



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY PROGRAM

TITLE V/STATE OPERATING PERMIT

Issue Date: November 20, 2017

Effective Date: March 1, 2020

Revision Date: February 21, 2020

Expiration Date: [REDACTED]

Revision Type: Modification

In accordance with the provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and 25 Pa. Code Chapter 127, the Owner, [and Operator if noted] (hereinafter referred to as permittee) identified below is authorized by the Department of Environmental Protection (Department) to operate the air emission source(s) more fully described in this permit. This Facility is subject to all terms and conditions specified in this permit. Nothing in this permit relieves the permittee from its obligations to comply with all applicable Federal, State and Local laws and regulations.

The regulatory or statutory authority for each permit condition is set forth in brackets. All terms and conditions in this permit are federally enforceable applicable requirements unless otherwise designated as "State-Only" or "non-applicable" requirements.

TITLE V Permit No: 22-05012

Federal Tax Id - Plant Code: 20-0653772-1

Owner Information

Name: ARCELORMITTAL STEELTON LLC
Mailing Address: 215 S FRONT ST
STEELTON, PA 17113-2538

Plant Information

Plant: ARCELORMITTAL STEELTON LLC/STEELTON
Location: 22 Dauphin County 22003 Steelton Borough
SIC Code: 3312 Manufacturing - Blast Furnaces And Steel Mills

Responsible Official

Name: STEVEN TAYLOR
Title: GENERAL MGR
Phone (717) 986 - 2509

Permit Contact Person

Name: STEVEN TAYLOR
Title: GENERAL MGR
Phone: (717) 986 - 2509

[Signature] _____

William R. Weaver

WILLIAM R. WEAVER, SOUTHCENTRAL REGION AIR PROGRAM MANAGER



Pages 2-108, and 114-116 are redacted entirely.

**SECTION E. Source Group Restrictions.**

Group Name: 13

Group Description: §§129.91 - 129.95 - RACT I Requirements

Sources included in this group

RACT 1 and RACT 2 SIP Provisions from Title V Permit No. 22-05012 Significant Modification issued 02/21/20 (pages 109-113 and 117-118 of permit)

ID	Name
033	PLANT HOT WATER HEATERS
034	SHOP SPACE HEATERS
102	CONTROLLED COOLING BOXES 1 - 8
109	EAF LADLE PREHEATERS 1-4
113	BURN OFF OVEN
114	CONTIN. CASTER TUNDISH PREHTR. 1 & 2
116	CONTINUOUS CASTER TUNDISH DRYER 1
118	CASTER CUTTING TORCHES 1-6
124	CASTER VENTS
232C	20" MILL REHEAT FURNACE
301	35" MILL REHEAT FURNACES 3 & 4
401	SOAKING PIT BATTERIES 4-6
500	VACUUM DEGASSER @ STEELMAKING
501A	#207 DCEAF
501B	LADLE REFINING FURNACE
921	PARTS WASHERS
922	COMPRESSED AIR SYSTEM FREEZE PROTECTION

I. RESTRICTIONS.**Emission Restriction(s).**

001

Operating permit terms and conditions.

ArcelorMittal Steelton, LLC (formerly Bethlehem Steel Corp.)

Steelton Borough, Dauphin County

RACT Operating Permit No. 22-02012 SIP requirements

I. List of Steel Production Sources and NOx Emissions

Source: Manufacturer: Rated Heat Input: Annual Emission Limit:

#207 DC Electric Arc Furnace (DCEAF): NKK United: --: 99 tpy [SOURCE 501A]

Ladle Refining Furnace: EMCI: --: -- [SOURCE 501B]

Vacuum Degasser: EMCI: --: -- [SOURCE 500]

#209 Electric Arc Furnace: Lectromelt: --: 72 tpy [SOURCE HAS BEEN REMOVED]

II. List of Combustion Units/Sources > 50 mmBtu/hr and NOx Emissions

Source: Manufacturer: Rated Heat Input: Annual Emission Limit:

Central Boiler #2 (NG or #6 Oil Fired): Erie City: 200 MMBtu/hr: 253 tpy [SOURCE HAS BEEN REMOVED]

Central Boiler #5 (NG or #6 Oil Fired): Erie City: 200 MMBtu/hr: 253 tpy [SOURCE HAS BEEN REMOVED]

20" Mill Reheat Furnace (NG or #6 Oil Fired): Rust Engineering: 180 MMBtu/hr: 189.0 tpy [SOURCE 232C]

