

# Fact Sheet



*For Final Permitting Action Under 45CSR30 and  
Title V of the Clean Air Act*

Permit Number: **R30-02900001-2006 (Part 2 of 3)**

Application Received: **12/2/1996**

Plant Identification Number: **029-00001**

Permittee: **Mittal Steel USA - Weirton Inc.**

Mailing Address: **400 Three Springs Drive Weirton WV 26062-4989**

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Physical Location: Weirton, Hancock County, West Virginia  
UTM Coordinates: 533.70 km Easting • 4474.50 km Northing • Zone 17  
Directions: State Route 2 to north end of Weirton. Site located on left.

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## Facility Description

Mittal Steel USA - Weirton Inc. operates a steel manufacturing facility that includes a Strip Mill, a Tin Mill, a Hydrochloric Acid Regeneration Plant, and Boilers. The facility also includes the following idled operations: Blast Furnaces, Basic Oxygen Plant, Continuous Caster, and Sheet Mill. Strip mill operations include hot strip mill, pickling, and cold rolling. Operations at the sheet mill include tempering and hot dip galvanizing. At the tin mill, tempering and electrolytic plating (zinc, tin and chrome) is performed. Other operations at the facility include boilers, storage tanks, waste water treatment plants and support/maintenance shops. For Title V purposes, the facility operations were divided into three parts: Part 1 includes the Boilers, Part 2 includes the Cold operations, and Part 3 includes the Hot operations. This permit covers Part 2 of the facility.

	Emission Unit IDs	Descriptions
Strip Mill	033/1, 034/1, 037/1, 037/4, 038/3, 038/4, 039/3, 039/4, 040/1, 041/1, 042/1, 044/1, 045/1, HCL-R & HCL-S	Reheat Furnaces, Hot Strip Mill, Pickle Lines, Tandem Mills, Skin Mill, Batch Annealing, and Batch Annealing Furnaces
Acid Plant	046/2, 047/2, 048/2, 049/2, & HCL-A thru H	HCl Regeneration Units, HCl Storage Tanks
Sheet Mill	052/2, 053/2, & 054/2	Galvanize Lines

Tin Mill	056/1, 057/1, 058/1, 059/2, 060/1, 061/1, 062/1, 063/1, 064/1, 065/1, 066/1, 072, 073, 074, 075, 076, 077/2, 077/3, 078/1, 078/2, & 078/3	Jumbo Anneals, Batch Annealing, Continuous Annealing Lines, Temper Mills, Zinc, Chrome, and Tin Plating Lines, Roll Shot Blasters, and Anode Shop Melting Pots
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### Facility-Wide Emissions Summary

Plantwide Emissions Summary [Tons per Year]	
Criteria Pollutants	2004 Actual Emissions
Carbon Monoxide (CO)	2479
Nitrogen Oxides (NO <sub>x</sub> )	1184
Particulate Matter (PM <sub>10</sub> ) <i>PM<sub>10</sub> is a component of TSP.</i>	1338
Total Particulate Matter (TSP)	2227
Sulfur Dioxide (SO <sub>2</sub> )	1119
Volatile Organic Compounds (VOC)	142
Hazardous Air Pollutants	2004 Actual Emissions
Hydrochloric Acid	3.326
Antimony	0.051
Chlorine	0.507
Chromium	0.053
Hexane	9.174
Manganese	4.372
Methanol	8.701
Nickel	0.296

*Some of the above HAPs may be counted as PM or VOCs.*

### Title V Program Applicability Basis

Due to this facility's potential to emit over 100 tons per year of all criteria pollutants and over 25 tons per year of aggregate HAPs, Mittal Steel USA - Weirton Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

### Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The sources in Part 2 of the Title V Permit have been found to be subject to the following applicable rules:

Federal and State: 45CSR2 45CSR6 45CSR7 45CSR10 45CSR11 45CSR13 45CSR30	PM emission limits for boilers Open burning prohibited. PM emission limits for manufacturing sources SO <sub>2</sub> emission limits Standby plans for emergency episodes. Construction permits Operating permit requirement.
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	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
	40 C.F.R. Part 63, Subpart CCC	Steel Pickling requirements
State Only:	45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to request any pertinent information such as annual emission inventory reporting is provided in WV Code § 22-5-4(a)(14). The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR15, 45CSR34 and 45CSR30.

