particulate Matter (PM_{10})	40.70	178.27
Total Particulate Matter (TSP)	57.33	251.09
Sulfur Dioxide (SO_2)	863.81	722.04
Volatile Organic Compounds (VOC)	1.60	6.99
Hazardous Air Pollutants	**Potential Emissions– #6 Fuel Oil**	
	PPH	TPY
Formaldehyde	0.07	0.30
Nickel	0.18	0.78
Total HAPS	0.31	1.34
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42 Factors were used to calculate potential emissions, Section 1.3, Fuel Oil Combustion, 9/98; updated 5/2010.

All other pollutants not listed on this form can be found in Attachment J - Potential Emissions Inventory included in this application.

Emissions Data – See Attachment J		
Criteria Pollutants	**Potential Emissions – Mixed Gas**	
	PPH	TPY
Carbon Monoxide (CO)	41.24	180.62
Nitrogen Oxides (NO_X)	137.45	602.05
Lead (Pb)	2.45×10^{-4}	1.08×10^{-3}
Particulate Matter ($PM_{2.5}$)	3.73	16.34
Particulate Matter (PM_{10})	3.73	16.34
Total Particulate Matter (TSP)	3.73	16.34
Sulfur Dioxide (SO_2)	0.29	1.29
Volatile Organic Compounds (VOC)	2.70	11.83
Hazardous Air Pollutants	**Potential Emissions – Mixed Gas**	
	PPH	TPY
Formaldehyde	3.68×10^{-2}	0.16
Hexane	0.88	3.87
Total HAPS	0.93	4.06
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42 Factors were used to calculate potential emissions, Section 1.4, Natural Gas Combustion, 7/98. Mixed gas is a dilute mixture of natural gas and air. Mixed gas emission factors were obtained by using a ratio of the heating values (1100/825 = 75%) as used in the CAIR NOx Ozone Season Trading Program.

All other pollutants not listed on this form can be found in Attachment J - Potential Emissions Inventory included in this application.

Applicable Requirements
List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included. SEE ATTACHMENT I.
__**X**__ Permit Shield
For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.) SEE ATTACHMENT I.
Are you in compliance with all applicable requirements for this emission unit? _**X**__Yes ___No If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

High Pressure Boiler 4

ATTACHMENT E - Emission Unit Form

Emission Unit Description **- High Pressure Boiler 4**

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
090	HP Boiler 4	NA

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

High Pressure Boiler 4 is used to produce steam for process and space heating. This boiler has a maximum heat input of 540 MMBTU/hr and has the ability to burn natural gas, mixed gas (diluted natural gas), or No. 6 fuel oil. Natural gas is the primary fuel for the boiler. This Boiler participates in the CAIR NOx Ozone Season trading program.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
NA	06/01/1940	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

540 MMBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
NA	NA	8760

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X_ Yes ___ No	**If yes, is it?** ___ Indirect Fired _X_ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 540 MMBTU/hr	**Type and Btu/hr rating of burners:**

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas	0.491 mmcf/hr	4,300 mmcf/yr
#6 Fuel Oil	2,000 gal/hr	17.52 mmgal/yr
Mixed Gas	0.655 mmcf/hr	5,738 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	Negligible	Negligible	1100 BTU/cf
#6 Fuel Oil	3.0% (Consent Order allowable) 2.75% (at max fuel firing rate –	Negligible	165,000 Btu/1000 gal

	per Consent Order curve)		
Mixed Gas	Negligible	Negligible	825 BTU/cf

Emissions Data – See Attachment J

Criteria Pollutants	**Potential Emissions - Natural Gas**	
	PPH	TPY
Carbon Monoxide (CO)	41.24	180.62
Nitrogen Oxides (NO_X)	137.45	602.05
Lead (Pb)	2.45×10^{-4}	1.08×10^{-3}
Particulate Matter ($PM_{2.5}$)	3.73	16.34
Particulate Matter (PM_{10})	3.73	16.34
Total Particulate Matter (TSP)	3.73	16.34
Sulfur Dioxide (SO_2)	0.29	1.29
Volatile Organic Compounds (VOC)	2.70	11.83
Hazardous Air Pollutants	**Potential Emissions - Natural Gas**	
	PPH	TPY
Formaldehyde	3.68×10^{-2}	0.16
Hexane	0.88	3.87
Total HAPS	0.93	4.06
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42 Factors were used to calculate potential emissions, Section 1.4, Natural Gas Combustion, 7/98.

All other pollutants not listed on this form can be found in Attachment J - Potential Emissions Inventory included in this application.

Emissions Data – See Attachment J		
Criteria Pollutants	**Potential Emissions– #6 Fuel Oil**	
	PPH	TPY
Carbon Monoxide (CO)	10.00	43.80
Nitrogen Oxides (NO_X)	94.00	411.72
Lead (Pb)	3.02×10^{-3}	1.32×10^{-2}
Particulate Matter ($PM_{2.5}$)	29.64	129.83
Particulate Matter (PM_{10})	40.47	177.27
Total Particulate Matter (TSP)	57.00	249.67
Sulfur Dioxide (SO_2)	863.81	3783.51
Volatile Organic Compounds (VOC)	1.52	6.66
Hazardous Air Pollutants	**Potential Emissions– #6 Fuel Oil**	
	PPH	TPY
Formaldehyde	0.07	0.29
Nickel	0.17	0.74
Total HAPS	0.29	1.28
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42 Factors were used to calculate potential emissions, Section 1.3, Fuel Oil Combustion, 9/98; updated 5/2010.

All other pollutants not listed on this form can be found in Attachment J - Potential Emissions Inventory included in this application.

Emissions Data – See Attachment J		
Criteria Pollutants	**Potential Emissions – Mixed Gas**	
	PPH	TPY
Carbon Monoxide (CO)	41.24	180.62
Nitrogen Oxides (NO_X)	137.45	602.05
Lead (Pb)	2.45×10^{-4}	1.08×10^{-3}
Particulate Matter ($PM_{2.5}$)	3.73	16.34
Particulate Matter (PM_{10})	3.73	16.34
Total Particulate Matter (TSP)	3.73	16.34
Sulfur Dioxide (SO_2)	0.29	1.29
Volatile Organic Compounds (VOC)	2.70	11.83
Hazardous Air Pollutants	**Potential Emissions – Mixed Gas**	
	PPH	TPY
Formaldehyde	3.68×10^{-2}	0.16
Hexane	0.88	3.87
Total HAPS	0.93	4.06
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42 Factors were used to calculate potential emissions, Section 1.4, Natural Gas Combustion, 7/98. Mixed gas is a dilute mixture of natural gas and air. Mixed gas emission factors were obtained by using a ratio of the heating values (1100/825 = 75%) as used in the CAIR NOx Ozone Season Trading Program.

All other pollutants not listed on this form can be found in Attachment J - Potential Emissions Inventory included in this application.

Applicable Requirements
List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included. SEE ATTACHMENT I.
_**X**___ Permit Shield
For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.) SEE ATTACHMENT I.
Are you in compliance with all applicable requirements for this emission unit? _**X**__Yes ___No If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

High Pressure Boiler 5

ATTACHMENT E - Emission Unit Form

Emission Unit Description **– HP Boiler 5**

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
091	HP Boiler 5	NA

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

High Pressure Boiler 5 is used to produce steam for process and space heating. This boiler has a maximum heat input of 600 MMBTU/hr and has the ability to burn natural gas and/or No. 6 fuel oil. Natural gas is the primary fuel for the boiler. This Boiler participates in the CAIR NOx Ozone Season trading program.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
NA	06/01/1940	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

600 MMBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
NA	NA	8760

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X_ Yes ___ No	**If yes, is it?** ___ Indirect Fired _X_ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 600 MMBTU/hr	**Type and Btu/hr rating of burners:**

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas	0.545 mmcf/hr	4,778 mmcf/yr
#6 Fuel Oil	3,000 gal/hr	26.3 mmgal/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	Negligible	Negligible	1040 BTU/cf
#6 Fuel Oil	3.0% (Consent Order allowable) 1.83% (at max fuel firing rate – per Consent Order curve)	Negligible	165,000 Btu/1000 gal

Emissions Data – See Attachment J		
Criteria Pollutants	**Potential Emissions - Natural Gas**	
	PPH	TPY
Carbon Monoxide (CO)	48.46	212.26
Nitrogen Oxides (NO_X)	152.73	668.95
Lead (Pb)	2.73×10^{-4}	1.19×10^{-3}
Particulate Matter ($PM_{2.5}$)	4.15	18.16
Particulate Matter (PM_{10})	4.15	18.16
Total Particulate Matter (TSP)	4.15	18.16
Sulfur Dioxide (SO_2)	0.33	1.43
Volatile Organic Compounds (VOC)	3.00	13.14
Hazardous Air Pollutants	**Potential Emissions - Natural Gas**	
	PPH	TPY
Formaldehyde	4.09×10^{-2}	0.18
Hexane	0.98	4.30
Total HAPS	1.03	4.51
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42 Factors were used to calculate potential emissions, Section 1.4, Natural Gas Combustion, 7/98.

All other pollutants not listed on this form can be found in Attachment J - Potential Emissions Inventory included in this application.

Emissions Data – See Attachment J		
Criteria Pollutants	**Potential Emissions– #6 Fuel Oil**	
	PPH	TPY
Carbon Monoxide (CO)	15.00	65.70
Nitrogen Oxides (NO_X)	141.00	617.58
Lead (Pb)	4.53×10^{-3}	1.98×10^{-2}
Particulate Matter ($PM_{2.5}$)	31.32	137.16
Particulate Matter (PM_{10})	42.76	187.28
Total Particulate Matter (TSP)	60.22	263.78
Sulfur Dioxide (SO_2)	863.81	3783.51
Volatile Organic Compounds (VOC)	2.28	9.99
Hazardous Air Pollutants	**Potential Emissions– #6 Fuel Oil**	
	PPH	TPY
Formaldehyde	0.10	0.43
Nickel	0.25	1.11
Total HAPS	0.44	1.91
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42 Factors were used to calculate potential emissions, Section 1.3, Fuel Oil Combustion, 9/98; updated 5/2010.

All other pollutants not listed on this form can be found in Attachment J - Potential Emissions Inventory included in this application.

Applicable Requirements
List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included. SEE ATTACHMENT I.
_X___ Permit Shield
For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.) SEE ATTACHMENT I.
Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Emergency Generator

ATTACHMENT E - Emission Unit Form

Emission Unit Description **– Caterpillar Emergency Generator**

Emission unit ID number:	**Emission unit name:** Caterpillar Emergency Generator	**List any control devices associated with this emission unit:** NA

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
#2 Diesel Oil Fired Emergency Generator – routinely fired for maintenance checks; Limited to 100 hours/yr operation.
SEE ATTACHED MANUFACTURER'S SPECIFICATIONS.