III. List of Combustion Sources of Rated Capacity between 20 - 50 mmBtu/hr and NOx Emissions, Natural Gas Fired (Soaking Pits also #6 Oil Fired)

Source: Manufacturer: Rated Heat Input: Annual Emission Limit:

Soaking Pit Battery #5: Burners NG Fired - Combustion Eng (CE); Oil- Bloom Eng (BE): 48 MMBtu/hr: 37.8 tpy [SOURCE 401]

Soaking Pit Battery #6: BE/CE: 48 MMBtu/hr: 37.8 tpy [SOURCE 401]

**SECTION E. Source Group Restrictions.**

Soaking Pit Battery #1: BE/CE: 48 MMBtu/hr: 37.8 tpy [SOURCE HAS BEEN REMOVED]
Soaking Pit Battery #2: BE/CE: 48 MMBtu/hr: 37.8 tpy [SOURCE HAS BEEN REMOVED]
Soaking Pit Battery #3: BE/CE: 48 MMBtu/hr: 37.8 tpy [SOURCE HAS BEEN REMOVED]
Soaking Pit Battery #4: BE/CE: 48 MMBtu/hr: 37.8 tpy [SOURCE 401]
35" Mill Reheat Furnace #3: Bethlehem Steel Corp. (BSC): 40 MMBtu/hr: 152.8 tpy [SOURCE 301]
35" Mill Reheat Furnace #4: BSC: 40 MMBtu/hr: 152.8 tpy [SOURCE 301]
Pipe Mill Dravo Heater: Dravo: 37.5 MMBtu/hr: 22.2 tpy [SOURCE HAS BEEN REMOVED]
Rail Mill #1 Heat Furnace: BE: 37.8 MMBtu/hr: 13.8 tpy [SOURCE HAS BEEN REMOVED]
Rail Mill #1 Draw Furnace: BE: 26.8 MMBtu/hr: 6.2 tpy [SOURCE HAS BEEN REMOVED]

IV. List of Combustion Sources of Rated Capacity 2.5 mmBtu/hr and < 20 mmBtu/hr, Natural Gas Fired, Subject to Presumptive RACT as per Condition 19:

Source: Manufacturer: Rated Heat Input

Ladle Preheater #1: BE: 9.9 MMBtu/hr [SOURCE 109]
Ladle Preheater #2: BE: 9.9 MMBtu/hr [SOURCE 109]
Ladle Preheater #3: BE: 9.9 MMBtu/hr [SOURCE 109]
Ladle Preheater #4: North American (NA): 9.9 MMBtu/hr [SOURCE 109]
Continuous Caster Tundish Preheater #1: Friedrich Ley (FL): 9.9 MMBtu/hr [SOURCE 114]
Continuous Caster Tundish Preheater #2: FL: 9.9 MMBtu/hr [SOURCE 114]
Continuous Caster Tundish Dryer #1: not known: 4.6 MMBtu/hr [SOURCE 116]
Pipe Mill Cooling IR Heater: NA: 3.8 MMBtu/hr [SOURCE HAS BEEN REMOVED]

V. List of Combustion Sources Rated Capacity < 2.5 mmBtu/hr and listed for RACT Review, Natural Gas Fired

Controlled Cooling Box #1: Kirk Blum (KB): 0.6 MMBtu/hr
Controlled Cooling Box #2: KB: 0.6 MMBtu/hr [SOURCE 102]
Controlled Cooling Box #3: KB: 0.6 MMBtu/hr [SOURCE 102]
Controlled Cooling Box #4: KB: 0.6 MMBtu/hr [SOURCE 102]
Controlled Cooling Box #5: KB: 0.6 MMBtu/hr [SOURCE 102]
Controlled Cooling Box #6: KB: 0.6 MMBtu/hr [SOURCE 102]
Controlled Cooling Box #7: KB: 0.6 MMBtu/hr [SOURCE 102]
Controlled Cooling Box #8: KB: 0.6 MMBtu/hr [SOURCE 102]
Burn Off Oven: ACE: 0.5 MMBtu/hr [SOURCE 113]
Caster Cutting Torch #1 thru #6: --: 0.123 MMBtu/hr [SOURCE 118]
Six Hot Water Heaters and Space Heaters: --: < 0.5 MMBtu/hr each (Combined Emissions Potential < 13 tpy NO_x) [SOURCES 033 AND 034]

(4)(a) NO_x emissions from the facility shall not exceed 1,206 tpy based on a 12-month rolling total.

