



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: October 10, 2008

RE: Nucor Steel / 107-26849-00038

FROM: Matthew Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

## Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures  
FNPER-AM.dot12/3/07



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Mr. David Sulc  
Nucor Steel  
4357 South Nucor Road  
Crawfordsville, Indiana 47933

October 10, 2008

Re: 107-26849-00038  
Administrative Amendment to:  
Part 70 Source (TV 107-7172-00038)

Dear Mr. Sulc:

Nucor Steel was issued Part 70 operating permit T107-7172-00038 on December 29, 2006 for a steel mini-mill. A letter requesting changes to this permit was received on August 7, 2008. Pursuant to the provisions of 326 IAC 2-7-11 an administrative amendment to this permit is hereby approved as described in the attached Technical Support Document for the following NuPro Steel, LLC operations:

- (a) One (1) steel pickling line, constructed in 1994 and re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour, and a maximum hydrochloric acid (HCl) pickling usage of 2,248 pounds per hour, controlled by a wet scrubber;
- (b) Slitting operations, 1/4 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 1994; and 1/2 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 2003 both lines re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour,
- (c) One (1) natural gas-fired boiler with a maximum heat input capacity of 10.9 million British thermal units per hour (MMBtu/hr), constructed in 1994 and re-permitted under Nucor Steel in 2008; and
- (d) Six (6) natural gas-fired air heaters, with each has a maximum heat input capacity of 0.8 MMBtu/hr, constructed in 1994 and re-permitted under Nucor Steel in 2008.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.  
If you have any questions on this matter call (800) 451-6027, and ask for Aida De Guzman or extension (3-4972), or dial (317) 233-4972.

Original signed by,

Donald F. Robin, P.E., Section Chief  
Permits Branch  
Office of Air Quality

Attachments

APD

CC: Montgomery County  
Montgomery County Health Department  
Air Compliance Section Inspector  
Compliance Data Section  
Permits Administration Support Section



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**PART 70 OPERATING PERMIT  
 OFFICE OF AIR QUALITY**

**Nucor Steel  
 4537 South Nucor Road  
 Crawfordsville, Indiana 47933**

(herein known as the Permittee) is hereby authorized to construct subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this Permit.

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

This approval is issued in accordance with 326 IAC 2, and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No. 107-24699-00038	
Issued by: Original Signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: December 29, 2006  Expiration Date: December 29, 2011
First Administrative Amendment No. 107-24009-00038, issued on January 26, 2007, First Significant Permit Modification No. 107-24022-00038, issued on April 20, 2007, Second Significant Permit Modification No. 107-24284-00038, issued on August 8, 2007, Third Significant Permit Modification No. 107-24699-00038, issued on January 2, 2008, and Second Administrative Amendment No. 107-26116-00038, issued on April 4, 2008.	
Third Administrative Amendment No. 107-26849-00038	Pages Affected: 25, 157, 163 Pages Added: 157a, 163a, 163b
Original signed by:  Donald F. Robin, P.E., Section Chief Permits Branch Office of Air Quality	Issuance Date: October 10, 2008  Expiration Date: December 29, 2011

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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This stationary source consists of the following emission units and pollution control devices:

**D.34 NuPro Steel, LLC Operations:**

- (a) One (1) steel pickling line, constructed in 1994 and re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour, and a maximum hydrochloric acid (HCl) pickling usage of 2,248 pounds per hour, controlled by a wet scrubber;
- (b) Slitting operations, 1/4 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 1994; and 1/2 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 2003 both lines re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour,
- (c) One (1) natural gas-fired boiler with a maximum heat input capacity of 10.9 million British thermal units per hour (MMBtu/hr), constructed in 1994 and re-permitted under Nucor Steel in 2008; and
- (d) Six (6) natural gas-fired air heaters, with each has a maximum heat input capacity of 0.8 MMBtu/hr, constructed in 1994 and re-permitted under Nucor Steel in 2008.