Manufacturer: Caterpillar	**Model number:** Unknown	**Serial number:** 81Z14619
Construction date: Pre-1995	**Installation date:** Pre-1995	**Modification date(s):** NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

455 KW; 676 HP ; 569 KVA

Maximum Hourly Throughput: NA	**Maximum Annual Throughput:** NA	**Maximum Operating Schedule:** 100 hrs /year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X_ Yes ___ No	**If yes, is it?** ___ Indirect Fired _X_ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 455 KW; 676 HP; 4.74 MMBtu/hr	**Type and Btu/hr rating of burners:** 4-stroke diesel engine

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

#2 Diesel fuel - Primary Fuel
31 gal/hr @ 100% load with fan

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
#2 Diesel Fuel Oil	≤0.05%	Negligible	141,000 Btu/gal

Emissions Data **– #2 Fuel Oil**		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.5	0.03
Nitrogen Oxides (NO_X)	8.7	0.43
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})	0.03	0.00
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)	1.3	0.06
Volatile Organic Compounds (VOC)	0.01	0.00
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Manufacturer's specifications and AP-42 Factors were used to calculate potential emissions.
(See Attachment J, Table 2-7)

Applicable Requirements
List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included. SEE ATTACHMENT I.
__X__ Permit Shield
For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.) Emergency generator is equipped with an hour-counter. Facility will keep annual records of hours the emergency generator was fired. Only No. 2 fuel oil will be used in the Emergency Generator.
Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

DIESEL GENERATOR SET

CATERPILLAR®

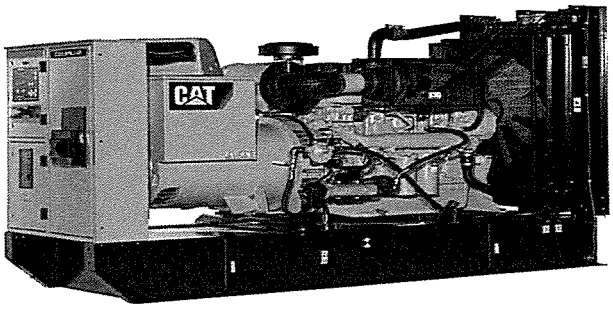


Image shown may not reflect actual package.

PRIME
455 ekW 569 kVA
60 Hz 1800 rpm 480 Volts

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES

FUEL/EMISSIONS STRATEGY
- Low fuel consumption

DESIGN CRITERIA
- The generator set accepts 100% rated load in one step per NFPA 110 and meets ISO 8528-5 transient response.

UL 2200
- UL 2200 listed packages available. Certain restrictions may apply. Consult with your Caterpillar Dealer.

FULL RANGE OF ATTACHMENTS
- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

SINGLE-SOURCE SUPPLIER
- Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT
- Caterpillar® dealers provide extensive post sale support including maintenance and repair agreements
- Caterpillar dealers have over 1,600 dealer branch stores operating in 200 countries
- The Cat® S•O•S℠ program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT® C15 ATAAC DIESEL ENGINE
- Utilizes ACERT™ Technology
- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight
- Electronic engine control

CAT GENERATOR
- Matched to the performance and output characteristics of Caterpillar engines
- Load adjustment module provides engine relief upon load impact and improves load acceptance and recovery time
- UL 1446 Recognized Class H insulation

CAT EMCP 3 SERIES CONTROL PANELS
- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

PRIME 455 ekW 569 kVA

60 Hz 1800 rpm 480 Volts

CATERPILLAR®

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Light Duty Air filter	• Canister Style Air Cleaners • Air Cleaner - single stage • Dual element • Heavy duty
Cooling	• Radiator package mounted(50°C) • Coolant drain line with valve terminated at edge of base • Fan and belt guards • Coolant level sight gauge • Caterpillar Extended Life Coolant	• Radiator removal • Radiator duct flange & guard
Exhaust	• Dry exhaust manifold • Flanged faced outlets • Stainless Steel Flex with split-cuff connection	• Mufflers • Manifold & Turbocharger guards • Elbows
Fuel	• Primary fuel filter with integral water separator • Secondary fuel filters • Fuel priming pump • Engine fuel transfer pump • Flex fuel lines • Fuel cooler* *Not included with packages without radiators	• Integral UL listed fuel tank base • Manual transfer pump • Fuel level switch
Generator	• Class H insulation • R448 voltage regulator with load adjustment module • IP23 Protection	• CDVR with KVAR/PF control • Oversize and premium generators • Bearing/Stator temperature detection (premium generator) • 3 phase sensing • Anti-condensation space heaters • Cable access box • Reactive droop
Power Termination	• Power Terminator Strips Mounted inside Power Center • Segregated low voltage wiring panel	• Circuit breakers, UL listed, 3 pole • Circuit breakers, IEC compliant, 3 pole • Circuit breaker Shunt trip • Circuit breaker Auxillary contact • Top & bottom power cable entry • Floor standing UL breakers
Governor	• ADEM™A4	• Load share module
Control Panels	• EMCP 3.1 (rear mounted) • Speed adjust • Emergency stop pushbutton • Voltage adjust	• EMCP 3.2 & EMCP 3.3 (can be RH mounted) • Local annuniciator modules (NFPA 99/110) • Remote annunicator modules (NFPA 99/110) • Discrete I/O module
Lube	• Lubricating oil and filter • Oil drain line with valves • Fumes disposal • Gear type lube oil pump	• Manual sump pump
Starting/Charging	• 24 volt starting motor • Battery with rack and cables (dry) • 45 amp charging alternator	• Jacket water heater with shut off valves • Block heater • Ether starting aids • Battery disconnect switch • Battery chargers (5 & 10 amp) • Oversized batteries
General	• Paint - Caterpillar yellow except rails and radiators gloss black • Flywheel and flywheel housing - SAE No.1	

PRIME 455 ekW 569 kVA

60 Hz 1800 rpm 480 Volts

CATERPILLAR®

SPECIFICATIONS

CAT GENERATOR

Frame size.....LC6114F
Excitation..... Self Excitation
Pitch.....0.6667
Number of poles.....4
Number of bearings..... Single Bearing
Number of Leads..... 12
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion
- Consult your Caterpillar dealer for available voltages
IP Rating.....IP23
Alignment..... Pilot Shaft
Overspeed capability..... 125% of rated
Wave form Deviation (Line to Line)..... 2%
Voltage regulator..... Single phase sensing with selectible volts/Hz
Voltage regulation.....Less than +/- 1/2% (steady state)
Less than +/- ½% (w/ 3% speed change)
Telephone influence factor.....Less than 50
Harmonic Distortion.....Less than 5%

CAT DIESEL ENGINE

C15 ATAAC, L-6, 4-stroke water-cooled diesel
Bore..... 137.20 mm (5.4 in)
Stroke..... 171.40 mm (6.75 in)
Displacement.....15.20 L (927.56 in³)
Compression Ratio..... 16.1:1
Aspiration..... ATAAC
Fuel System.....MEUI
Governor Type..... Caterpillar ADEM control system

CAT EMCP 3 SERIES CONTROLS

- EMCP 3.1 (Standard)
- EMCP 3.2 / EMCP 3.3 (Option)
- Single location customer connector point
- True RMS metering, 3-phase
- Controls
  - Run / Auto / Stop control
  - Speed Adjust
  - Voltage Adjust
  - Emergency Stop Pushbutton
  - Engine cycle crank
- Digital Indication for:
  - RPM
  - Operating hours
  - Oil Pressure
  - Coolant temperature
  - System DC volts
  - L-L volts, L-N volts, phase amps, Hz
  - ekW, kVA, kVAR, kW-hr, %kW, PF (EMCP 3.2 / 3.3)
- Shutdowns with common indicating light for:
  - Low oil pressure
  - High coolant temperature
  - Low coolant level
  - Overspeed
  - Emergency stop
  - Failure to start (overcrank)
- Programmable protective relaying functions: (EMCP 3.2 & 3.3)
  - Under and over voltage
  - Under and over frequency
  - Overcurrent (time and inverse time)
  - Reverse power (EMCP 3.3)
- MODBUS isolated data link, RS-485 half-duplex (EMCP 3.2 & 3.3)
- Options
  - Vandal door
  - Local annunciator module
  - Remote annunciator module
  - Input / Output module
  - RTD / Thermocouple Modules
  - Monitoring software

PRIME 455 ekW 569 kVA

60 Hz 1800 rpm 480 Volts

CATERPILLAR®

TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM8164	
Low BSFC		
Generator Set Package Performance		
Genset Power rating @ 0.8 pf	568.75 kVA	
Genset Power rating with fan	455 ekW	
Fuel Consumption		
100% load with fan	117.2 L/hr	31.0 Gal/hr
75% load with fan	90.4 L/hr	23.9 Gal/hr
50% load with fan	64.6 L/hr	17.1 Gal/hr
Cooling System[1]		
Air flow restriction (system)	0.12 kPa	0.48 in. water
Air flow (max @ rated speed for radiator arrangement)	840 m³/min	29664 cfm
Engine Coolant capacity with radiator/exp. tank	57.8 L	15.3 gal
Engine coolant capacity	20.8 L	5.5 gal
Radiator coolant capacity	37.0 L	9.8 gal
Inlet Air		
Combustion air inlet flow rate	34.7 m³/min	1225.4 cfm
Exhaust System		
Exhaust stack gas temperature	506.0 ° C	942.8 ° F
Exhaust gas flow rate	94.9 m³/min	3351.4 cfm
Exhaust flange size (internal diameter)	152.4 mm	6.0 in
Exhaust system backpressure (maximum allowable)	6.8 kPa	27.3 in. water
Heat Rejection		
Heat rejection to coolant (total)	181 kW	10293 Btu/min
Heat rejection to exhaust (total)	437 kW	24852 Btu/min
Heat rejection to atmosphere from engine	27 kW	1535 Btu/min
Heat rejection to atmosphere from generator	26.0 kW	1478.6 Btu/min
Alternator[2]		
Motor starting capability @ 30% voltage dip	1428 skVA	
Frame	LC6114F	
Temperature Rise	105 ° C	189 ° F
Emissions (Nominal)[3]		
NOx g/hp-hr	6.46 g/hp-hr	
CO g/hp-hr	.37 g/hp-hr	
HC g/hp-hr	.01 g/hp-hr	
PM g/hp-hr	.024 g/hp-hr	

[1] For ambient and altitude capabilities consult your Caterpillar dealer. Air flow restriction (system) is added to existing restriction from factory.