(b) NO_x emissions from each of the sources listed in source items I through III shall be equal to or below the quantity as stated therein, and the emissions shall be based on a 12-month rolling total.

(5) VOC emissions from the facility shall not exceed 210 tpy based on a 12-month rolling total.

(6) VOC emissions shall not exceed the following limits, based on a 12-month rolling total:

- (a) DC EAF/LRF - 81 tpy [SOURCES 501A AND 501B]
- (b) EAF 209/LRF - combined steel production, included in (a) above. [SOURCE HAS BEEN REMOVED]
- (c) Central Boilers #2 and #5 - 9 tpy [SOURCES HAVE BEEN REMOVED]
- (d) 20" Mill Reheat Furnace - Natural Gas - 5 tpy; #6 Oil - 5 tpy. [SOURCE 232C]
- (e) Soaking Pit Batteries #1 through #6 - Natural Gas - 8 tpy; #6 Oil - 8 tpy. [SOURCE 401]
- (f) 35" Mill Reheat Furnace - 0.6 tpy [SOURCE 301]
- (g) Pipe Mill Dravo Heater - 0.2 tpy [SOURCE HAS BEEN REMOVED]
- (h) Rail Mill #1 Heat Furnace - 2.2 tpy [SOURCE HAS BEEN REMOVED]
- (i) Rail Mill #1 Draw Furnace - 16 tpy [SOURCE HAS BEEN REMOVED]
- (j) Two Caster Steam Vents - 17.8 tpy [SOURCE 124]
- (k) Oil Quench Tank for Rails Heat Treatment - 31.5 tpy [SOURCE HAS BEEN REMOVED]

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- (l) Compressed Air System Freeze Protection - 13.4 tpy [SOURCE 922]
- (m) Inking of Rails Operation - 5 tpy [SOURCE HAS BEEN REMOVED]
- (n) Parts Washer Cleaning Solvent for Maintenance - 24.7 tpy [SOURCE 921]

(7) The following sources shall not exceed the annual capacity as noted:

- (a) Boilers #2 and #5 – combined heat input of 250 MMBtu/hr [SOURCES HAVE BEEN REMOVED]
- (b) 20" Mill Reheat Furnace - 100,000 tons steel, based on a 12-month rolling total [SOURCE 232C]
- (c) 35" Mill Reheat Furnaces #3 and #4 - Combined 600,000 tons steel, based on a 12-month rolling total [SOURCE 301]
- (d) Soaking Pit Batteries #1 through #6 - Combined 1,000,000 tons steel, based on a 12-month rolling total [SOURCE 401]

(8) Stack testing to determine the emissions rate of VOC and NO_x as NO₂ shall be performed in Central Boilers #2 and #5 at normal winter load annually. First stack test shall be performed within 365 days of issue of this operating permit. Subsequent stack test may be performed on one representative of the boilers. [SOURCES HAVE BEEN REMOVED]

(9) Stack testing to determine the emissions rate of NO_x as NO₂ shall be performed on Sources in Item III (except for the Pipe Mill Dravo Heater). One representative of the stacks in each of the following groups of heating furnaces shall be stack tested:

- (a) Soaking Pit Batteries #1 through #4 [SOURCE 401, BUT #1, #2 AND #3 HAVE BEEN REMOVED]
- (b) Soaking Pit Batteries #5 and #6 [SOURCE 401]
- (c) 35" Reheat Furnaces #3 and #4 [SOURCE 301]
- (d) Rail Mill #1 Heat Furnace and Draw Furnace [SOURCES HAVE BEEN REMOVED]

(10) Stack testing to determine the emissions rate of VOC shall be performed on one representative of the stack on Soaking Pit Batteries #1 through #6 on #6 oil. [SOURCE 401, BUT #1, #2 AND #3 HAVE BEEN REMOVED]

(11) Stack test for the heating furnaces listed in Conditions 9 and 10 shall be performed within 365 days of issue of this operating permit. The Department reserves the right to order further stack tests. [REQUIREMENT IS IN THE PAST]

(12) Stack testing shall be performed in accordance with 25 Pa. Code Chapter 139 and the current version of the Department's Source Testing Manual, or by other means, proposed by Bethlehem Steel and approved by the Department.

(13) A Stack Test Protocol is to be submitted to the Air Quality Program Manager for approval at least 60 days prior to stack test.

(14) The Department shall be notified at least two weeks in advance of the date and time of the stack test.

