

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHCENTRAL REGION - FIELD OPERATIONS
AIR QUALITY PROGRAM

OPERATING PERMIT

In accordance with provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and after due consideration of an application received under Chapter 127 of the rules and regulations of the Department of Environmental Protection, the Department hereby issues this permit for the operation of the air contamination source described below.

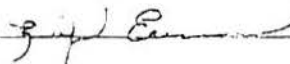
Permit No: <u>22-02012</u>	<u>RACT</u>	Source & Air Cleaning Device: <u>DC Electric Arc Furnace, #209</u>
Owner: <u>Bethlehem Steel Corporation</u>		<u>Electric Arc Furnace, Combustion and</u>
Address: <u>215 South Front Street</u>		<u>VOC Sources (See Attached)</u>
<u>Steelton, PA 17113</u>		
Attention: <u>Mr. A. R. Futchko</u>		Location: <u>Steelton Plant</u>
<u>President</u>		<u>Steelton Borough, Dauphin County</u>

This permit is subject to the following conditions:

1. That the source and any associated air cleaning devices are to be:
 - a. operated in such a manner as not to cause air pollution;
 - b. in compliance with the specifications and conditions of the Reasonably Available Control Technology (RACT) plan;
 - c. operated and maintained in a manner consistent with good operating and maintenance practices.
2. This permit is valid only for the specific equipment, location and owner named above.
3. See attached.

Failure to comply with the conditions placed on this permit is a violation of Section 127.444. Violation of this or any other provision of Article III of the rules and regulations of the Department of Environmental Protection will result in suspension or revocation of this permit and/or prosecution under Section 9 of the Air Pollution Control Act.

Issued APR 9 1999


Program Manager

Southern Region 22-02012, S.C.
Harrisburg District
Permits

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SourcesI. List of Steel Production Sources and NO_x Emissions

<u>Source</u>	<u>Manufacturer</u>	<u>Rated Heat Input</u>	<u>Annual Emission Limit</u>
#207 DC Electric Arc Furnace (DCEAF)	NKK United	-----	99 tpy
Ladle Refining Furnace	EMCI	-----	-----
Vacuum Degasser	EMCI	-----	-----
#209 Electric Arc Furnace (EAF 209)	Lectromelt	-----	72 tpy

II. List of Combustion Units/Source > 50 mmbtu/hr and NO_x Emissions

Central Boiler #2 [Natural Gas (N.G.) or #6 Oil Fired]	Erie City	200 mmbtu/hr	253 tpy
Central Boiler #5 (N.G. or #6 Oil Fired)	Erie City	200 mmbtu/hr	253 tpy
20" Mill Reheat Furnace (N.G. or #6 Oil Fired)	Rust Engineering	180 mmbtu/hr	189.0 tpy

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

Soaking Pit Battery #5	Burners N.G. Fired- Combustion Eng (CE) Oil-Bloom Eng (BE)	48 mmbtu/hr	37.8 tpy
Soaking Pit Battery #6	BE/CE	48 mmbtu/hr	37.8 tpy
Soaking Pit Battery #1	BE/CE	48 mmbtu/hr	37.8 tpy
Soaking Pit Battery #2	BE/CE	48 mmbtu/hr	37.8 tpy
Soaking Pit Battery #3	BE/CE	48 mmbtu/hr	37.8 tpy
Soaking Pit Battery #4	BE/CE	48 mmbtu/hr	37.8 tpy

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<u>Source</u>	<u>Manufacturer</u>	<u>Rated Heat Input</u>	<u>Annual Emission Limit</u>
35" Mill Reheat Furnace #3	Bethlehem Steel Corp (BSC)	40 mmbtu/hr	152.8 tpy
35" Mill Reheat Furnace #4	BSC	40 mmbtu/hr	152.8 tpy
Pipe Mill Dravo Heater	Dravo	37.5 mmbtu/hr	22.2 tpy
Rail Mill #1 Heat Furnace	BE	37.8 mmbtu/hr	13.8 tpy
Rail Mill #1 Draw Furnace	BSC	26.8 mmbtu/hr	6.2 tpy