[2] Generator temperature rise is based on a 40° C (104° F) ambient per NEMA MG1-32.

[3] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77°F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 btu/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC

Prime - Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Prime power in accordance with ISO3046. Prime ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the alarm temperature.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions. **Fuel rates** are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Caterpillar dealer.

PRIME 455 ekW 569 kVA

60 Hz 1800 rpm 480 Volts

CATERPILLAR®

DIMENSIONS

Package Dimensions		
Length	3775.1 mm	148.63 in
Width	1110.0 mm	43.7 in
Height	2091.0 mm	82.32 in
Weight	3881 kg	8,556 lb

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2781053).

Performance No.: DM8164

Feature Code: C15DE8Y

Gen. Arr. Number: 2351211

Source: U.S. Sourced

May 20 2009

14167019

www.CAT-ElectricPower.com

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Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

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ATTACHMENT I

Regulatory Applicable Requirements

ATTACHMENT I

Regulatory Applicable Requirements - Boiler Operations (Title V Permit - Part 1)

ArcelorMittal Weirton, Weirton, West Virginia

Regulation	Existing Title V Condition	Title	Requirement	Applicable Regulation?	Compliance Method/Comments
FACILITY-WIDE					
45 CSR 4	**3.1.4** **3.4.3**	**To Prevent and Control the Discharge of Air Pollutants into the Open Air which Causes or Contributes to an Objectionable Odor or Odors**	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.	Yes	Records of odor complaints will be maintained.
45 CSR 6 **§6-3.1** **§6-3.2**	**3.1.1** **3.1.2**	**To Prevent and Control Air Pollution from Combustion of Refuse**	The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.	Yes	Open burning is generally not allowed on-site. Open burning, if conducted, will meet rule notification and other requirements.
45 CSR 11	**3.1.5**	**Prevention of Air Pollution Emergency Episodes**	If required, standby plans to reduce the emissions of air pollutants must be submitted.	Yes	Will submit plans, if required.
45 CSR 13		**Construction Permits**	Must comply with this rule for any construction or modification.	Yes	Will submit applications, if required.
45 CSR 17		**Prevention and Control of Paticulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter**	Must prevent and control particulate matter air pollution from sources of fugitive particulate matter, including unpaved roads, industrial parking areas, demolition activities, haul roads, etc.	Yes	ArcelorMittal Weirton applies road dust suppressant and sweeps paved roadways on a routine basis.
45 CSR 22	**3.5.4**	**Air Quality Management Fee Program**	This rule establishes a program to collect fees for certificates to operate and for permits to construct, modify or relocate sources of air pollution.	Yes	Annual fees are paid as required for Certified Emissions Statements (CES) and Certificate to Operate (CTO).
45 CSR 30	**3.4.2** **3.5.1** **3.5.5** **3.5.6** **4.5.5**	**Requirements for Operating Permits**	Major sources must submit Title V Permit Applications	Yes	Records are to be maintained for five years. Semi-Annual Monitoring Reports (March 15 and September 15) and an Annual Compliance Certification Report (March 15) will be submitted as required.
45 CSR 42		**Greenhouse Gas Emissions Inventory**	Requires the reporting and inventory of greenhouse gas emissions by stationary sources which emit more than a de minimis amount of greenhouse gases on an annual basis.	Yes	Facility emits more than de minimis amounts of CO_2 (> 10,000 tpy) and other greenhouse gases and reports these emissions annually.
WV Code 22-5-4(a)(14)	**3.1.6**	**Emissions Inventory**	Must submit an annual emissions inventory in accordance with DAQ requirements.	Yes	Annual submittals due to WVDEP by March 31.
40 CFR 61 Subpart M	**3.1.3**	**National Emission Standard for Asbestos**	Requirements when asbestos is encountered during demolition or renovation of property.	Yes	The facility must follow the provisions of this rule should any asbestos be encountered during the demolition or renovation of property.
40 CFR Part 68, Subpart B	**3.1.8**	**Risk Management Plans**	A Risk Management Plan is required to be submitted to USEPA for certain chemicals held on-site over threshold values.	No	The facility does store chlorine, but in quantities less than the threshold of 2500 lbs. Therefore, this rule does not apply at this time. An RMP Plan would be developed if thresholds are triggered for an applicable chemical.

ATTACHMENT I

Regulatory Applicable Requirements - Boiler Operations (Title V Permit - Part 1)

ArcelorMittal Weirton, Weirton, West Virginia

Regulation	Existing Title V Condition	Title	Requirement	Applicable Regulation?	Compliance Method/Comments
40 CFR Part 82, Subpart F	**3.1.7**	**Protection of Stratospheric Ozone, Recycling and Emission Reduction**	Must meet requirements when performing maintenance, service, repair or disposal of appliances.	Yes	The facility will follow requirements for maintenance and disposal of Ozone-Depleting Substances (ODS). Only certified technicians will be allowed to perform maintenance on any applicable equipment. Records of ODS containing equipment, ODS purchases, and technician certifications are maintained at the facility.
BOILERS					
45 CSR 2	**To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers**				
45-2-3	4.1.1 Title V Permit - App. C	Visible Emissions of Smoke and/or Particulate Matter Prohibited and Standards of Measurement	Opacity limit of 10% based on a six minute block average. VE standards apply at all times except periods of start-ups, shutdowns and malfunctions.	Yes	Monthly Method 9 visible emissions checks per *Proposed Monitoring & Recordkeeping Plans for Particulate Sources Under 45 CSR 2 at Weirton Steel Corporation.* (Revised August 2001) Records are maintained of observations. [See existing Title V Permit - Appendix C.]
45-2-4	4.1.2	Weight Emission Standards	Particulate emissions are limited to 151.2 pounds per hour for HP Boilers 3, 4, and 5 per Consent Order 11-1990.	Yes	The facility demonstrates compliance by stack testing once every three years as demonstrated during initial baseline testing in 2006.
45-2-4	4.1.8	Weight Emission Standards	Emissions of PM are not to exceed 11 lbs/hr from either of the two Foster Wheeler Boilers and total PM are not to exceed 68 TPY from both Boilers.	No	The Foster Wheeler Boilers are no longer in service.
45-2-8	3.3.1 3.4.1	Testing, Monitoring, Recordkeeping, and Reporting	Periodic testing required to demonstrate compliance. Monitoring can include use of a Monitoring Plan submitted to WVDEP. Records of boiler operations required, including operating schedule, quantity and type of fuel burned in each boiler. Periodic deviation reports must be submitted to WVDEP semi-annually.	Yes	ArcelorMittal Weirton follows the Monitoring Plan and the existing Title V Permit requirements to demonstrate compliance with rule requirements. [See existing Title V Permit - Appendix C.] Semi-Annual monitoring reports are submitted to the WVDEP including an identification of deviations from permit conditions. Records of boiler operation, including fuel type and usage and unit heat input, are maintained in the Facility's NOx Program/CAIR Part 75 CEM DAS.
45-2-9	4.1.3 4.1.4 4.5.2	Start-up, Shutdown and Malfunctions	The visible emission standards in 45-2-3 do not apply during periods of start-up, shutdown, or malfunction. The owner must report any malfunction which results in excess particulate matter or visible emissions in accordance with the rule.	Yes	The facility will maintain and operate the Boilers in a manner consistent with good work practices to minimize emissions. The facility will report any malfunctions which result in excess particulate matter or visible emissions in accordance with this section.
45-2-11		4 Exemptions	Fuel burning units with heat input less than 10 MMBtu/hr are exempt from sections 45-2-4, -5, -6, -8, and -9.	No	Does not apply to the boilers; heat inputs greater than 10 MMBtu/hr.

ATTACHMENT I
Regulatory Applicable Requirements - Boiler Operations (Title V Permit - Part 1)
ArcelorMittal Weirton, Weirton, West Virginia

Regulation	Existing Title V Condition	Title	Requirement	Applicable Regulation?	Compliance Method/Comments
45 CSR 2A	**Testing, Monitoring, Recordkeeping, and Reporting Requirements under 45CSR2**				
45-2A-3		Applicability	This rule applies to fuel burning units with heat input over 10 MMBtu/hr.	Yes	The five boilers at ArcelorMittal Weirton are each over 250 MMBtu/hr.
45-2A-5	4.3	Testing	Visible Emissions and Weight Emissions Testing required.	Yes	ArcelorMittal Weirton follows the Rule 2 Monitoring Plan for the boilers and conducts monthly Method 9 testing. Particulate emissions testing is performed at the allowed testing cycle of once everly three years for Boiler 3, 4, and 5. The two Foster Wheeler Boilers (#101 and #102) are no longer in service.
45-2A-6	Part 1 Permit App. C	VE Monitoring Plan	A Monitoring Plan can be submitted to WVDEP for approval for compliance demonstration of opacity requirements.	Yes	ArcelorMittal Weirton submitted *Proposed Monitoring & Recordkeeping Plans for Particulate Sources Under 45 CSR 2 at Weirton Steel Corporation.* (Revised August 2001) and utilizes monthly VE monitoring at each operating boiler.
45-2A-7.1	4.2.4-4.2.7	Recordkeeping and Reporting Requirements - Recordkeeping	Must keep records of the operating schedule and type and quantity of fuel burned in each operating boiler. These records must be kept for period of at least 5 years.	Yes	Records of boiler operation, including fuel type and usage and unit heat input, are maintained in the Facility's NOx Program/CAIR Part 75 CEM DAS.

ATTACHMENT I
Regulatory Applicable Requirements - Boiler Operations (Title V Permit - Part 1)
ArcelorMittal Weirton, Weirton, West Virginia

Regulation	Existing Title V Condition	Title	Requirement	Applicable Regulation?	Compliance Method/Comments
45 CSR 10	**To Prevent and Control Particulate Air Pollution from the Emissions of Sulfur Dioxide**				
45-10-3		Sulfur Dioxide Weight Emission Standards for Fuel Burning Units.	ArcelorMittal Weirton resides in a Priority I region, therefore, sulfur dioxide emissions are limited to 3.1 lb/MMBtu.	Yes	The facility will demonstrate compliance with this section by combusting only liquid fuel or natural gas.
45-10-3.6	4.1.5	Circumvention	No person shall circumvent the provisions of this rule by constructing a fuel burning unit larger than would be necessary to provide heat/power to the manufacturing plant, with the purpose to use the design heat input to raise the allowable sulfur content in fuel.	Yes	ArcelorMittal Weirton does not have plans to install any fuel burning equipment at this time.
45-10-3.8	4.1.6	Compliance Requirement	Compliance with the allowable SO2 emission limitation is based on a continuous 24 hour averaging time.	Yes	ArcelorMittal Weirton keeps records of the amount of fuel combusted in each boiler along with the fuel sulfur contents.
45-10-5		Combustion of Refinery or Process Gas Streams	Combustion of refinery gas or any other process gas stream with a hydrogen sulfide concentration greater than 50 grains per 100 cubic feet of gas is not permitted unless operating with a control.	No	The boilers combust only natural gas and/or liquid fuel and therefore are not subject to this section.
45-10-8		Testing , Monitoring, Recordkeeping and Reporting	Refer to CSR 45-10A and CO-SIP-2003-28	Yes	These requirements are detailed in CSR 45-10A and CO-SIP-2003-28
45-10-10		Exemptions	Fuel burning units with heat input less than 10 MMBtu/hr are exempt from this requirement.	No	Does not apply to the boilers; heat inputs greater than 10 MMBtu/hr.
45-10-11	4.1.7	Circumvention	Cannot dilute waste stream in order to meet permit limitations.	Yes	ArcelorMittal Weirton does not dilute boiler exhaust gas streams. The facility keeps records of the fuel sulfur content and boiler heat input for each individual boiler for the CAIR Ozone Season NOx Trading Program.