(15) Two copies of the stack test results shall be submitted to the Air Quality Program Manager for review within 60 days of completion of testing. Results shall be reported as follows:

- (a) Concentration in ppm as measured
- (b) Mass and heat rates in lb/hr and lb/MMBtu

(16) Facility shall demonstrate compliance of NO_x emission from DC Electric Arc Furnace, Ladle Refining Furnace and Vacuum Degasser through continuous emission monitoring system installed for the melt shop. [THIS APPLIES TO THE 99 TPY NO_x LIMIT NOTED ABOVE]

(17) This operating permit is for the incorporation of the Department's NO_x and VOC Reasonably Available Control Technology (RACT) requirements (25 Pa. Code Sections 129.91 through 129.95).

[Note: the SIP-ed RACT 1 permit had no Condition 18]

(19) The company shall maintain and operate the combustion sources of heat input capacities each rated at or over 2.5 mmbtu/hr but less than 20 mmbtu/hr as per 25 Pa. Code Section 129.93(c), condition for presumptive RACT. The presumptive RACT limitations are installation, maintenance and operation of the sources listed in Source Item IV, in

**SECTION E. Source Group Restrictions.**

accordance with manufacturers' specifications. [THIS APPLIES TO SOURCES 109, 114 AND 116]

(20) Boilers #2 and #5, Soaking Pit Batteries #1 through #6, and 20" Mill Reheat Furnaces are subject to the following: [OF THESE UNITS, ONLY SOAKING PIT BATTERIES #4, #5 AND #6, AND THE 20" MILL REHEAT FURNACES REMAIN AT THE FACILITY]

(a) The company shall perform an annual adjustment and/or tune-up which shall include the following:

(1) Inspection, adjustment, cleaning or replacement of fuel-burning equipment, including the burners and moving parts necessary for proper operation as specified by the manufacturer.

(2) Inspection of the flame pattern or characteristics and adjustments necessary to minimize emissions of NOx and VOC.

(3) Inspection of the air-to-fuel ratio control system and adjustments necessary to ensure proper calibration and operation as specified by the manufacturer.

(b) The company shall maintain a permanently bound log book or other method approved by the Department. This log shall contain at a minimum, the following information.

(1) The date of the tuning procedure

(2) The name of the service company and technicians

(3) The final operating rate or load

(4) The final NOx and VOC emission rates

(5) The final excess oxygen rate

(6) Any other information required by this approval

(c) The annual adjustment for the boilers shall be in accordance with the EPA document "Combustion Efficiency Optimization Manual for Operations of Oil and Gas-Fired Boilers", September 1983 (EPA-340/1-83-023) or equivalent procedures approved in writing by the Department.

(d) All adjustments and optimization of the units must minimize pollution and be in accordance with good air pollution control practices.

(21) The company shall comply with the following "housekeeping" procedures with the intent to regulate Parts Washer Cleaning Solvent and maintenance: [THIS APPLIES TO SOURCE 921]

(a) Cleanup solvents and used rags will be contained in a closed container with a lid at all times.

(b) Routine inspections of the containers will be made by the company to assure no leakage in the containers.

(c) Precautionary steps will be taken to prevent spillage of clean-up solvent while transferring from point-to-point.

(d) Rags will be sent to reclamation as early as possible or disposed off-site by a permitted company.

(22) Records shall be maintained in accordance with 25 Pa. Code, § 129.95 requirements.

(23) For the sources listed above Condition 6, the company shall keep separate records of monthly usage and VOC contents of each source specific VOC containing fluids

(24)(a) For the sources listed in source items I through IV, the company shall keep separate records of monthly fuel usage and emissions

(b) Gas consumption for Tundishes [SOURCES 114 AND 116] and Pipe Mill Dravo Heater [SOURCE HAS BEEN REMOVED] may be measured in groups. Gas and oil usage for six Soaking Pit Batteries [ONLY THREE REMAIN] may be recorded and reported as a group for all batteries combined.

(c) The annual facility emissions shall be calculated and recorded based on a 12-month rolling total.

(d) The annual emission limits for the sources listed in Condition 6 and fire source items I through III shall be calculated and recorded based on a 12-month rolling total.