## SECTION D.34

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC2-7-5(15)]

NuPro Steel, LLC Operations:

- (a) One (1) steel pickling line, constructed in 1994 and re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour, and a maximum hydrochloric acid (HCl) pickling usage of 2,248 pounds per hour, controlled by a wet scrubber;
- (b) Slitting operations, 1/4 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 1994; and 1/2 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 2003 both lines re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour,
- (c) One (1) natural gas-fired boiler with a maximum heat input capacity of 10.9 million British thermal units per hour (MMBtu/hr), constructed in 1994 and re-permitted under Nucor Steel in 2008; and
- (d) Six (6) natural gas-fired air heaters, with each has a maximum heat input capacity of 0.8 MMBtu/hr, constructed in 1994 and re-permitted under Nucor Steel in 2008.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.34.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e), the particulate emissions from the steel pickling line shall not exceed the 49.1 pound per hour limit when operating at a combined process weight rate of 80 tons per hour for the steel and hydrochloric acid. This particulate emissions limit is based on the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission is pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

#### D.34.2 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, the PM emissions from the 10.9 MMBtu/hr Boiler shall be limited to 0.28 pound per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = 1.09 / Q^{0.26} \quad \text{where } Pt = \text{Pounds of PM emitted per million Btu} \\ \text{(lb/MMBtu) heat input, and} \\ Q = \text{Total source maximum operating} \\ \text{capacity rating in million Btu per hour} \\ \text{(MMBtu per hour) heat input.}$$

## SECTION E.2

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC2-7-5(15)]

NuPro Steel, LLC Operation:

- (c) One (1) natural gas-fired boiler with a maximum heat input capacity of 10.9 million British thermal units per hour (MMBtu/hr), constructed in 1994 and re-permitted under Nucor Steel in 2008.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### E.2.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

- (a) The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facility described in this Section E.2 except when otherwise specified in 40 CFR 60, Subpart Dc.
- (b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

### E.2.2 New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Dc (New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units) (included as Attachment C of this permit) which are incorporated by reference as 326 IAC 12:

- (1) 40 CFR 60.40c  
(2) 40 CFR 60.41c  
(3) 40 CFR 60.48c(a)(1), (g), (i)

**SECTION E.3**

**FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC2-7-5(15)]**

NuPro Steel, LLC Operation:

- (a) One (1) steel pickling line, constructed in 1994 and re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour, and a maximum hydrochloric acid (HCl) pickling usage of 2,248 pounds per hour, controlled by a wet scrubber.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**E.3.1 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]**

The provisions of 40 CFR Part 63, Subpart A (General Provisions), which are incorporated by reference in 326 IAC 20-1, apply to the NuPro's Pickling Line except when otherwise specified in 40 CFR Part 63, Subpart CCC.

**E.3.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for HCl Process Facilities and Hydrochloric Acid Regeneration Plants NESHAP [40 CFR Part 63, Subpart CCC][326 IAC 20]**

The Permittee shall comply no later than July 31, 2010 with the following provisions of 40 CFR Part 63, Subpart CCC (National Emission Standards for Hazardous Air Pollutants (NESHAP) for HCl Process Facilities and Hydrochloric Acid Regeneration Plants (included as Attachment D of this permit) which are incorporated by reference as 326 IAC 20:

- (1) 40 CFR 63.1155
- (2) 40 CFR 63.1156
- (3) 40 CFR 63.1157
- (4) 40 CFR 63.1159
- (5) 40 CFR 63.1160(a)(1), (b)
- (6) 40 CFR 63.1161
- (7) 40 CFR 63.1162
- (8) 40 CFR 63.1163(a)(2), (d), (e)
- (9) 40 CFR 63.1164
- (10) 40 CFR 63.1165
- (11) 40 CFR 63.1166
- (12) Table 1 to Subpart CCC of Part 63 – Applicability of General Provisions (40 CFR Part 63, Subpart A) to Subpart CCC

## Attachment C

### Title 40: Protection of Environment

#### PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

[Browse Previous](#) | [Browse Next](#)

#### Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32759, June 13, 2007, unless otherwise noted.