ATTACHMENT I
Regulatory Applicable Requirements - Boiler Operations (Title V Permit - Part 1)
ArcelorMittal Weirton, Weirton, West Virginia

Regulation	Existing Title V Condition	Title	Requirement	Applicable Regulation?	Compliance Method/Comments
45 CSR 10A	**Testing, Monitoring, Recordkeeping, and Reporting Requirements under 45CSR10**				
45-10A-3		Applicability	Fuel burning units with capacities less than 10 MMBtu/hr and fuel burning units which combust natural gas, wood or distillate oil alone, or in combination, are exempt from this rule.	Yes	ArcelorMittal Weirton Boilers are not exempt from this rule.
45-10A-5.1	4.3.3	Testing Requirements - Fuel Burning Units	Weight emission tests are to be conducted at a frequency established in the rule to demonstrate compliance with SO_2 emission limitations if required by the WVDEP.	Yes	Source emissions testing has not been required.
45-10A-6.1 & 6.3	Part 1 Permit App. C	Monitoring Plan Requirements - Fuel Burning Units	A monitoring plan must be submitted detailing method of demonstrating compliance with CSR 45-10-3.	Yes	The facility has submitted this monitoring plan: *Proposed Monitoring & Recordkeeping Plans for Sulfur Oxide Sources Under 45 CSR 10 at Weirton Steel Corporation, Revised August 2001 and follows Consent Order CO-SIP-C-2003-28*. WVDEP has not required SO_2 stack gas monitoring equipment at this time.
45-10A-7.1	4.4.1	Recordkeeping and Reporting Requirements - Recordkeeping	The following records must be kept: date and time of start-up and shutdown, daily fuel consumption, and periodic fuel analysis at a frequency set forth in the rule. These records must be kept for period of at least 5 years.	Yes	The facility keeps records of the fuel analysis parameters, such as sulfur content and GCV. Boiler heat input for each individual boiler is continuously monitored and recorded for the CAIR Ozone Season NOx Trading Program.

ATTACHMENT I
Regulatory Applicable Requirements - Boiler Operations (Title V Permit - Part 1)
ArcelorMittal Weirton, Weirton, West Virginia

Regulation	Existing Title V Condition	Title	Requirement	Applicable Regulation?	Compliance Method/Comments
CO-SIP-C-2003-28 Conditions					
IV.3.(b)	4.1.9.a.		High Pressure Boilers 1 and 2 shall not be operated by the Company.	Yes	Boilers 1 and 2 are no longer in service.
IV.3.(c)	4.1.9.b.		Low Pressure Boilers LP1, LP2, LP3, LP4, and LP15 shall not be operated by the Company.	Yes	These Boilers are no longer in service.
IV.3.(d)	4.1.9.c.		Coal shall not be fired at any boiler operated by the Company.	Yes	Coal is not fired in any boiler.
IV.3.(e)(1)	4.1.9.d.1.		SO_2 emissions from High Pressure Boilers 3, 4, and 5 shall be limited by restricting the firing of fuel oil to a rate dependent upon the sulfur content of the fuel oil fired as described in Appendix B of current Title V permit. The allowable fuel oil firing rate shall be the 3-hour block average expressed in total gallons of fuel oil fired at High Pressure Boilers 3, 4, and 5 over a 3-hour block period.	Yes	Fuel oil comsumption is continuously monitored at each boiler capable of firing oil and recorded in the DAS used for the CAIR Ozone Season NOx Trading Program. Meets: GPM = 91.7 x (1/%S)
IV.3.(e)(2)	4.1.9.d.2.		The percentage of sulfur contained in the fuel oil purchased to be fired at the company's high pressure boilers shall not exceed 3%.	Yes	Fuel oil suppliers provide %sulfur analysis data with each oil shipment. Oils recycled on-site (Veolia) are monitored for %sulfur content. All data are maintained for 5 years.
IV.3.(e)(3)	4.1.9.d.3.		Total fuel oil and sulfur content fired at boilers 3, 4, & 5 shall be limited to the product of (gpm)*(%S) being less than or equal to the emission factor of 91.7 as per the curve shown in Appendix B of the existing permit.	Yes	Fuel oil consumption and %sulfur records are periodically reviewed and deviations are reported on a semi-annual basis.
IV.3.(g)	4.1.9.e.		Foster Wheeler boilers #101 and #102 shall have a combined limit of 109.73 lbs/hr SO2 as determined by fuel usage and emission factors for SO_2 (as determined by testing for blast furnace gas, AP-42 factors, or other approved factors).	No	The Foster Wheeler Boilers are no longer in service.
V.1.	4.2.4		The permittee shall monitor and record the total number of gallons of fuel oil fired at High Pressure Boilers 3, 4, and 5 over every 3-hour block time period. The Company shall maintain records of the fuel oil usage for a period of 5 years and make such records available to DEP upon request.	Yes	Records of boiler operation, including fuel type and usage and unit heat input, are maintained in the Facility's NOx Program/CAIR Part 75 CEM DAS.
V.2.	4.2.5		The permittee shall require offsite suppliers of fuel oil to provide a copy of a fuel oil analysis certification from the supplier for each shipment of fuel oil received. Copies of such certifications shall be maintained by the Company for a period of 5 years and made available to the DEP upon request.	Yes	Records of fuel supplier shipments and fuel oil analyses are maintained by the Facility.
V.3.	4.2.6		The permittee shall conduct fuel oil analysis in accordance with American Society for Testing and Materials (ASTM) approved procedures and test methods to determine the sulfur content of the fuel oil fired at High Pressure Boilers 3, 4, and 5. The fuel oil analysis will be conducted each time the "as burned" fuel oil sulfur content is reasonably expected to increase by virtue of any addition of oil to the day tank used to circulate the oil to the burners. Fuel oil analysis shall be conducted at a minimum once per calendar quarter unless fuel oil is not fired for the reporting quarter. The Company shall maintain records of the fuel oil analysis for a period of 5 years and make such records available to DEP upon request.	Yes	Records of fuel supplier fuel oil analyses are maintained by the Facility.

ATTACHMENT I
Regulatory Applicable Requirements - Boiler Operations (Title V Permit - Part 1)
ArcelorMittal Weirton, Weirton, West Virginia

Regulation	Existing Title V Condition	Title	Requirement	Applicable Regulation?	Compliance Method/Comments
V.4.	4.2.7	The permittee shall monitor and record the amount of natural gas, blast furnace gas, and mixed gas combusted at all of the sources subject to numerical emission limits in Section 4.1.9. of this permit. The Company shall maintain records of the fuel usage for a period of 5 years and make such records available to DEP upon request.		Yes	Records of boiler operation, including fuel type and usage and unit heat input, are maintained in the Facility's NOx Program/CAIR Part 75 CEM DAS. Blast furnace gas is no longer available.
V.5.	4.2.8	Compliance with the numerical emission limits set forth in Section 4.1.9.e. of this permit shall be demonstrated based on emission calculations using the applicable daily fuel usage data and emission factors for SO2 (14.45 pounds of SO2 per million cubic feet for combustion of blast furnace gas as determined by testing).		No	Does not apply; blast furnace gas is no longer available.
45 CSR 40	**Control of Ozone Season NOx Emissions to Mitigate Interstate Transport of Ozone and Nitrogen Oxides**				
45-40-22	3.1.9 4.1.11	CAIR Permit	CAIR Permit Rquired	Yes	NOx Budget Permit Application and CAIR Permit Application were obtained as required.
45-40	4.2.3 4.5.3 4.5.4	Emissions Monitoring, Recordkeeping and Reporting	Owners/operators/ CAIR designated representative must comply with monitoring, recordkeeping and reporting requirements of 40 CFR Part 75.	Yes	ArcelorMittal Weirton monitors NOx emissions and unit heat input per the requirements of 40 CFR 75. CEMS and heat input instrumentation undergo QA checks at the required frequencies. Monitoring plan is updated as necessary. Records are maintained and reports are submitted electronically using EPA-CAMD ECMPS as required. A NOx allowance account is maintained and allowances are reconciled/deducted annually. FosterWheeler Boilers 101 (Unit 092) and 102 (Unit 093) are currently designated in this program as being in "long-term cold storage." Emissions monitoring and reporting is not required for these units at this time.

ATTACHMENT I
Regulatory Applicable Requirements - Boiler Operations (Title V Permit - Part 1)
ArcelorMittal Weirton, Weirton, West Virginia

Regulation	Existing Title V Condition	Title	Requirement	Applicable Regulation?	Compliance Method/Comments
40 CFR Part 60, Subpart D		**Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971**	Applies to boilers that were installed or modified after August 17, 1971 with heat inputs greater than 250 MMBtu/hr. No owner or operator subject to the provisions of 40 CFR 60, Subpart D shall cause to be discharged into the atmosphere from Foster Wheeler Boilers 101 and 102 any gases which contain nitrogen oxides, expressed as NO2 in excess of 0.20 lb per million Btu derived from gaseous fossil fuel.	No	40 CFR Part 60, Subpart D only applies to the two shutdown Foster Wheeler Boilers. This requirement no longer applies.
40 CFR 63 Subpart DDDDD (Proposed 6/4/2010)		**NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters**	Proposed requirements for existing boilers, process heaters and metal process furnaces (annealing, heat treating, etc.)	Yes (Future)	ArcelorMittal Weirton submitted an initial notification of applicability in March 2005. Applicable requirements for boilers will be followed upon promulgation of the final rule.
40 CFR 75 Subpart H Appendices A, B, D, F	**4.2.3**	**Continuous Emissions Monitoring - NOx Mass Emissions Provisions**	Owners/operators/ CAIR designated representative must comply with monitoring, recordkeeping and reporting requirements of 40 CFR Part 75.	Yes	ArcelorMittal Weirton monitors NOx emissions and unit heat input per the requirements of 40 CFR 75. Records are maintained and reports are submitted electronically as required.
40 CFR 98		**Mandatory Greenhouse Gas Reporting**	Must meet reporting requirements for Greenhouse Gas (GHG) emissions for applicable sources.	Yes	ArcelorMittal Weirton meets the threshold for reporting GHG emissions for Boilers and other applicable Facility sources. First report is due in March 2011.