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

<u>Source</u>	<u>Manufacturer</u>	<u>Rated Heat Input</u>
Ladle Preheater #1	BE	9.9 mmbtu/hr
Ladle Preheater #2	BE	9.9 mmbtu/hr
Ladle Preheater #3	BE	9.9 mmbtu/hr
Ladle Preheater #4	North American (NA)	9.9 mmbtu/hr
Continuous Caster Tundish Preheater #1	Friedrich Ley (FL)	9.9 mmbtu/hr
Continuous Caster Tundish Preheater #2	FL	9.9 mmbtu/hr
Continuous Caster Tundish Dryer #1	not known	4.6 mmbtu/hr
Pipe Mill ID Coating IR Heater	NA	3.8 mmbtu/hr

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
Controlled Cooling Box #3	KB	0.6 mmbtu/hr
Controlled Cooling Box #4	KB	0.6 mmbtu/hr
Controlled Cooling Box #5	KB	0.6 mmbtu/hr
Controlled Cooling Box #6	KB	0.6 mmbtu/hr
Controlled Cooling Box #7	KB	0.6 mmbtu/hr
Controlled Cooling Box #8	KB	0.6 mmbtu/hr
Burn Off Oven	ACE	0.5 mmbtu/hr
Caster Cutting Torch #1 thru #6	-----	0.123 mmbtu/hr
Six Hot Water Heaters and Space Heaters	-----	Less than 0.5 mmbtu/hr each (Combined Emissions Potential less than 13 tpy NO _x)

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EMISSIONS LIMITS AND CAPACITY LIMITS

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.
 - b. EAF 209/LRF - combined steel production, included in (a) above.
 - c. Central Boilers #2 and #5 - 9 tpy.
 - d. 20" Mill Reheat Furnace - Natural Gas - 5 tpy.
#6 Oil - 5 tpy.
 - e. Soaking Pit Batteries #1 through #6 - Natural Gas - 8 tpy.
#6 Oil - 8 tpy.
 - f. 35" Mill Reheat Furnace - 0.6 tpy.
 - g. Pipe Mill Dravo Heater - 0.2 tpy.
 - h. Rail Mill #1 Heat Furnace - 2.2 tpy.
 - i. Rail Mill #1 Draw Furnace - 16 tpy.
 - j. Two Caster Steam Vents - 17.8 tpy.
 - k. Oil Quench Tank for Rails Heat Treatment - 31.5 tpy
 - l. Compressed Air System Freezes Protection - 13.4 tpy
 - m. Inking of Rails Operation - 5 tpy
 - n. Parts Washer Cleaning Solvent for Maintenance - 24.7 tpy
7. The following sources shall not exceed the annual capacity as noted:
 - a. Boilers #2 and #5 - combined heat input of 250 mmbtu/hr.
 - b. 20" Mill Reheat Furnace - 100,000 tons steel, based on a 12-month rolling total.
 - c. 35" Mill Reheat Furnaces #3 and #4 - Combined 600,000 tons steel, based on a 12-month rolling total.
 - d. Soaking Pit Batteries #1 through #6 - Combined 1,000,000 tons steel, based on a 12-month rolling total.

STACK TESTING AND EMISSIONS MONITORING

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.

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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
 - b. Soaking Pit Batteries #5 and #6
 - c. 35" Reheat Furnaces #3 and #4
 - d. Rail Mill #1 Heat Furnace and Draw Furnace
10. Stack testing to determine the emissions rate of VOC shall be performed on one representative of the stacks on Soaking Pit Batteries #1 through #6 on #6 oil.
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.
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/mmbr
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.

GENERAL CONDITIONS

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, §§ 129.91 through 129.95).
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 accordance with manufacturers' specifications.

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20. Boilers #2 and #5, Soaking Pit Batteries #1 through #6, and 20" Mill Reheat Furnaces are subject to the following:
- 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 NO_x 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 NO_x 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 Operators 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 operation of the units must minimize pollution and be in accordance with good air pollution control practices.

PARTS WASHER CLEANING SOLVENT

21. The company shall comply with the following "housekeeping" procedures with the intent to regulate Parts Washer Cleaning Solvent maintenance:
- a. Clean-up 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.

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RECORDKEEPING AND REPORTING

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 and Pipe Mill Dravo Heater may be measured in groups. Gas and oil usage for six Soaking Pit Batteries 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 emissions 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.
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.

MISCELLANEOUS REQUIREMENTS

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.