##### § 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraph (d) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO<sub>2</sub>) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in §60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under §60.14.

(e) Heat recovery steam generators that are associated with combined cycle gas turbines and meet the applicability requirements of subpart GG or KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/hr) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/hr) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part).

(f) Any facility covered by subpart AAAA of this part is not covered by this subpart.

(g) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not covered by this subpart.

##### § 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

*Annual capacity factor* means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

**Coal** means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

**Coal refuse** means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

**Cogeneration steam generating unit** means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

**Combined cycle system** means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

**Combustion research** means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (i.e., the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

**Conventional technology** means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

**Distillate oil** means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

**Dry flue gas desulfurization technology** means a SO<sub>2</sub> control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

**Duct burner** means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

**Emerging technology** means any SO<sub>2</sub> control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under §60.48c(a)(4).

**Federally enforceable** means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

**Fluidized bed combustion technology** means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

**Fuel pretreatment** means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

*Heat input* means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

*Heat transfer medium* means any material that is used to transfer heat from one point to another point.

*Maximum design heat input capacity* means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

*Natural gas* means: (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17).

*Noncontinental area* means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

*Oil* means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

*Potential sulfur dioxide emission rate* means the theoretical SO<sub>2</sub> emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

*Process heater* means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

*Residual oil* means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

*Steam generating unit* means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

*Steam generating unit operating day* means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

*Wet flue gas desulfurization technology* means an SO<sub>2</sub> control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

*Wet scrubber system* means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO<sub>2</sub>.

*Wood* means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

#### **§ 60.42c Standard for sulfur dioxide (SO<sub>2</sub>).**

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO<sub>2</sub> emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO<sub>2</sub> emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO<sub>2</sub> emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO<sub>2</sub> emissions limit or the 90 percent SO<sub>2</sub> reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO<sub>2</sub> emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 50 percent (0.50) of the potential SO<sub>2</sub> emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO<sub>2</sub> reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/hr) or less.

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area.

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of the following:

(1) The percent of potential SO<sub>2</sub> emission rate or numerical SO<sub>2</sub> emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/hr); and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E<sub>s</sub> = SO<sub>2</sub> emission limit, expressed in ng/J or lb/MMBtu heat input;

K<sub>a</sub> = 520 ng/J (1.2 lb/MMBtu);

K<sub>b</sub> = 260 ng/J (0.60 lb/MMBtu);

K<sub>c</sub> = 215 ng/J (0.50 lb/MMBtu);

H<sub>a</sub> = Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H<sub>b</sub> = Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

H<sub>c</sub>K<sub>a</sub>H<sub>b</sub> = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO<sub>2</sub> emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO<sub>2</sub> emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO<sub>2</sub> control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(i) The SO<sub>2</sub> emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

#### **§ 60.43c Standard for particulate matter (PM).**

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged

into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO<sub>2</sub> emissions is not subject to the PM limit in this section.

#### **§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.**

(a) Except as provided in paragraphs (g) and (h) of this section and §60.8(b), performance tests required under §60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under §60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO<sub>2</sub> emission limits under §60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and §60.8, compliance with the percent reduction requirements and SO<sub>2</sub> emission limits under §60.42c is based on the average percent

reduction and the average SO<sub>2</sub> emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO<sub>2</sub> emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO<sub>2</sub> emission rate (E<sub>ho</sub>) and the 30-day average SO<sub>2</sub> emission rate (E<sub>ao</sub>). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate E<sub>ao</sub> when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E<sub>ho</sub> (E<sub>ho0</sub>) is used in Equation 19-19 of Method 19 of appendix A of this part to compute the adjusted E<sub>ao</sub> (E<sub>ao0</sub>). The E<sub>ho0</sub> is computed using the following formula:

$$E_{ho0} = \frac{E_{ho} - E_w(1 - X_k)}{X_k}$$

Where:

E<sub>ho0</sub> = Adjusted E<sub>ho</sub>, ng/J (lb/MMBtu);

E<sub>ho</sub> = Hourly SO<sub>2</sub> emission rate, ng/J (lb/MMBtu);

E<sub>w</sub> = SO<sub>2</sub> concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value E<sub>w</sub> for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E<sub>w</sub> if the owner or operator elects to assume E<sub>w</sub> = 0.

