



State of Illinois

# ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director  
217/782-2113

P. O. Box 19506, Springfield, IL 62794-9506

JOINT CONSTRUCTION AND OPERATING PERMIT - REVISED  
NSPS SOURCE

PERMITTEE

Granite City Division  
of National Steel Corporation  
Attn: James Squires  
20th & State Street  
Granite City, Illinois 62040

Application No.: 95010005                      I.D. No.: 119813AAI  
Applicant's Designation: GW029721CO      Date Received: March 17, 1997  
Subject: Galvanizing Line #8  
Date Issued: October 21, 1997              Expiration Date: October 16, 2002  
Location: 21st and Omaha Streets, Granite City

Permit is hereby granted to the above-designated Permittee to CONSTRUCT and OPERATE emission source(s) and/or air pollution control equipment consisting of an Acrylic Passivation System (metal coil surface coating application with a natural gas fired oven) and the building and storage area heaters and to OPERATE emission source(s) and/or pollution control equipment consisting of Galvanizing Line #8 which includes a welder, cleaner section with fume scrubber, 54.6 million Btu/hr natural gas fired furnace, two galvanizing pots, chemical treatment tank, five space heaters, 11 miscellaneous heaters, kettle melting, an acrylic passivation metal coil surface coating line, a drying oven, building and storage areas heaters, and other associated equipment as described in the above-referenced application. This Permit is subject to standard conditions and the following conditions.

- 1a. Pursuant to 40 CFR 60.462(a)(1) each owner or operator of a subject metal coil surface coating line shall not cause to be discharged into the atmosphere of more than 2.34 pounds VOC per gallon (lb VOC/gal) of coating solids applied for each calendar month for each affected facility that does not use an emission control device(s).
- b. Pursuant to 40 CFR 60.463(c)(1)(iv) the individual coating used by an affected facility shall have a VOC content, as received, that is equal to or less than 2.34 lb VOC/gal of coating solids and no VOC's shall be added to the coatings during distribution or application.
- c. Pursuant to 35 Ill. Adm. Code 219.204(d); Coil Coating, the VOM content of coatings as applied at each coating applicator on the metal coil coating line shall not exceed 1.7 pounds of VOM per gallon of coating (minus water and any compounds which are specifically exempted from the definition of VOM).
- d. Emissions and operation of the acrylic passivation metal coil surface coating line shall not exceed the following limits:

Maximum Coating Usage (Gal/Mo)	Maximum Coating Usage (Gal/Yr)	Maximum VOM Content (% by Wt.)	VOM Emissions (Lb/Mo)	VOM Emissions (Ton/Yr)
12,500	150,000	1.1	1,205	7.23

These limits are based upon maximum material usage, maximum VOM content, and a maximum coating density of 8,765 lb/gal. Compliance with the annual limit shall be determined on a monthly basis from the sum of the data from the current month plus the previous 11 months.

- 2a. Natural Gas shall be the only fuel fired in the furnace.
- b. Emissions and operations of the furnace shall not exceed the following limits.

<u>Maximum Firing Rate (mmBtu/Hr)</u>	<u>Nitrogen Oxides (NO<sub>x</sub>) Emissions (Lbs/Hr) (Tons/Yr)</u>	
54.6	2.07	9.04

- c. Emissions of other regulated pollutants from the furnace shall not exceed the following limits:

Carbon Monoxide:	8.37 tons/yr
Particulate Matter:	0.72 tons/yr
PM-10:	0.72 tons/yr
VOM:	0.67 tons/yr
SO <sub>2</sub> :	0.14 tons/yr

- d. The NO<sub>x</sub> limits for the furnace are based upon the maximum firing rate, continuous operation (i.e., 8,760 hrs/yr) and information provided by the furnace vendor (per a vendor guarantee) indicating that NO<sub>x</sub> emissions shall not exceed 0.0378 lbs/mmBtu. This emission rate shall be verified by the testing required in this permit. The emission limits for the remaining pollutants are based upon the maximum firing rate, standard emission factors of AP-42, and continuous operation. A conversion factor of 1019 Btu per standard cubic feet of natural gas was used.
- e. Compliance with annual limits shall be determined from a running total of 12 consecutive months of data.

- 3a. Total combined emissions and operations of the five space heaters shall not exceed the following limits:

<u>Combined Maximum Firing Rate (mmBtu/hr)</u>	<u>Nitrogen Oxides (NO<sub>x</sub>) Emissions (Lbs/Hr) (Tons/Yr)</u>	
17.2	1.69	7.39
3.44 Each		

- b. Total emissions of other regulated pollutants from the five space heaters shall not exceed the following limits:

Carbon Monoxide:	1.48 tons/yr
Particulate Matter:	0.22 tons/yr
PM-10:	0.22 tons/yr
VOM:	0.39 tons/yr
SO <sub>2</sub> :	0.04 tons/yr

- c. These limits are based upon the combined maximum firing rate of the five space heaters, standard emissions factors of AIRS (SCC 1-05-001-06), and continuous operation.
- d. Natural gas shall be the only fuel fired in the heaters.
- e. Compliance with annual limits shall be determined from a running total of 12 consecutive months of data.