ATTACHMENT I
Regulatory Applicable Requirements - Boiler Operations (Title V Permit - Part 1)
ArcelorMittal Weirton, Weirton, West Virginia

Regulation	Existing Title V Condition	Title	Requirement	Applicable Regulation?	Compliance Method/Comments
EMERGENCY GENERATOR					
40 CFR 63 Subpart ZZZZ		**National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**			
§63.6580 §63.6585 §63.6590		Purpose and Applicability Affected Source	Subpart ZZZZ establishes emission and operating limitations for HAPs emitted fron stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions.	Yes	ArcelorMittal Weirton has on-site one existing stationary RICE >500 HP used for emergency purposes. The RICE was installed prior to 1995.
§63.6640(f)(1)		Emergency RICE Requirements	Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year is prohibited.	Yes	ArcelorMittal Weirton will limit use of the emergency generator to emergency situations and maintenance and testing.
§63.6640(f)(2)		Emergency RICE Requirements	There is no time limit on the use of emergency stationary RICE in emergency situations.	Yes	
§63.6640(f)(3)		Emergency RICE Requirements	Operation of the RICE for maintenance checks and readiness testing, as recommended by manufacturers or insurers, is limited to 100 hours per year.	Yes	ArcelorMittal Weirton will limit use of the emergency generator for maintenance and readiness checks to less than 100 hours per year. An hour-count meter will be used to verify the usage of the emergency generator.
§63.6640(f)(4)		Emergency RICE Requirements	The 50 hours of non-emergency generator useage are counted towards the 100 hours per year operational limit provided for maintenance and testing. The 50 hours of non-emergency generator usage for non-emergency situations cannot be used for peak shaving or to generate income for a facilty to supply power to an electric grid or other arrangement. A maximum of 15 hours per year of operation is allowed as part of a local or regional demand response program in the event of an emergency blackout situation.	Yes	

ATTACHMENT J

2010 Potential Emissions Inventory

Table 2-1. Emission Calculations, Boilers, Summary of Potential to Emit
ArcelorMittal Weirton Inc., Weirton, West Virginia

i-Steps ID	Source Description	PM	PM-10	PM-2.5	NOx	SO_2	CO	N_2O	CO_2	CH_4	VOC	Total HAPS
		Potential to Emit (tons/yr)										
089-1 & 089-5	#3 High Pressure Boiler, Natural Gas Usage	16.34	16.34	16.34	602.05	1.29	180.62	4.73	258,022	4.95	11.83	4.06
089-3	#3 High Pressure Boiler, #6 Fuel Oil Usage	251.09	178.27	130.56	432.31	3783.51	45.99	4.87	229,950	2.58	6.99	1.34
089-4	#3 High Pressure Boiler, Mixed Gas Usage	16.34	16.34	16.34	602.05	1.29	180.62	4.73	258,022	4.95	11.83	4.06
Maximum Potential for HPB No. 3	540 MMBtu/hr	251.09	178.27	130.56	602.05	3783.51	180.62	4.87	258,022	4.95	11.83	4.06
090-1 & 090-5	#4 High Pressure Boiler, Natural Gas Usage	16.34	16.34	16.34	602.05	1.29	180.62	4.73	258,022	4.95	11.83	4.06
090-3	#4 High Pressure Boiler, #6 Fuel Oil Usage	249.67	177.27	129.83	411.72	3783.51	43.80	4.64	219,000	2.45	6.66	1.28
090-4	#4 High Pressure Boiler, Mixed Gas Usage	16.34	16.34	16.34	602.05	1.29	180.62	180.62	258,022	4.95	11.83	4.06
Maximum Potential for HPB No. 4	540 MMBtu/hr	249.67	177.27	129.83	602.05	3783.51	180.62	180.62	258,022	4.95	11.83	4.06
091-1 & 091-5	#5 High Pressure Boiler, Natural Gas Usage	18.16	18.16	18.16	668.95	1.43	200.68	5.26	286,691	5.49	13.14	4.51
091-3	#5 High Pressure Boiler, #6 Fuel Oil Usage	263.78	187.28	137.16	617.58	3783.51	65.70	6.96	328,500	3.68	9.99	1.91
Maximum Potential for HPB No. 5	600 MMBtu/hr	263.78	187.28	137.16	668.95	3783.51	200.68	6.96	328,500	5.49	13.14	4.51
TOTAL BOILERS		764.54	542.82	397.56	1873.05	11350.52	561.91	192.45	844,544	15.39	36.79	12.62

Table 2-2. Emission Calculations, Boilers, Summary of Potential to Emit
ArcelorMittal Weirton Inc., Weirton, West Virginia

i-Steps ID	Source Description	Potential to Emit (lbs/hr) PM	PM-10	PM-2.5	NOx	SO_2	CO	N_2O	CO_2	CH_4	VOC	Total HAPS
089-1 & 089-5	#3 High Pressure Boiler, Natural Gas Usage	3.73	3.73	3.73	137.45	0.29	41.24	1.08	58,909	1.13	2.70	0.93
089-3	#3 High Pressure Boiler, #6 Fuel Oil Usage	57.33	40.70	29.81	98.70	863.81	10.50	1.11	52,500	0.59	1.60	0.31
089-4	#3 High Pressure Boiler, Mixed Gas Usage	3.73	3.73	3.73	137.45	0.29	41.24	1.08	58,909	1.13	2.70	0.93
Maximum Potential for HPB No. 3	540 MMBtu/hr	57.33	40.70	29.81	137.45	863.81	41.24	1.11	58,909	1.13	2.70	0.93
090-1 & 090-5	#4 High Pressure Boiler, Natural Gas Usage	3.73	3.73	3.73	137.45	0.29	41.24	1.08	58,909	1.13	2.70	0.93
090-3	#4 High Pressure Boiler, #6 Fuel Oil Usage	57.00	40.47	29.64	94.00	863.81	10.00	1.06	50,000	0.56	1.52	0.29
090-4	#4 High Pressure Boiler, Mixed Gas Usage	3.73	3.73	3.73	137.45	0.29	41.24	41.24	58,909	1.13	2.70	0.93
Maximum Potential for HPB No. 4	540 MMBtu/hr	57.00	40.47	29.64	137.45	863.81	41.24	41.24	58,909	1.13	2.70	0.93
091-1 & 091-5	#5 High Pressure Boiler, Natural Gas Usage	4.15	4.15	4.15	152.73	0.33	45.82	1.20	65,455	1.25	3.00	1.03
091-3	#5 High Pressure Boiler, #6 Fuel Oil Usage	60.22	42.76	31.32	141.00	863.81	15.00	1.59	75,000	0.84	2.28	0.44
Maximum Potential for HPB No. 5	600 MMBtu/hr	60.22	42.76	31.32	152.73	863.81	45.82	1.59	75,000	1.25	3.00	1.03
TOTAL BOILERS		174.55	123.93	90.77	427.64	2591.44	128.29	43.94	192,818	3.51	8.40	2.88

Table 2.3 HAPS Potential to Emit, Boilers
ArcelorMittal Weirton Inc., Weirton, West Virginia

		No. 3 High Pressure Boiler	No. 4 High Pressure Boiler	No. 5 High Pressure Boiler	
	i-Steps ID:	089-1	090-1	091-1	Overall Total
Pollutant	**Worst Case Fuel:**	PTE Emissions (tons/yr)	PTE Emissions (tons/yr)	PTE Emissions (tons/yr)	PTE Emissions (tons/yr)
Benzene	Natural Gas	4.87E-03	4.87E-03	5.31E-03	1.50E-02
Ethylbenzene	Fuel Oil	5.85E-04	5.57E-04	8.36E-04	1.98E-03
Naphthalene	Fuel Oil	1.04E-02	9.90E-03	1.48E-02	3.51E-02
Toluene	Fuel Oil	5.70E-02	5.43E-02	8.15E-02	1.93E-01
o-Xylene	Fuel Oil	1.00E-03	9.55E-04	1.43E-03	3.39E-03
POM	Fuel Oil	1.20E-02	1.14E-02	1.71E-02	4.04E-02
Formaldehyde	Fuel Oil	3.04E-01	2.89E-01	4.34E-01	1.03E+00
Hexane	Natural Gas	3.87E+00	3.87E+00	4.30E+00	1.20E+01
Antimony	Fuel Oil	4.83E-02	4.60E-02	6.90E-02	1.63E-01
Arsenic	Fuel Oil	1.21E-02	1.16E-02	1.73E-02	4.10E-02
Beryllium	Fuel Oil	2.56E-04	2.44E-04	3.65E-04	8.65E-04
Cadmium	Fuel Oil	3.66E-03	3.49E-03	5.23E-03	1.24E-02
Chromium	Fuel Oil	7.77E-03	7.40E-03	1.11E-02	2.63E-02
Cobalt	Fuel Oil	5.54E-02	5.27E-02	7.91E-02	1.87E-01
Lead	Fuel Oil	1.39E-02	1.32E-02	1.98E-02	4.70E-02
Manganese	Fuel Oil	2.76E-02	2.63E-02	3.94E-02	9.33E-02
Mercury	Fuel Oil	1.04E-03	9.90E-04	1.48E-03	3.51E-03
Nickel	Fuel Oil	7.77E-01	7.40E-01	1.11E+00	2.63E+00
Selenium	Fuel Oil	6.28E-03	5.98E-03	8.97E-03	2.12E-02
TOTAL HAPS (TPY)		5.21	5.15	6.22	16.58

Table 2.4 Potential to Emit, No. 3 High Pressure Boiler
ArcelorMittal Weirton Inc., Weirton, West Virginia