X<sub>k</sub> = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of §60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters E<sub>w</sub> or X<sub>k</sub> if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under §60.42c(a) or (b) shall determine compliance with the SO<sub>2</sub> emission limits under §60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO<sub>2</sub> emission rate is computed using the following formula:

$$\%P_s = 100 \left( 1 - \frac{\%R_f}{100} \right) \left( 1 - \frac{\%R_f}{100} \right)$$

Where:

%P<sub>s</sub> = Potential SO<sub>2</sub> emission rate, in percent;

$\%R_g$  = SO<sub>2</sub> removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$  = SO<sub>2</sub> removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the  $\%P_s$ , an adjusted  $\%R_g$  ( $\%R_{gO}$ ) is computed from  $E_{aO}$  from paragraph (e)(1) of this section and an adjusted average SO<sub>2</sub> inlet rate ( $E_{aIO}$ ) using the following formula:

$$\%R_{gO} = 100 \left( 1 - \frac{E_{aO}}{E_{aIO}} \right)$$

Where:

$\%R_{gO}$  = Adjusted  $\%R_g$ , in percent;

$E_{aO}$  = Adjusted  $E_{aO}$ , ng/J (lb/MMBtu); and

$E_{aIO}$  = Adjusted average SO<sub>2</sub> inlet rate, ng/J (lb/MMBtu).

(ii) To compute  $E_{aIO}$ , an adjusted hourly SO<sub>2</sub> inlet rate ( $E_{hIO}$ ) is used. The  $E_{hIO}$  is computed using the following formula:

$$E_{hIO} = \frac{E_M - E_w(1 - X_k)}{X_k}$$

Where:

$E_{hIO}$  = Adjusted  $E_{hI}$ , ng/J (lb/MMBtu);

$E_{hI}$  = Hourly SO<sub>2</sub> inlet rate, ng/J (lb/MMBtu);

$E_w$  = SO<sub>2</sub> concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value  $E_w$  for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure  $E_w$  if the owner or operator elects to assume  $E_w = 0$ ; and

$X_k$  = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2).

(h) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO<sub>2</sub> standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under §60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO<sub>2</sub> standards under §60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO<sub>2</sub> emissions data in calculating %P<sub>s</sub> and E<sub>no</sub> under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under §60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating %P<sub>s</sub> or E<sub>no</sub> pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

**§ 60.45c Compliance and performance test methods and procedures for particulate matter.**

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under §60.43c shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator; to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3 of appendix A of this part shall be used for gas analysis when applying Method 5, 5B, or 17 of appendix A of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).

(6) For determination of PM emissions, an oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O<sub>2</sub> or CO<sub>2</sub> measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A of this part (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under §60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with EPA Reference Method 5, 5B, or 17 of appendix A of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using EPA Method 5, 5B, or 17 of appendix A of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(13) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (d)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (d)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (d)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O<sub>2</sub> (or CO<sub>2</sub>) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraph (d)(7)(i) of this section.

(i) For PM, EPA Reference Method 5, 5B, or 17 of appendix A of this part shall be used.

(ii) For O<sub>2</sub> (or CO<sub>2</sub>), EPA reference Method 3, 3A, or 3B of appendix A of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audits must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.43c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/hr).