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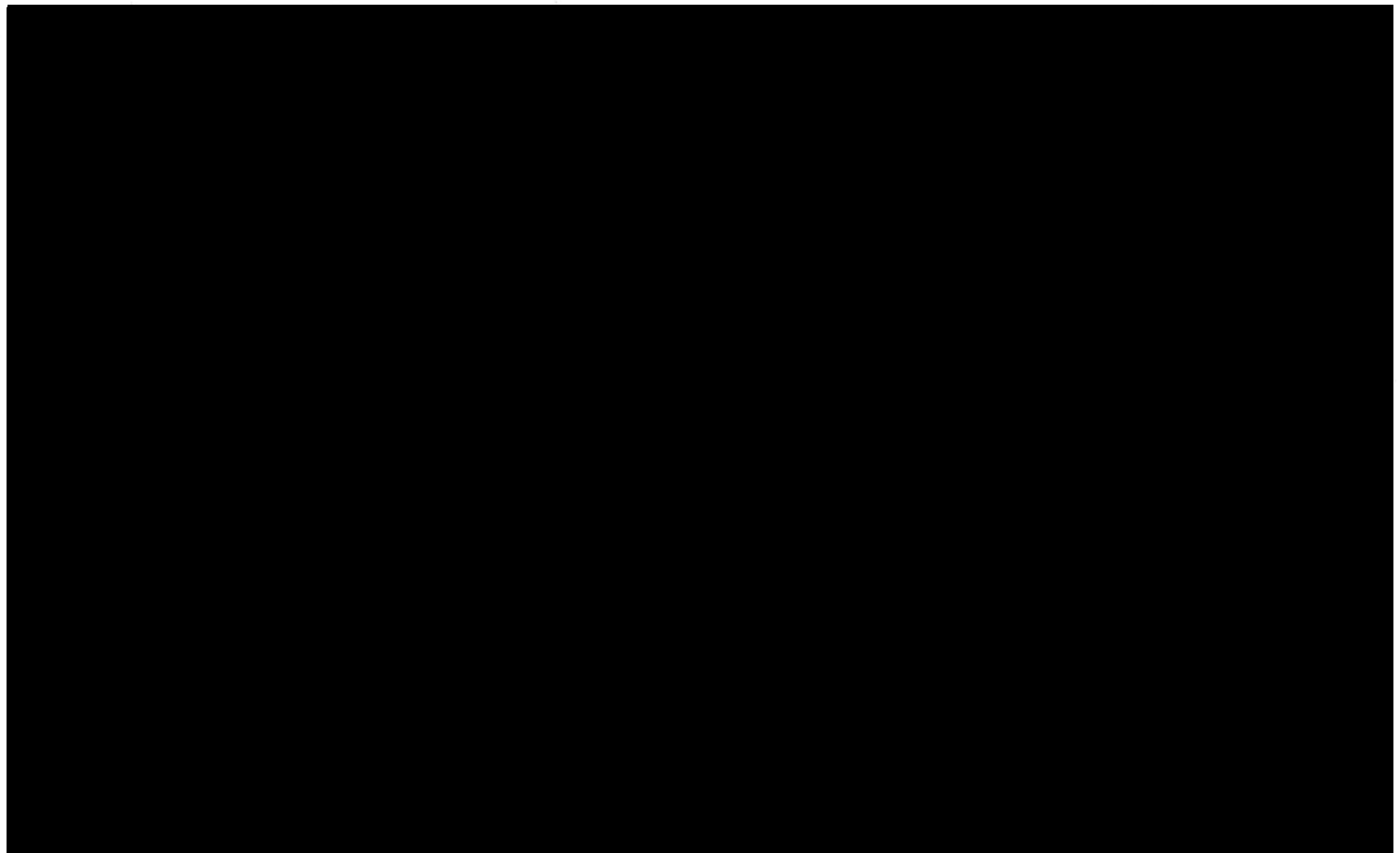
(25) Records listed above shall be retained for two years, and made available to the Department upon request.

(26) An annual emissions report including the monthly records of fuel usage, operating hours, inventory of solvents, clean-up solvents usage, and its return for recycling for the sources listed in this operating permit shall be submitted [to] the Harrisburg District Supervisor as per 25 Pa. Code§ 135.3. The report for January 1 through December 31 is due no later than March 1 of the following year for each operating year authorized by the operating Permit or its renewal.

[Note: the SIP-ed RACT 1 permit had no Condition 27]

(28) The Controlled Cooling Box #1 through #8, Burn Off Oven and six hot water heaters and space heaters listed in the Source Item V shall be operated and maintained in accordance with the respective manufacturer's specifications.

Note: Upon approval of the case-by-case RACT 2 requirements in Group 15 as a SIP revision, the following conditions above shall be superseded by the case-by-case RACT 2 requirements in Group 15: Group 13, Conditions 9-15, and 20.