	No. 3 High Pressure Boiler								
	540 MMBtu/hr								
	Natural Gas			#6 Fuel Oil			Mixed Gas		
i-Steps ID:	089-1 & 089-5			089-3			089-4		
				Consent Order[3]:	35	Gal/min			
Assumptions	**1,100** Btu/scf			2.62% sulfur	**2,100**	Gal/hr	**825** Btu/scf		
	Emission	PTE	PTE	Emission	PTE	PTE	Emission	PTE	PTE
	Factor[1]	Emissions	Emissions	Factor[2]	Emissions	Emissions	Factor[4]	Emissions	Emissions
Pollutant	(lb/mmcf)	(lb/hr)	(tons/yr)	(lb/10^3 gal)	(lb/hr)	(tons/yr)	(lb/mmcf)	(lb/hr)	(tons/yr)
PM	7.6	3.73	16.34	27.30	57.33	251.09	5.70	3.73	16.34
PM-10	7.6	3.73	16.34	19.38	40.70	178.27	5.70	3.73	16.34
PM-2.5	7.6	3.73	16.34	14.19	29.81	130.56	5.70	3.73	16.34
NOx	280	137.45	602.05	47.00	98.70	432.31	210.00	137.45	602.05
SO_2	0.6	0.29	1.29	411.34	863.81	3783.51	0.45	0.29	1.29
CO	84	41.24	180.62	5.00	10.50	45.99	63.00	41.24	180.62
N_2O	2.2	1.08	4.73	0.53	1.11	4.87	1.65	1.08	4.73
CO_2	120,000	58909.09	258,021.82	25,000.000	52500.00	229950.00	90000.00	58909.09	258,021.82
CH_4	2.3	1.13	4.95	0.28	0.59	2.58	1.73	1.13	4.95
VOC	5.5	2.70	11.83	0.76	1.60	6.99	4.13	2.70	11.83
Benzene[5, 6]	2.10E-03	1.03E-03	4.52E-03	2.14E-04	4.49E-04	1.97E-03	1.58E-03	1.03E-03	4.52E-03
Ethylbenzene[5, 6]				6.36E-05	1.34E-04	5.85E-04	0.00E+00		
Naphthalene[5, 6]	6.10E-04	2.99E-04	1.31E-03	1.13E-03	2.37E-03	1.04E-02	4.58E-04	2.99E-04	1.31E-03
Toluene[5, 6]	3.40E-03	1.67E-03	7.31E-03	6.20E-03	1.30E-02	5.70E-02	2.55E-03	1.67E-03	7.31E-03
o-Xylene[5, 6]				1.09E-04	2.29E-04	1.00E-03	0.00E+00		
POM[5]	8.82E-05	4.33E-05	1.90E-04	1.30E-03	2.73E-03	1.20E-02	6.62E-05	4.33E-05	1.90E-04
Formaldehyde[5, 6]	7.50E-02	3.68E-02	1.61E-01	3.30E-02	6.93E-02	3.04E-01	5.63E-02	3.68E-02	1.61E-01
Hexane[5, 6]	1.80E+00	8.84E-01	3.87E+00		0.00E+00		1.35E+00	8.84E-01	3.87E+00
Antimony[5, 6]				5.25E-03	1.10E-02	4.83E-02	0.00E+00		
Arsenic[5, 6]	2.00E-04	9.82E-05	4.30E-04	1.32E-03	2.77E-03	1.21E-02	1.50E-04	9.82E-05	4.30E-04
Beryllium[5, 6]	1.20E-05	5.89E-06	2.58E-05	2.78E-05	5.84E-05	2.56E-04	9.00E-06	5.89E-06	2.58E-05
Cadmium[5, 6]	1.10E-03	5.40E-04	2.37E-03	3.98E-04	8.36E-04	3.66E-03	8.25E-04	5.40E-04	2.37E-03
Chromium[5, 6]	1.40E-03	6.87E-04	3.01E-03	8.45E-04	1.77E-03	7.77E-03	1.05E-03	6.87E-04	3.01E-03
Cobalt[5, 6]	8.40E-05	4.12E-05	1.81E-04	6.02E-03	1.26E-02	5.54E-02	6.30E-05	4.12E-05	1.81E-04
Lead[5, 6]	0.0005	2.45E-04	1.08E-03	1.51E-03	3.17E-03	1.39E-02	3.75E-04	2.45E-04	1.08E-03
Manganese[5, 6]	3.80E-04	1.87E-04	8.17E-04	3.00E-03	6.30E-03	2.76E-02	2.85E-04	1.87E-04	8.17E-04
Mercury[5, 6]	2.60E-04	1.28E-04	5.59E-04	1.13E-04	2.37E-04	1.04E-03	1.95E-04	1.28E-04	5.59E-04
Nickel[5, 6]	2.10E-03	1.03E-03	4.52E-03	8.45E-02	1.77E-01	7.77E-01	1.58E-03	1.03E-03	4.52E-03
Selenium[5, 6]	2.40E-05	1.18E-05	5.16E-05	6.83E-04	1.43E-03	6.28E-03	1.80E-05	1.18E-05	5.16E-05
TOTAL HAPS		9.26E-01	4.06E+00		3.06E-01	1.34E+00		9.26E-01	4.06E+00

[1] Emission factors contained in AP-42, Section 1.4, *Natural Gas Combustion,* 7/98. Emission factor for PM is the sum of condensable and filterable.

[2] Emission factors contained in AP-42, Section 1.3, Fuel Oil Combustion, 9/98, Update 5/2010. Emission factor for PM is the sum of condensable and filterable.
Filterable PM emission factor is contained in Table 1.3-1. Condensible PM emission factor is contained in Table 1.3-2.
The cumulative mass percent of PM-10 and PM2.5 emissions are 71% and 52%, respectively, total PM, as listed in Table 1.3-4.

[3] The sulfur content of the fuel is **2.62 %** =1/(35 GPM/91.7)
(Maximum allowed per Consent Order is 3% sulfur. For other %sulfur contents - see Consent Order Graph of Fuel Firing Rate vs. %Sulfur; GPM = 91.7 x [1/%sulfur])
Maximum fuel rate (2,100 gal/hr) from CAIR NOx Ozone Season Trading Program Monitoring Plan.

[4] Emissions factors contained in AP-42, Section 1.4, *Natural Gas Combustion,* 7/98. These factors were corrected for Mixed Gas by multiplying the emission factor by a ratio of heating values.
Mixed Gas is a dilute mixture of Natural Gas and Oxygen (ratio of 75:25). GCV from CAIR NOx Ozone Season Trading Program.

[5] Hazardous Air Pollutant (HAP) chemical

[6] Toxic Release Inventory (TRI) chemical

Table 2.5 Potential to Emit, No. 4 High Pressure Boiler
ArcelorMittal Weirton Inc., Weirton, West Virginia

	No. 4 High Pressure Boiler								
	540 MMBtu/hr								
	Natural Gas			#6 Fuel Oil			Mixed Gas		
i-Steps ID:	090-1 & 090-5			090-3			090-4		
				Consent Order[3]:	33.3	Gal/min			
Assumptions	**1,100** Btu/scf			2.75% sulfur	**2,000**	Gal/hr	**825** Btu/scf		
	Emission	PTE	PTE	Emission	PTE	PTE	Emission	PTE	PTE
	Factor[1]	Emissions	Emissions	Factor[2]	Emissions	Emissions	Factor[4]	Emissions	Emissions
Pollutant	(lb/mmcf)	(lb/hr)	(tons/yr)	(lb/10^3 gal)	(lb/hr)	(tons/yr)	(lb/mmcf)	(lb/hr)	(tons/yr)
PM	7.6	3.73	16.34	28.50	57.00	249.67	5.70	3.73	16.34
PM-10	7.6	3.73	16.34	20.24	40.47	177.27	5.70	3.73	16.34
PM-2.5	7.6	3.73	16.34	14.82	29.64	129.83	5.70	3.73	16.34
NOx	280	137.45	602.05	47.00	94.00	411.72	210.00	137.45	602.05
SO_2	0.6	0.29	1.29	431.91	863.81	3783.51	0.45	0.29	1.29
CO	84	41.24	180.62	5.00	10.00	43.80	63.00	41.24	180.62
N_2O	2.2	1.08	4.73	0.53	1.06	4.64	1.65	1.08	4.73
CO_2	120,000	58909.09	258,021.82	25,000.000	50000.00	219000.00	90000.00	58909.09	258,021.82
CH_4	2.3	1.13	4.95	0.28	0.56	2.45	1.73	1.13	4.95
VOC	5.5	2.70	11.83	0.76	1.52	6.66	4.13	2.70	11.83
Benzene[5, 6]	2.10E-03	1.03E-03	4.52E-03	2.14E-04	4.28E-04	1.87E-03	1.58E-03	1.03E-03	4.52E-03
Ethylbenzene[5, 6]				6.36E-05	1.27E-04	5.57E-04	0.00E+00		
Naphthalene[5, 6]	6.10E-04	2.99E-04	1.31E-03	1.13E-03	2.26E-03	9.90E-03	4.58E-04	2.99E-04	1.31E-03
Toluene[5, 6]	3.40E-03	1.67E-03	7.31E-03	6.20E-03	1.24E-02	5.43E-02	2.55E-03	1.67E-03	7.31E-03
o-Xylene[5, 6]				1.09E-04	2.18E-04	9.55E-04	0.00E+00		
POM[5]	8.82E-05	4.33E-05	1.90E-04	1.30E-03	2.60E-03	1.14E-02	6.62E-05	4.33E-05	1.90E-04
Formaldehyde[5, 6]	7.50E-02	3.68E-02	1.61E-01	3.30E-02	6.60E-02	2.89E-01	5.63E-02	3.68E-02	1.61E-01
Hexane[5, 6]	1.80E+00	8.84E-01	3.87E+00		0.00E+00		1.35E+00	8.84E-01	3.87E+00
Antimony[5, 6]				5.25E-03	1.05E-02	4.60E-02	0.00E+00		
Arsenic[5, 6]	2.00E-04	9.82E-05	4.30E-04	1.32E-03	2.64E-03	1.16E-02	1.50E-04	9.82E-05	4.30E-04
Beryllium[5, 6]	1.20E-05	5.89E-06	2.58E-05	2.78E-05	5.56E-05	2.44E-04	9.00E-06	5.89E-06	2.58E-05
Cadmium[5, 6]	1.10E-03	5.40E-04	2.37E-03	3.98E-04	7.96E-04	3.49E-03	8.25E-04	5.40E-04	2.37E-03
Chromium[5, 6]	1.40E-03	6.87E-04	3.01E-03	8.45E-04	1.69E-03	7.40E-03	1.05E-03	6.87E-04	3.01E-03
Cobalt[5, 6]	8.40E-05	4.12E-05	1.81E-04	6.02E-03	1.20E-02	5.27E-02	6.30E-05	4.12E-05	1.81E-04
Lead[5, 6]	0.0005	2.45E-04	1.08E-03	1.51E-03	3.02E-03	1.32E-02	3.75E-04	2.45E-04	1.08E-03
Manganese[5, 6]	3.80E-04	1.87E-04	8.17E-04	3.00E-03	6.00E-03	2.63E-02	2.85E-04	1.87E-04	8.17E-04
Mercury[5, 6]	2.60E-04	1.28E-04	5.59E-04	1.13E-04	2.26E-04	9.90E-04	1.95E-04	1.28E-04	5.59E-04
Nickel[5, 6]	2.10E-03	1.03E-03	4.52E-03	8.45E-02	1.69E-01	7.40E-01	1.58E-03	1.03E-03	4.52E-03
Selenium[5, 6]	2.40E-05	1.18E-05	5.16E-05	6.83E-04	1.37E-03	5.98E-03	1.80E-05	1.18E-05	5.16E-05
TOTAL HAPS		9.26E-01	4.06E+00		2.91E-01	1.28E+00		9.26E-01	4.06E+00

[1] Emission factors contained in AP-42, Section 1.4, *Natural Gas Combustion,* 7/98. Emission factor for PM is the sum of condensable and filterable.