#### **§ 60.46c Emission monitoring for sulfur dioxide.**

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO<sub>2</sub> emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO<sub>2</sub> concentrations and either O<sub>2</sub> or CO<sub>2</sub> concentrations at the outlet of the SO<sub>2</sub> control device (or the outlet of the steam generating unit if no SO<sub>2</sub> control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under §60.42c shall measure SO<sub>2</sub> concentrations and either O<sub>2</sub> or CO<sub>2</sub> concentrations at both the inlet and outlet of the SO<sub>2</sub> control device.

(b) The 1-hour average SO<sub>2</sub> emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.42c. Each 1-hour average SO<sub>2</sub> emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under §60.13(h)(2). Hourly SO<sub>2</sub> emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under §60.42c, the span value of the SO<sub>2</sub>CEMS at the inlet to the SO<sub>2</sub>control device shall be 125 percent of the maximum estimated hourly potential SO<sub>2</sub>emission rate of the fuel combusted, and the span value of the SO<sub>2</sub>CEMS at the outlet from the SO<sub>2</sub>control device shall be 50 percent of the maximum estimated hourly potential SO<sub>2</sub>emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of §60.42c, the span value of the SO<sub>2</sub>CEMS at the outlet from the SO<sub>2</sub>control device (or outlet of the steam generating unit if no SO<sub>2</sub>control device is used) shall be 125 percent of the maximum estimated hourly potential SO<sub>2</sub>emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO<sub>2</sub>control device (or outlet of the steam generating unit if no SO<sub>2</sub>control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO<sub>2</sub>emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO<sub>2</sub>control device (or outlet of the steam generating unit if no SO<sub>2</sub>control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO<sub>2</sub>emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according to the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO<sub>2</sub>input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO<sub>2</sub>at the inlet or outlet of the SO<sub>2</sub>control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO<sub>2</sub>and CO<sub>2</sub>measurement train operated at the candidate location and a second similar train operated according to the procedures in §3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO<sub>2</sub>standards based on fuel supplier certification, as described under §60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit

operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

**§ 60.47c Emission monitoring for particulate matter.**

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a COMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system.

(b) All COMS for measuring opacity shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.06 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO<sub>2</sub> or PM emissions are not required to operate a CEMS for measuring opacity if they follow the applicable procedures under §60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS monitor instead of monitoring opacity must calibrate, maintain, and operate a CEMS, and record the output of the system, for PM emissions discharged to the atmosphere as specified in §60.45c(d). The CEMS specified in paragraph §60.45c(d) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) An affected facility that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO<sub>2</sub>, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS for measuring opacity. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section.

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. At least two data points per hour must be used to calculate each 1-hour average.

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An affected facility that burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the appropriate delegated permitting authority is not required to operate a COMS for measuring opacity. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

### **§ 60.48c Reporting and recordkeeping requirements.**

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO<sub>2</sub> emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits of §60.42c, or the PM or opacity limits of §60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) The owner or operator of each coal-fired, oil-fired, or wood-fired affected facility subject to the opacity limits under §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period.

(d) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO<sub>2</sub> emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO<sub>2</sub> emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO<sub>2</sub> or diluent (O<sub>2</sub> or CO<sub>2</sub>) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and

(iii) The sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO<sub>2</sub> standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO<sub>2</sub> standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under §60.42c or §60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.



## Attachment D

### Title 40: Protection of Environment

#### PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

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#### **Subpart CCC—National Emission Standards for Hazardous Air Pollutants for Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants**

**Source:** 64 FR 33218, June 22, 1999, unless otherwise noted.

#### **§ 63.1155 Applicability.**

(a) The provisions of this subpart apply to the following facilities and plants that are major sources for hazardous air pollutants (HAP) or are parts of facilities that are major sources for HAP:

(1) All new and existing steel pickling facilities that pickle carbon steel using hydrochloric acid solution that contains 6 percent or more by weight HCl and is at a temperature of 100 °F or higher; and

(2) All new and existing hydrochloric acid regeneration plants.