**Active Permits/Consent Orders**

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-0032	8/22/1973	
R13-1137	10/26/1990	CO-SIP-C-2003-28
R13-1310	2/8/1991	CO-SIP-C-2003-28
CO 6-1978	6/29/1978	
CO 7-1987	7/17/1987	
CO 7-1990	7/10/1990	R13-1137 and R13-1310
CO-SIP-95-2	1/9/1995	CO-SIP-C-2003-28
CO-SIP-C-2003-28	6/30/2003	

Conditions from this facility's Rule 13 permits governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permits governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

**Determinations and Justifications**

**Direct Fired Combustion Sources** - The reheat furnaces are direct fired combustion sources. The furnaces are not considered to be indirect heat exchangers subject to Rule 2 but manufacturing source operations subject to Rule 7. The Reheat Furnaces have Rule 7 PM emission limits of 71.0 pph each. However, the PM limits in Permits R13-1137 and R13-1310 are more stringent at 64.7 pph each. Therefore, the Rule 7 limit has been streamlined with the Rule 13 permit limits.

Permit R13-1137 authorized the construction of the No. 2 walking beam slab reheating furnace to replace the existing No. 3 and No. 4 slab reheating furnaces and Permit R13-1310 authorized the construction of the No. 1 walking beam slab reheating furnace to replace the existing No. 1 and No. 2 slab reheating furnaces. Both permits also authorize hourly limits on criteria pollutant emissions, annual limits on emissions of SO<sub>2</sub> and NO<sub>x</sub>, and limits on production and fuel consumption. The emission limits were based on combustion of No. 6 fuel oil, mixed gas (70% natural gas and 30% air), and coke oven gas. Due to Consent Order, CO-SIP-C-2003-28, the reheat furnaces are restricted to burning only natural gas or mixed gas, therefore the reheat furnaces are not

likely to violate the limits for any criteria pollutant except possibly NO<sub>x</sub>. In order to demonstrate compliance with the limits for all criteria pollutants except NO<sub>x</sub>, the facility shall be required to operate and maintain the reheat furnaces according to manufacturer's specifications. To demonstrate compliance with the NO<sub>x</sub> emission limits, the required recordkeeping and monthly reporting from the Rule 13 permits shall be utilized except that the equation that calculates NO<sub>x</sub> emissions was modified by deleting the No. 6 fuel oil and coke oven gas portion, adding a natural gas portion, and updating the emission factor in accordance with AP-42. Also, the reporting date was changed from the 20th of each month to the 30th to coincide with the semiannual compliance reports. An additional requirement to calculate the hourly NO<sub>x</sub> emissions by dividing the monthly emissions by the hours of operation per month was incorporated into the Title V Permit to demonstrate compliance with the hourly limit. This calculation is to be maintained on site and is not required to be reported monthly. Permits R13-1137 and R13-1310, Specific Requirement A.5. required the permittee to perform calculations to show compliance with the annual limit on SO<sub>2</sub> emissions and required that H<sub>2</sub>S concentration to be measured and corrected to reflect total sulfur content of the coke oven gas to the Reheat Furnaces. However, CO-SIP-C-2003-28 limits the Reheat Furnaces to firing only natural gas and mixed gas (comprised of approximately 70% natural gas and 30% air). Natural gas and mixed gas have very low sulfur contents, therefore the calculation requirements, reporting requirements, and H<sub>2</sub>S monitoring requirements were not included in the Title V Permit.

CO 7-1990 required the permittee to install two new walking beam reheat furnaces to replace four existing reheat furnaces by March 31, 1992. The conditions of this consent order have been completed. Permits R13-1137 and R13-1310 authorized the installation. The requirements from the consent order were not included in the Title V Permit, however the conditions from the Rule 13 permits have been included.

CO-SIP-95-2 required the hot mill reheat furnaces to operate only with blast furnace gas, mixed gas, or natural gas. However, CO-SIP-C-2003-28 restricts the hot mill reheat furnaces to combusting only natural gas or mixed gas, therefore the requirements from CO-SIP-95-2 were not included in the permit. The condition from CO-SIP-C-2003-28 that restricts the hot mill reheat furnaces to combusting only natural gas or mixed gas was included in the permit.