[2] Emission factors contained in AP-42, Section 1.3, Fuel Oil Combustion, 9/98, Update 5/2010. Emission factor for PM is the sum of condensable and filterable.
Filterable PM emission factor is contained in Table 1.3-1. Condensible PM emission factor is contained in Table 1.3-2.
The cumulative mass percent of PM-10 and PM2.5 emissions are 71% and 52%, respectively, total PM, as listed in Table 1.3-4.

[3] The sulfur content of the fuel is **2.75 %** =1/(33.3 GPM/91.7)
(Maximum allowed per Consent Order is 3% sulfur. For other %sulfur contents - see Consent Order Graph of Fuel Firing Rate vs. %Sulfur; GPM = 91.7 x [1/%sulfur])
Maximum fuel rate (2,000 gal/hr) from CAIR NOx Ozone Season Trading Program Monitoring Plan.

[4] Emissions factors contained in AP-42, Section 1.4, *Natural Gas Combustion,* 7/98. These factors were corrected for Mixed Gas by multiplying the emission factor by a ratio of heating values.
Mixed Gas is a dilute mixture of Natural Gas and Oxygen (ratio of 75:25). GCV from CAIR NOx Ozone Season Trading Program.

[5] Hazardous Air Pollutant (HAP) chemical

[6] Toxic Release Inventory (TRI) chemical

Table 2.6 Potential to Emit, No. 5 High Pressure Boiler
ArcelorMittal Weirton Inc., Weirton, West Virginia

	No. 5 High Pressure Boiler					
	600 MMBtu/hr					
i-Steps ID:	Natural Gas 091-1 & 091-5			#6 Fuel Oil 091-3		
Assumptions	**1,100** Btu/scf			Consent Order[3]: 1.83% sulfur	50 **3,000**	Gal/min Gal/hr
Pollutant	Emission Factor[1] (lb/mmcf)	PTE Emissions (lb/hr)	PTE Emissions (tons/yr)	Emission Factor[2] (lb/10^3 gal)	PTE Emissions (lb/hr)	PTE Emissions (tons/yr)
PM	7.6	4.15	18.16	20.07	60.22	263.78
PM-10	7.6	4.15	18.16	14.25	42.76	187.28
PM-2.5	7.6	4.15	18.16	10.44	31.32	137.16
NOx	280	152.73	668.95	47.00	141.00	617.58
SO_2	0.6	0.33	1.43	287.94	863.81	3783.51
CO	84	45.82	200.68	5.00	15.00	65.70
N_2O	2.2	1.20	5.26	0.53	1.59	6.96
CO_2	120,000	65454.55	286,690.91	25,000.000	75000.00	328500.00
CH_4	2.3	1.25	5.49	0.28	0.84	3.68
VOC	5.5	3.00	13.14	0.76	2.28	9.99
Benzene[5,6]	2.10E-03	1.15E-03	5.02E-03	2.14E-04	6.42E-04	2.81E-03
Ethylbenzene[5,6]				6.36E-05	1.91E-04	8.36E-04
Naphthalene[5,6]	6.10E-04	3.33E-04	1.46E-03	1.13E-03	3.39E-03	1.48E-02
Toluene[5,6]	3.40E-03	1.85E-03	8.12E-03	6.20E-03	1.86E-02	8.15E-02
o-Xylene[5,6]				1.09E-04	3.27E-04	1.43E-03
POM[5]	8.82E-05	4.81E-05	2.11E-04	1.30E-03	3.90E-03	1.71E-02
Formaldehyde[5,6]	7.50E-02	4.09E-02	1.79E-01	3.30E-02	9.90E-02	4.34E-01
Hexane[5,6]	1.80E+00	9.82E-01	4.30E+00		0.00E+00	
Antimony[5,6]				5.25E-03	1.58E-02	6.90E-02
Arsenic[5,6]	2.00E-04	1.09E-04	4.78E-04	1.32E-03	3.96E-03	1.73E-02
Beryllium[5,6]	1.20E-05	6.55E-06	2.87E-05	2.78E-05	8.34E-05	3.65E-04
Cadmium[5,6]	1.10E-03	6.00E-04	2.63E-03	3.98E-04	1.19E-03	5.23E-03
Chromium[5,6]	1.40E-03	7.64E-04	3.34E-03	8.45E-04	2.54E-03	1.11E-02
Cobalt[5,6]	8.40E-05	4.58E-05	2.01E-04	6.02E-03	1.81E-02	7.91E-02
Lead[5,6]	0.0005	2.73E-04	1.19E-03	1.51E-03	4.53E-03	1.98E-02
Manganese[5,6]	3.80E-04	2.07E-04	9.08E-04	3.00E-03	9.00E-03	3.94E-02
Mercury[5,6]	2.60E-04	1.42E-04	6.21E-04	1.13E-04	3.39E-04	1.48E-03
Nickel[5,6]	2.10E-03	1.15E-03	5.02E-03	8.45E-02	2.54E-01	1.11E+00
Selenium[5,6]	2.40E-05	1.31E-05	5.73E-05	6.83E-04	2.05E-03	8.97E-03
TOTAL HAPS		1.03E+00	4.51E+00		4.37E-01	1.91E+00

[1] Emission factors contained in AP-42, Section 1.4, *Natural Gas Combustion,* 7/98. Emission factor for PM is the sum of condensable and filterable.

[2] Emission factors contained in AP-42, Section 1.3, Fuel Oil Combustion, 9/98, Update 5/2010. Emission factor for PM is the sum of condensable and filterable.
Filterable PM emission factor is contained in Table 1.3-1. Condensible PM emission factor is contained in Table 1.3-2.
The cumulative mass percent of PM-10 and PM2.5 emissions are 71% and 52%, respectively, total PM, as listed in Table 1.3-4.

[3] The sulfur content of the fuel is **1.83** % =1/(50 GPM/91.7)
(Maximum allowed per Consent Order is 3% sulfur. For other %sulfur contents - see Consent Order Graph of Fuel Firing Rate vs. %Sulfur; GPM = 91.7 x [1/%sulfur])
Maximum fuel rate (3,000 gal/hr) from CAIR NOx Ozone Season Trading Program Monitoring Plan.

[5] Hazardous Air Pollutant (HAP) chemical

[6] Toxic Release Inventory (TRI) chemical

Table 2-7. Potential to Emit, Caterpillar Emergency Generator
ArcelorMittal Weirton Inc., Weirton, West Virginia

					Emission Factors**, grams/bhp-hr @ 100% load				
					6.46	0.37	0.01	0.024	
Unit 1 Generator					Emission Factors, lbs/bhp-hr				
Make/model	kW	MMBTU/hr	bhp*	Fuel type	NOx	CO	VOC	PM10	SOx***
Caterpillar 455KW	455	4.74	610	diesel	0.0142	0.0008	0.0000	0.0001	0.0021

	Maximum Hourly Emissions, lbs				
	NOx	CO	VOC	PM10	SOx
	8.682	0.497	0.013	0.032	1.281
	Maximum Daily Emissions, lbs				
Hrs/day	NOx	CO	VOC	PM10	SOx
2	17.364	0.995	0.027	0.065	2.563
	Annual Emissions, tons				
Hrs/year	NOx	CO	VOC	PM10	SOx
100	0.434	0.025	0.001	0.002	0.064

* bhp is brake horsepower; 1 bhp = 0.7457 kW
** Emission factors from Manufacturer's Literature
*** Factor from AP-42

Attachment K

Revised Appendix C
Rule 2 and 10 Monitoring Plans

PROPOSED
MONITORING & RECORDKEEPING PLANS
FOR PARTICULATE SOURCES
UNDER 45 CSR 2
AT WEIRTON STEEL CORPORATION
WEIRTON, WEST VIRGINIA

FEBRUARY 2001
(Revised August 2001)

Now ArcelorMittal Weirton, Inc.

Revised For Title V Renewal Application

November 2010

(a) **Regulatory Requirement**

In accordance with 45 CSR 2 §8.2.a, the following is the proposed plan for monitoring compliance with the opacity standards set forth in 45 CSR 2 §3.

(b) **Facility Information:**

Facility Name: ArcelorMittal Weirton, Inc.

Facility Address: ArcelorMittal Weirton, Inc.
100 Pennsylvania Avenue
Weirton, West Virginia 26062

Facility Contact: Mike Mieczkowski
(304) 797-3908

Facility Description:

ArcelorMittal Weirton, Inc. is a finishing steel mill.

It is located in the City of Weirton, Hancock County, West Virginia.

Operations include:

- Steel Rolling, Finishing and Coating
- Boiler Operations
- Hydrogen Plant

(c) **Affected Units:**

Units which are regulated by 45 CSR 2 are Fuel Burning Units as defined in 45 CSR 2, §2.10. The specific units affected are the facility Boilers Nos. 3, 4, and 5.

All Units are in excess of 250 mmBtu/hr of designed heat input (DHI).

All boilers currently burn natural gas, mixed gas (dilute natural gas [70-75%]), No. 6 fuel oil or a combination of these fuels. Natural gas and mixed gas would be exempt from monitoring requirements (45 CSR 2A §3.1.a.). The facility's boilers have a history of demonstrated compliance with the opacity regulations based upon Method 9 observations and compliance inspections. Therefore, the boilers should not require continuous opacity monitors (COMS) (45 CSR 2A §6.2.a.1)

(d) Monitoring Methods

Monitoring will be performed on each of the affected sources per the attached "Source Summary Table".

(e) Reporting, Recordkeeping and Operating Parameters

Per the requirements of 45 CSR 2A §7.1a, records shall be maintained noting operating schedule, and the quality and quantity of fuel burned.