(3) The provisions of this subpart do not apply to facilities that pickle carbon steel without using hydrochloric acid, to facilities that pickle only specialty steel, or to acid regeneration plants that regenerate only acids other than hydrochloric acid.

(b) For the purposes of implementing this subpart, the affected sources at a facility or plant subject to this subpart are as follows: Continuous and batch pickling lines, hydrochloric acid regeneration plants, and hydrochloric acid storage vessels.

(c) Table 1 to this subpart specifies the provisions of this part 63, subpart A that apply and those that do not apply to owners and operators of steel pickling facilities and hydrochloric acid regeneration plants subject to this subpart.

#### **§ 63.1156 Definitions.**

Terms used in this subpart are defined in the Clean Air Act, in subpart A of this part, or in this section as follows:

*Batch pickling line* means the collection of equipment and tanks configured for pickling metal in any form but usually in discrete shapes where the material is lowered in batches into a bath of acid solution, allowed to remain until the scale is dissolved, then removed from the solution, drained, and rinsed by spraying or immersion in one or more rinse tanks to remove residual acid.

*Carbon steel* means steel that contains approximately 2 percent or less carbon, 1.65 percent or less manganese, 0.6 percent or less silicon, and 0.6 percent or less copper.

*Closed-vent system* means a system that is not open to the atmosphere and that is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport emissions from a process unit or piece of equipment (e.g., pumps, pressure relief devices, sampling connections, open-ended valves or lines, connectors, and instrumentation systems) back into a closed system or into any device that is capable of reducing or collecting emissions.

*Continuous pickling line* means the collection of equipment and tanks configured for pickling metal strip, rod, wire, tube, or pipe that is passed through an acid solution in a continuous or nearly continuous manner and rinsed in another tank or series of tanks to remove residual acid. This definition includes continuous spray towers.

*Hydrochloric acid regeneration plant* means the collection of equipment and processes configured to reconstitute fresh hydrochloric acid pickling solution from spent pickle liquor using a thermal treatment process.

*Hydrochloric acid regeneration plant production mode* means operation under conditions that result in production of usable regenerated acid or iron oxide.

*Hydrochloric acid storage vessel* means a stationary vessel used for the bulk containment of virgin or regenerated hydrochloric acid.

*Responsible maintenance official* means a person designated by the owner or operator as having the knowledge and the authority to sign records and reports required under this rule.

*Specialty steel* means a category of steel that includes silicon electrical, alloy, tool, and stainless steels.

*Spray tower* means an enclosed vertical tower in which acid pickling solution is sprayed onto moving steel strip in multiple vertical passes.

*Steel pickling* means the chemical removal of iron oxide mill scale that is formed on steel surfaces during hot rolling or hot forming of semi-finished steel products through contact with an aqueous solution of acid where such contact occurs prior to shaping or coating of the finished steel product. This definition does not include removal of light rust or scale from finished steel products or activation of the metal surface prior to plating or coating.

*Steel pickling facility* means any facility that operates one or more batch or continuous steel pickling lines.

#### **§ 63.1157. Emission standards for existing sources.**

(a) *Pickling lines.* No owner or operator of an existing affected continuous or batch pickling line at a steel pickling facility shall cause or allow to be discharged into the atmosphere from the affected pickling line:

- (1) Any gases that contain HCl in a concentration in excess of 18 parts per million by volume (ppmv); or
- (2) HCl at a mass emission rate that corresponds to a collection efficiency of less than 97 percent.

(b) *Hydrochloric acid regeneration plants.* (1) No owner or operator of an existing affected plant shall cause or allow to be discharged into the atmosphere from the affected plant any gases that contain HCl in a concentration greater than 25 ppmv.

(2) In addition to the requirement of paragraph (b)(1) of this section, no owner or operator of an existing affected plant shall cause or allow to be discharged into the atmosphere from the affected plant any gases that contain chlorine ( $Cl_2$ ) in a concentration in excess of either 6 ppmv or an alternative source-specific maximum concentration. The source-specific maximum concentration standard shall be established according to §63.1161(c)(2) of this subpart.