4a. Total combined emissions and operations of the drying oven and the building and storage area heaters shall not exceed the following limits:

Combined Maximum Firing Rate <u>(mmBtu/hr)</u>	Nitrogen Oxides (NO <sub>x</sub> ) Emissions	
	<u>(Lbs/Hr)</u>	<u>(Tons/Yr)</u>
9.84	0.97	4.23

b. Total emissions of other regulated pollutants from the drying oven and the building and storage area heaters shall not exceed the following limits:

Carbon Monoxide:	0.85 tons/yr
Particulate Matter:	0.13 tons/yr
PM-10:	0.13 tons/yr
VOM:	0.22 tons/yr
SO <sub>2</sub> :	0.03 tons/yr

- c. These limits are based upon the combined maximum firing rate of the drying oven and the building and storage area heaters, standard emissions factors of AIRS (SCC 1-05-001-06), and continuous operation.
  - d. Natural gas shall be the only fuel fired in the drying oven, building and storage area heaters.
  - e. Compliance with annual limits shall be determined from a running total of 12 consecutive months of data.
- 5a. Total combined emissions and operations of the 11 miscellaneous heaters shall not exceed the following limits:

Combined Natural Gas Usage		Combined NO <sub>x</sub> Emissions	
<u>(ft<sup>3</sup>/Hr)</u>	<u>(mmft<sup>3</sup>/Yr)</u>	<u>(Lbs/Hr)</u>	<u>(Tons/Yr)</u>
21,895	191.8	2.19	9.60

b. Total combined emissions of each of the other regulated pollutants from the 11 miscellaneous heaters shall not exceed the following limits:

Carbon Monoxide:	1.92 tons/yr
Particulate Matter:	0.29 tons/yr
PM-10:	0.29 tons/yr
VOM:	0.51 tons/yr
SO <sub>2</sub> :	0.06 tons/yr

- c. These limits are based upon the maximum rated capacity in terms of fuel use of the 11 miscellaneous heaters, standard emissions factors of AIRS (SCC 1-05-001-06), and continuous operation.
- d. Natural gas shall be the only fuel fired in the heaters.
- e. Compliance with annual limits shall be determined from a running total of 12 consecutive months of data.
- 6a. Emissions and operations of the cleaner section with fume scrubber shall not exceed the following limits:

Particulate Matter  
Emissions  
(Lbs/Hr) (Tons/Yr)

0.24          1.06

- b. These limits are based upon continuous operation and information provided by the fume scrubber vendor indicating that Particulate Matter emissions will not exceed 0.24 lbs/hr based on the maximum pollutant input from the cleaner section.
- c. Compliance with annual limits shall be determined from a running total of monthly data.
- d. The Permittee shall keep a maintenance log for the fume scrubber which shall detail all routine and nonroutine maintenance performed, including dates and duration of outages, inspection schedule, repair actions, and replacements.
- 7a. Emissions and operations from kettle melting shall not exceed the following limits:

<u>Tons Product</u>		<u>Particulate Matter</u>	
<u>(Tons/Month)</u>	<u>(Tons/Yr)</u>	<u>Emissions</u>	<u>(Tons/Yr)</u>
<u>(Tons/Month)</u>	<u>(Tons/Yr)</u>	<u>(Tons/Month)</u>	<u>(Tons/Yr)</u>
32,000	384,000	0.16	1.92

- b. These limits are based upon the maximum product per month, 0.1 tons zinc per ton product, and an AP-42 factor of 0.1 lbs of particulate matter emissions per ton of zinc.
- c. Compliance with annual limits shall be determined from a running total of monthly data.
- 8. The Permittee shall not cause or allow the emission of particulate matter from a coke oven combustion stack to exceed 30% opacity. Compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113. The exemption from the opacity limitation provided by 35 IAC 212.443(g)(2) shall not apply.

9. This permit is issued based upon negligible emissions of regulated air pollutants from the welder, 2 galvanizing pots, and chemical treatment tank. For this purpose, emissions of each pollutant from each emission unit shall not exceed nominal emission rates of 0.1 lbs/hr and 0.44 tons/yr.

RECORDKEEPING

- 10a. Records shall be maintained of the following:
- i. Tons of product per month and year for the kettle melting operations.
  - b. On and after the initial start-up date, the Permittee shall collect and record all of the following information each day for each coating line:
    - i. The name and identification number of each coating as applied on each coating line.
    - ii. The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.
  - c. On and after the initial start-up date, the Permittee shall collect and record all of the following information:
    - i. The, as received, VOM content (lb VOC/gal of coating solids) for each coating.
    - ii. VOM emissions including supporting calculations from the metal coil coating operation in pounds of VOM per gallon of coating solids applied for each calendar month, pounds of VOM emissions per month and tons of VOM emissions per year.
  - d. The records and logs required by this permit shall be maintained at a readily accessible location at the source for a period of three years and shall be available to representatives of the Agency and USEPA for inspection and copying during daily working and/or operating hours.

REPORTING

11. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the record keeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences. This report should be sent to:

Illinois Environmental Protection Agency  
Bureau of Air  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

12. This permit is issued based upon the increase in emissions associated with this project not constituting a major modification pursuant to 35 Ill. Adm. Code Part 203 and 40 CFR 52.21 - Prevention of Significant Deterioration. As a result of the conditions of this permit, the potential emissions of all regulated air pollutants are restricted to levels less than those defined as significant in the aforementioned regulations. The conditions of this permit are federally enforceable.

Please note the following for purposes of this permit:

1 mmBtu = 1 million British thermal units;  
1 ft<sup>3</sup> natural gas = 1,019 Btu

It should also be noted that this permit has been revised to remove Condition No. 8 from prior permit issued on October 16, 1997. Condition No. 8 was removed due to a typographical error, as a result the subsequent conditions have been renumbered.

If you have any questions on this, please call Ernie Kierbach at 217/782-2113.



Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

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cc: Region 3