Operating schedule records for each boiler shall include:

- Date and time of start-up and shutdown
- Monthly quantity and type of fuel burned

Fuel Quality

- Annual supplier BTU analysis for natural gas and mixed **gas** (70% natural gas/30% make-up air)
- Shipment BTU and ash analysis for Fuel Oil

Operating Parameters

Per the requirements of 45 CSR 2A §6.3.a.2.-3.a.6., ArcelorMittal Weirton Inc. will:

- Use video cameras to permit boiler operators to continually observe the stacks for Boilers #3, #4, and #5 for smoke or other visual emissions while the boiler is in operation. Fuel oil is used in these boilers and the cameras provide a means to ensure that changes in fuel oil/gas feed rate and mixture will not result in visible emissions.
- If operators observe any visual emissions, proper adjustments to fuel feed rate, firing air and/or other relevant operating inputs will be made.
- If changes in operating inputs fail to correct the observed visual emissions, then the monitoring plan's excursion plan will be implemented.

The use of video cameras to permit stack observations was chosen to meet the requirements of 45 CSR 2A §6.3.a5 based upon:

- This approach is more thorough than monitoring other possible operating inputs.
- The type of fuels used.
- The compliance history of these units.
- This is an existing system.

The operating range, any visible emissions, was chosen based upon:
Current operating practices

- Current operating practices.
- Type of fuels used.
- Compliance history.

All records will be maintained for a period of 5 years.

(f) Excursion Response Plan

If after a period of one hour visible emissions are still present, a Method 9 test shall be performed for a minimum of 6 minutes for each hour until 4 successive six-minute observations demonstrate compliance.

For periods over one hour where visible emissions are observed, but proper conditions do not exist for Method 9 observations:

- The time when visible emissions were first observed will be recorded.
- The time when visible emissions were no longer apparent will be recorded.
- A Method 9 test shall be performed when proper conditions are available, unless waived by the West Virginia Department of Environmental Protection.

Records of all excursion information will be maintained for a period of 5 years.

(g) Monitoring Summary/Excursion and Monitoring Plan Performance Reports

Per the requirements of 45 CSR 2A §7.2.c, the Monitoring Summary and Excursion and Monitoring Plan Performance Report shall be submitted to the Director on a quarterly basis except when the total percent of excursions is less than 1% and the total number of missing readings is less than 5%.

Then, per 45 CSR 2A §7.2.c.1 - 2, the Excursion and Monitoring Plan Performance Report will be maintained on-site and shall be submitted to the Director upon request. All reports shall be postmarked by the thirtieth day following the end of each calendar quarter.

The Monitoring Summary Report will include for each source:

- Number of Operating Days
- Quantity and type of fuel used (where applicable)

The Excursion and Monitoring Plan Performance Report will include:

- The date, time (starting and ending) and magnitude of each excursion.
- Identification of excursions occurring during start-ups, shutdowns and malfunctions.
- The nature and cause of any excursion (if known), and the corrective action and preventative measures adopted (if any).
- The date and time when data are unavailable and the reason data are unavailable and the corrective action taken.
- A statement noting when there are no excursions or periods of data unavailability.

(h) Implementation Plan

Upon approval of this monitoring plan or any subsequent revisions to the plan, an implementation period is necessary to properly commence required testing, data gathering, monitoring, recordkeeping and reporting. The reporting and recordkeeping systems described in this plan require sixty days from the receipt of the final plan approval for implementation.

Any modification to this plan requires the implementation schedule be reviewed and properly amended. Modifications are any changes to the submitted plan and include but are not limited to variations in monitoring or tracking methodology, additional instrumentation or other capital improvements, and/or additional requests or conditions.

ARCELORMITTAL WEIRTON, INC.
SOURCE SUMMARY TABLE
PROPOSED 45 CSR 2 MONITORING PLAN

Unit ID	Source	DHI (MMBtu/hr)	Fuels	Applicable Standard	Proposed Monitoring	Frequency
089	Boiler #3	540	Mixed Gas N Gas Fuel Oil	10% Opacity 6-min. block avg. per 45CSR2 §3.1	• Method 9 • Stack Video Cameras	1. Monthly 2. Continuously
090	Boiler #4	540	Mixed Gas N Gas Fuel Oil	10% Opacity 6-min. block avg. per 45CSR2 §3.1	• Method 9 • Stack Video Cameras	1. Monthly 2. Continuously
091	Boiler #5	600	N Gas Fuel Oil	10% Opacity 6-min. block avg. per 45CSR2 §3.1	• Method 9 • Stack Video Cameras	1. Monthly 2. Continuously

ARCELORMITTAL WEIRTON, INC. FUEL SUMMARY TABLE PROPOSED 45 CSR 2 MONITORING PLAN		
Fuel Type	**Related Monitoring Requirement**	**Citation**
Natural Gas (N Gas)	Exempt from monitoring.	45 CSR 2A §3.1.a.
Mixed Gas 70% NG/ 30% Air	Exempt from monitoring.	45 CSR 2A §3.1.a.
Fuel Oil	Demonstrated compliance – COMS not required.	45 CSR 2A §6.2.a.1.

PROPOSED
MONITORING & RECORDKEEPING PLANS
FOR SULFUR OXIDE SOURCES
UNDER 45 CSR 10
AT WEIRTON STEEL CORPORATION
WEIRTON, WEST VIRGINIA

FEBRUARY 2001
(Revised August 2001)

Now ArcelorMittal Weirton, Inc.

Revised For Title V Renewal Application

November 2010

(a) Regulatory Requirement

In accordance with 45 CSR 10 §8.2.c, the following is the proposed plan for monitoring compliance with the sulfur dioxide weight emissions standards expressed in 45 CSR 10 §3, 4 and 5.

(b) Facility Information:

Facility Name: ArcelorMittal Weirton, Inc.

Facility Address: ArcelorMittal Weirton, Inc.
100 Pennsylvania Avenue
Weirton, West Virginia 26062

Facility Contact: Mike Mieczkowski
(304) 797-3908

Facility Description:

ArcelorMittal Weirton, Inc. is a finishing steel mill.

It is located in the City of Weirton, Hancock County, West Virginia.

Operations include:

- Steel Rolling, Finishing and Coating
- Boiler Operations
- Hydrogen Plant

(c) Affected Units:

Units which are regulated by 45 CSR 10 are Fuel Burning Units as defined in 45 CSR 10 §2.8.

Those units which are solely fueled by natural gas are exempt from the requirements of 45 CSR 10 §8 and therefore are not included in this plan. (45 CSR 10 §10.3 & 45 CSR 10A §3.1.b)

The specific units affected are:

Fuel Burning Units

- #3 Boiler
- # 4 Boiler
- # 5 Boiler

(d) Proposed Monitoring

Boiler #3, Boiler #4

Fuels used in these units are natural gas, mixed gas (70% natural gas/30% make-up air), or fuel oil. These units are classified as fuel burning units.

The proposed monitoring plan for these units will be to assume that all sulfur compounds are converted to sulfur dioxide. ArcelorMittal Weirton Inc. controls sulfur dioxide emissions by controlling fuel sulfur concentration and the quantity of the fuels used. The sulfur concentration for the various fuels will be determined as follows:

- Natural Gas and Mixed Gas - the sulfur content provided by the supplier will be used.
- Fuel Oil - the sulfur concentration provided on the manufacturer's certificate of analysis or product specifications will be utilized for the daily "as burned" fuel analysis. Received fuel oil shipments are approximately 2.5 million gallons and last approximately 2 months. Sulfur concentrations will be adjusted upon receipt of additional shipments on an average basis.

Reporting. Recordkeeping and Operating Parameters

Per the requirements of 45 CSR 10A §7.1, records shall be maintained noting operating schedule, and the quality and quantity of fuel burned.

Operating schedule records for each boiler shall include:

- Date of start-up and shutdown
- Daily quantity and type of fuel burned

Fuel Quality

- Natural gas and resulting mixed gas (70% natural gas/30% make-up air) - annual supplier provided BTU and sulfur analysis.
- Fuel Oil - Shipment BTU and sulfur analysis as provided by the supplier.

Boiler #5

Fuels used in this unit are natural gas and/or fuel oil. This unit is classified as a fuel burning unit.

The proposed monitoring plan for these units will be to assume that all sulfur compounds are converted to sulfur dioxide, Weirton Steel Corporation controls sulfur dioxide emissions by controlling fuel sulfur concentration and the quantity of the fuels used. The sulfur concentration for the various fuels will he determined as follows:

- Natural Gas and Mixed Gas - the sulfur content provided by the supplier will be used.
- Fuel Oil - the sulfur concentration provided on the manufacturer's certificate of analysis or product specifications will be utilized for the daily as burned" fuel analysis. Received fuel oil shipments are approximately 2.5 million gallons and last approximately 2 months. Sulfur concentrations will be adjusted upon receipt of additional shipments on an average basis.

Reporting. Recordkeeping and Operating Parameters

Per the requirements of 45 CSR 10A §7.1, records shall be maintained noting operating schedule, and the quality and quantity of fuel burned.

Operating schedule records for each boiler shall include:

- Date of start-up and shutdown
- Daily quantity and type of fuel burned

Fuel Quality

- Natural gas and resulting mixed gas (70% natural gas/30% make-up air) - annual supplier provided BTU and sulfur analysis.
- Fuel Oil - Shipment BTU and sulfur analysis as provided by the supplier.

(e) **Monitoring Plan Recordkeeping**

All applicable records shall be kept for a period of five years.

(f) **Excursion Response Plan**

ArcelorMittal Weirton Inc. controls sulfur dioxide emissions by controlling fuel sulfur concentration and the quantity of the fuels used. Operating ranges for each boiler are established based upon fuel sulfur concentrations and the quantity used.

Fuels with excessive sulfur concentrations are reviewed and rejected when necessary. Changes of sulfur concentration can impact the quantity of fuel used. If upon review, an excursion is discovered, the fuel usage rate or sulfur concentrations will be adjusted appropriately.

(g) **Implementation Plan**

Upon approval of this monitoring plan or any subsequent revisions to the plan, an implementation period is necessary to properly commence required testing, data gathering, monitoring, recordkeeping and reporting. The reporting and recordkeeping systems described in this plan require sixty days from the receipt of the final plan approval for implementation. The annual gas sampling, described above, will be initiated within six months from receipt of this approval. The subsequent gas sample. will be collected and tested no sooner than six months and no later than one year after the first sample was taken.

Any modification to this plan requires the implementation schedule be reviewed and properly amended. Modifications are any changes to the submitted plan and include but are not limited to variations in monitoring or tracking methodology, additional instrumentation or other capital improvements, and/or additional requests or conditions.

Attachment L

CD of Application Files