**Indirect Fired Combustion Sources** - The Strip Steel Batch Annealing Furnaces combust natural gas and mixed gas and have design heat inputs (DHI) of 2.5 mmBtu/hr each. The three anode shop melting pots are natural gas fired melting pots to melt zinc and tin bars for molding anodes for the tin mill plating lines. The melting pots have a DHI of 5 mmBtu/hr each. These sources are exempt from 45CSR2 sections 4, 5, 6, 8, and 9 (weight emission standards; fugitive particulate matter; registration; testing, monitoring, recordkeeping and reporting; and start-ups, shutdowns and malfunctions; respectively) in accordance with 45CSR§2-11.1. These sources are exempt from 45CSR10 section 3 (sulfur dioxide weight emission standards) and sections 6 through 8 (registration; permits; and testing, monitoring, recordkeeping, and reporting; respectively) in accordance with 45CSR§10-10.1.

The Galvanize Lines, Jumbo Anneals, and Continuous Annealing Lines have design heat inputs less than 100 mmBtu/hr and combust natural gas or mixed gas. In accordance with 45CSR§2A-3.1.b., these sources are exempt from the visible emission testing and weight emission testing requirements of section 5, and the monitoring plan requirements of section 6. In accordance with 45CSR§10-10.3., these sources are exempt from the testing, monitoring, recordkeeping and reporting requirements of section 8.

CO-SIP-95-2 required the combustion sources at the continuous annealing facility and jumbo annealing facility to operate only with blast furnace gas, mixed gas, or natural gas. However, CO-SIP-C-2003-28 restricts the annealing furnaces to combusting only natural gas or mixed gas, therefore the requirements from CO-SIP-95-2 were not included in the permit. The condition from CO-SIP-C-2003-28 that restricts the annealing furnaces to combusting only natural gas or mixed gas was included in the permit.

**Manufacturing Process Sources** - The Hot Strip Mill, Tandem Mills, Skin Mill, Temper Mills, Weirlite Temper Mills, and Plating Lines are subject to 45CSR7 section 3 (visible opacity limits) but are exempt from

45CSR7 section 4 (weight emissions standards) in accordance with 45CSR§7-10.5. The mills and plating lines are exempt from 45CSR10 section 3 (weight emission standards) and section 4 (SO<sub>2</sub> concentration limit) in accordance with 45CSR§10-4.1.e., and section 5 (H<sub>2</sub>S concentration limit) because the sources do not combust any process gas stream. 45CSR10 section 8 (testing, monitoring, recordkeeping, and reporting requirements) does not apply because the facility is exempt from sections 3, 4, and 5.

CO 6-1978 required the permittee to conduct stack testing and comply with Rule 7 by July 1, 1979. The conditions of this consent order have been completed and the requirements were not included in the permit.

CO 7-1987 - Condition III.6.E. allows the termination of Paragraph III.6., which required dust control measures on plant roads and parking lots, upon the demonstration of compliance of the blooming mill scarfer as provided in Paragraph III.5.A. Although the blooming mill scarfer has been shut down, the controls were installed in accordance with the consent order, therefore Paragraph III.6.E was not included in the Title V permit.

**Pickle Lines** - The Pickle Lines are subject to the mineral acid limitation in accordance with Section 4.2. and Table 45-7A. No. 3 Pickle Line, installed in 1940, is limited to 420 mg per dry standard cubic meter of HCl and No. 5 Pickle Line, installed in 1975, is limited to 210 mg per dry standard cubic meter of HCl. The Pickle Lines are also subject to 40 C.F.R. §63, Subpart CCC, which limits the concentration of HCl from the Pickle Lines to 18 ppmv. Converting ppmv to mg/dry standard cubic meter (mg/cu m):

$$\begin{aligned} \text{mg/cu m} &= \text{ppmv} * M_{\text{HCl}}/24.04, \text{ where } M_{\text{HCl}} = M_{\text{H}} + M_{\text{Cl}} = 1.008 + 35.453 = 36.462 \\ \text{mg/cu m} &= 18 \text{ ppmv} * 36.462/24.04 = 27.3 \text{ mg/cu m} \end{aligned}$$

The 27.3 mg/cu m limit from 40 CFR § 63, Subpart CCC is much more stringent than the Rule 7 limit of 420 mg/cu m or 210 mg/cu m, therefore the Rule 7 limit has been streamlined with the MACT limit and the monitoring, recordkeeping, and reporting requirements shall be governed by the MACT.

**Hydrochloric Acid Regeneration** - Permit R13-0032 authorized construction of the hydrochloric acid regeneration plant and included requirements for automatic controls for shutting off fuel, feed and air to the reactor at over-pressure, and installation of a wet scrubber on the absorber exit gas stream. These conditions have been completed, therefore they were not included in the Title V permit.

**MACT Subpart CCC** - The pickling lines and HCl regeneration equipment are subject to 40 C.F.R. § 63, Subpart CCC. The notification requirement in accordance with 40 C.F.R. §63.1163(a)(2) has been fulfilled.

### Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

**45CSR13** - Permit R13-1137, Specific Requirement A.4. required the permittee to discontinue operations of the two (2) existing vintage slab reheating furnaces, No. 3 and No. 4, upon commencement of operation of the new No. 2 walking beam slab reheating furnace. Permit R13-1310, Specific Requirement A.4. required the permittee to discontinue operations of the two (2) existing vintage slab reheating furnaces, No. 1 and No. 2, upon commencement of operation of the new No. 1 walking beam slab reheating furnace. These requirements have been completed and were not included in the Title V permit.

Permits R13-1137 and R13-1310, Specific Requirement A.7. requires SO<sub>2</sub> emission limitations upon commencement of operation of the Struthers Corporation's Browns Island coke oven battery. The coke oven battery was never constructed, therefore this requirement was not included in the Title V permit.

**Civil Consent Decree 5-96-CV-171** - has been terminated in accordance with Section XXXVIII.B. The permittee has certified completion and compliance with all requirements.

**40 CFR 60, subparts K, Ka, and Kb** - The storage tanks associated with the Cold Side of the facility are not subject to these subparts. The 6 million gallon fuel oil tank, OB6/1, is the only tank constructed within the time frames, however, its true vapor pressure is 0.0002 psia and it is thus exempt from 40 C.F.R. Subpart K in accordance with 40 C.F.R. § 60.113(d)(1).

**40 CFR 63 Subpart N** - NESHAP for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks. Continuous chromium electroplating of steel is different from the chromium electroplating operations regulated in the existing NESHAP standard. Therefore, chromium electroplating operations at Mittal Steel USA - Weirton Inc. are not applicable to 40 CFR 63 Subpart N.

**40 CFR 63 Subpart Q** - NESHAP for Industrial Process Cooling Towers. No chromium-based water treatment chemicals are used at the facility.

**40 CFR 63 Subpart T** - National Emissions Standards for Halogenated Solvent Cleaning. No halogenated solvent cleaning machines exist at the facility.

**Polymer Coating Line** - A Permit Determination form, dated December 10, 2002, and received by this Office on December 12, 2002 was submitted for the installation of a Polymer coating line. No permit was required based on information received in the Permit Determination form.

### **Request for Variances or Alternatives**

None for Part 2 of 3 - Cold operations.

### **Insignificant Activities**

Insignificant emission unit(s) and activities are identified in the Title V application.

### **Comment Period**

Beginning Date: July 3, 2006

Ending Date: August 2, 2006

All written comments should be addressed to the following individual and office:

Bobbie Scroggie  
Title V Permit Writer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street SE  
Charleston, WV 25304

### **Procedure for Requesting Public Hearing**

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

### **Point of Contact**

Bobbie Scroggie  
West Virginia Department of Environmental Protection  
Division of Air Quality

601 57th Street SE  
Charleston, WV 25304  
Phone: 304/926-0499 ext. 1225 • Fax: 304/926-0478

### **Response to Comments**

The following comments were received from the permittee on the fact sheet and draft permit (part 2 of 3 ) for Mittal Steel USA -- Weirton Inc. (DAQ Response in parenthesis)

Update Facility Description in Fact Sheet (updated)

Change Emissions Summary of Carbon Monoxide Tons per Year (denied, number was correct)

Replace "streamlined" with "superceded by" for Direct Fired Combustion Sources Rule 13 and Rule 7 requirements (denied)

Delete the Fact Sheet reference to the R13-0032 requirement to install an air pollution control system on the reactor emergency relief vent. (granted, it was determined that the automatic controls make the air pollution control system unnecessary. The facility is requesting an administrative amendment to Permit R13-0032.)

Make corrections to Equipment Table (granted)

Questioned federal enforceability of WV Code and State enforceable only conditions. (denied)

Note that Polymer Coating line permit determination did not require permit to construct. (granted)

Clarify 3-hour block averaging times for sulfur dioxide stack concentration. (granted)

Request addition of alternate test methods. (granted)

Update NO<sub>x</sub> emissions equation to include natural gas combustion and new emission factor. (granted)

Clarify 6-minute block average times for opacity readings. (denied, MRR not required for these sources)

Delete requirements for scarfing operations. (granted)

Clarify visible emissions monitoring and separate recordkeeping requirements to its own section. (granted)

Reduce visible emissions frequency. (denied)

Add disclaimer for paraphrasing MACT requirements. (denied)