#### **§ 63.1158. Emission standards for new or reconstructed sources.**

(a) *Pickling lines* —(1) *Continuous pickling lines.* No owner or operator of a new or reconstructed affected continuous pickling line at a steel pickling facility shall cause or allow to be discharged into the atmosphere from the affected pickling line:

(i) Any gases that contain HCl in a concentration in excess of 6 ppmv; or

(ii) HCl at a mass emission rate that corresponds to a collection efficiency of less than 99 percent.

(2) *Batch pickling lines.* No owner or operator of a new or reconstructed affected batch pickling line at a steel pickling facility shall cause or allow to be discharged into the atmosphere from the affected pickling line:

(i) Any gases that contain HCl in a concentration in excess of 18 ppmv; or

(ii) HCl at a mass emission rate that corresponds to a collection efficiency of less than 97 percent.

(b) *Hydrochloric acid regeneration plants.* (1) No owner or operator of a new or reconstructed affected plant shall cause or allow to be discharged into the atmosphere from the affected plant any gases that contain HCl in a concentration greater than 12 ppmv.

(2) In addition to the requirement of paragraph (b)(1) of this section, no owner or operator of a new or reconstructed affected plant shall cause or allow to be discharged into the atmosphere from the affected plant any gases that contain Cl<sub>2</sub> in a concentration in excess of 6 ppmv.

#### **§ 63.1159 Operational and equipment standards for existing, new, or reconstructed sources.**

(a) *Hydrochloric acid regeneration plant.* The owner or operator of an affected plant must operate the affected plant at all times while in production mode in a manner that minimizes the proportion of excess air fed to the process and maximizes the process offgas temperature consistent with producing usable regenerated acid or iron oxide.

(b) *Hydrochloric acid storage vessels.* The owner or operator of an affected vessel shall provide and operate, except during loading and unloading of acid, a closed-vent system for each vessel. Loading and unloading shall be conducted either through enclosed lines or each point where the acid is exposed to the atmosphere shall be equipped with a local fume capture system, ventilated through an air pollution control device.

#### **§ 63.1160 Compliance dates and maintenance requirements.**

(a) *Compliance dates.* (1) The owner or operator of an affected existing steel pickling facility and/or hydrochloric acid regeneration plant subject to this subpart shall achieve initial compliance with the requirements of this subpart no later than June 22, 2001.

(2) The owner or operator of a new or reconstructed steel pickling facility and/or hydrochloric acid regeneration plant subject to this subpart that commences construction or reconstruction after September 18, 1997, shall achieve compliance with the requirements of this subpart immediately upon startup of operations or by June 22, 1999, whichever is later.

(b) *Maintenance requirements.* (1) The owner or operator of an affected source shall comply with the operation and maintenance requirements prescribed under §63.6(e) of subpart A of this part.

(2) In addition to the requirements specified in paragraph (b)(1) of this section, the owner or operator shall prepare an operation and maintenance plan for each emission control device to be implemented no later than the compliance date. The plan shall be incorporated by reference into the source's title V permit. All such plans must be consistent with good maintenance practices and, for a scrubber emission control device, must at a minimum:

(i) Require monitoring and recording the pressure drop across the scrubber once per shift while the scrubber is operating in order to identify changes that may indicate a need for maintenance;