**SECTION E. Source Group Restrictions.**

Group Name: 15

Group Description: §§129.96 - 129.100 - RACT II Case-by-Case Requirements

Sources included in this group

ID	Name
124	CASTER VENTS
132A	44" MILL HOT ROLLING OPERATIONS
132B	28"/35" MILL HOT ROLLING OPERATIONS
132C	20" MILL HOT ROLLING OPERATIONS
232C	20" MILL REHEAT FURNACE
301	35" MILL REHEAT FURNACES 3 & 4
401	SOAKING PIT BATTERIES 4-6
501A	#207 DCEAF
501B	LADLE REFINING FURNACE
922	COMPRESSED AIR SYSTEM FREEZE PROTECTION

VII. ADDITIONAL REQUIREMENTS.

001 [REDACTED]

Operating permit terms and conditions.

I. Sources 232C (20" Mill Reheat Furnace) and 301 (35" Mill Reheat Furnaces 3 & 4)

(a) The permittee shall perform an annual adjustment and/or tune-up on each unit which shall include the following:

- (1) Inspection, adjustment, cleaning or replacement of fuel-burning equipment, including the burners and moving parts necessary for proper operation as specified by the manufacturer.
- (2) Inspection of the flame pattern or characteristics and adjustments necessary to minimize emissions of NO_x and CO.
- (3) Inspection of the air-to-fuel ratio control system and adjustments necessary to ensure proper calibration and operation as specified by the manufacturer.

**SECTION E. Source Group Restrictions.**

(b) The company shall maintain a permanently bound log book or other method approved by the Department. This log shall contain at a minimum, the following information.

- (1) The date of the tuning procedure
- (2) The name of the service company and technicians
- (3) The final operating rate or load
- (4) The final NO_x and CO emission rates
- (5) The final excess oxygen rate
- (6) Any other information required by this approval

(c) The annual adjustment for the boilers shall be in accordance with the EPA document "Combustion Efficiency Optimization Manual for Operations of Oil and Gas-Fired Boilers", September 1983 (EPA-340/1-83-023) or equivalent procedures approved in writing by the Department.

(d) All adjustments and optimization of the units must minimize pollution and be in accordance with good air pollution control practices.

II. Sources 401 (Soaking Pit Batteries 4-6) and 501A (#207 DCEAF)

(a) The permittee shall maintain and adhere to an operation and maintenance plan for Sources 401 and 501A, which shall address good operation and maintenance practices for the minimization of NO_x (both sources) and VOC emissions (Source 501A), and/or manufacturer's operating specifications, including, for Source 501A measures to minimize the ambient air infiltration into the direct evacuation hoods.

(b) The permittee shall maintain records of any maintenance or modifications performed on Sources 401 and 501A.

(c) The permittee shall calculate and record the actual annual NO_x and VOC emissions using appropriate emissions factors from U.S. EPA Publication AP-42 or appropriate alternative emission factors based on PADEP review, coupled with appropriate operational and throughput data.

(d) The permittee shall maintain written documentation of the items in (a)-(c) above for five years. The records shall be made available to the Department upon written request pursuant to 25 Pa. Code §129.100(d) and (i).

III. Sources 124 (Caster Vents), 132A (44" Mill Hot Rolling Operations), 132B (28"/35" Mill Hot Rolling Operations), 132C (20" Mill Hot Rolling Operations), 501B (Ladle Refining Furnace) and 922 (Compressed Air System Freeze Protection)

(a) The permittee shall maintain and adhere to an operation and maintenance plan for Sources 124, 132A, 132B, 132C, 501B and 922, which shall address good operation and maintenance practices for the minimization of VOC emissions, and/or manufacturer's operating specifications.

(b) The permittee shall maintain records of any maintenance or modifications performed on Sources 124, 132A, 132B, 132C, 501B and 922.

(c) The permittee shall calculate and record the actual annual VOC emissions from Sources 124, 132A, 132B, 132C, 501B and 922 using appropriate emissions factors from U.S. EPA Publication AP-42 or appropriate alternative emission factors based on PADEP review, coupled with appropriate operational and throughput data.

(d) The permittee shall maintain written documentation of the items in (a)-(c) above for five years. The records shall be made available to the Department upon written request pursuant to 25 Pa. Code §129.100(d) and (i).

Note: Upon approval of the case-by-case RACT 2 requirements in this group as a SIP revision, the following conditions in RACT 1 Group 13 shall be superseded by the case-by-case RACT 2 requirements this group: 9-15, and 20.