- (ii) Require the manufacturer's recommended maintenance at the recommended intervals on fresh solvent pumps, recirculating pumps, discharge pumps, and other liquid pumps, in addition to exhaust system and scrubber fans and motors associated with those pumps and fans;
- (iii) Require cleaning of the scrubber internals and mist eliminators at intervals sufficient to prevent buildup of solids or other fouling;
- (iv) Require an inspection of each scrubber at intervals of no less than 3 months with:
  - (A) Cleaning or replacement of any plugged spray nozzles or other liquid delivery devices;
  - (B) Repair or replacement of missing, misaligned, or damaged baffles, trays, or other internal components;
  - (C) Repair or replacement of droplet eliminator elements as needed;
  - (D) Repair or replacement of heat exchanger elements used to control the temperature of fluids entering or leaving the scrubber; and
  - (E) Adjustment of damper settings for consistency with the required air flow.
- (v) If the scrubber is not equipped with a viewport or access hatch allowing visual inspection, alternate means of inspection approved by the Administrator may be used.
- (vi) The owner or operator shall initiate procedures for corrective action within 1 working day of detection of an operating problem and complete all corrective actions as soon as practicable. Procedures to be initiated are the applicable actions that are specified in the maintenance plan. Failure to initiate or provide appropriate repair, replacement, or other corrective action is a violation of the maintenance requirement of this subpart.
- (vii) The owner or operator shall maintain a record of each inspection, including each item identified in paragraph (b)(2)(iv) of this section, that is signed by the responsible maintenance official and that shows the date of each inspection, the problem identified, a description of the repair, replacement, or other corrective action taken, and the date of the repair, replacement, or other corrective action taken.

(3) The owner or operator of each hydrochloric acid regeneration plant shall develop and implement a written maintenance program. The program shall require:

- (i) Performance of the manufacturer's recommended maintenance at the recommended intervals on all required systems and components;
- (ii) Initiation of procedures for appropriate and timely repair, replacement, or other corrective action within 1 working day of detection; and
- (iii) Maintenance of a daily record, signed by a responsible maintenance official, showing the date of each inspection for each requirement, the problems found, a description of the repair, replacement, or other action taken, and the date of repair or replacement.

#### **§ 63.1161. Performance testing and test methods.**

(a) *Demonstration of compliance.* The owner or operator shall conduct an initial performance test for each process or emission control device to determine and demonstrate compliance with the applicable emission limitation according to the requirements in §63.7 of subpart A of this part and in this section.

(1) Following approval of the site-specific test plan, the owner or operator shall conduct a performance test for each process or control device to either measure simultaneously the mass flows of HCl at the inlet and the outlet of the control device (to determine compliance with the applicable collection efficiency standard) or

measure the concentration of HCl (and Cl<sub>2</sub> for hydrochloric acid regeneration plants) in gases exiting the process or the emission control device (to determine compliance with the applicable emission concentration standard).

(2) Compliance with the applicable concentration standard or collection efficiency standard shall be determined by the average of three consecutive runs or by the average of any three of four consecutive runs. Each run shall be conducted under conditions representative of normal process operations.

(3) Compliance is achieved if either the average collection efficiency as determined by the HCl mass flows at the control device inlet and outlet is greater than or equal to the applicable collection efficiency standard, or the average measured concentration of HCl or Cl<sub>2</sub> exiting the process or the emission control device is less than or equal to the applicable emission concentration standard.

(b) *Establishment of scrubber operating parameters.* During the performance test for each emission control device, the owner or operator using a wet scrubber to achieve compliance shall establish site-specific operating parameter values for the minimum scrubber makeup water flow rate and, for scrubbers that operate with recirculation, the minimum recirculation water flow rate. During the emission test, each operating parameter must be monitored continuously and recorded with sufficient frequency to establish a representative average value for that parameter, but no less frequently than once every 15 minutes. The owner or operator shall determine the operating parameter monitoring values as the averages of the values recorded during any of the runs for which results are used to establish the emission concentration or collection efficiency per paragraph (a)(2) of this section. An owner or operator may conduct multiple performance tests to establish alternative compliant operating parameter values. Also, an owner or operator may reestablish compliant operating parameter values as part of any performance test that is conducted subsequent to the initial test or tests.

(c) *Establishment of hydrochloric acid regeneration plant operating parameters.* (1) During the performance test for hydrochloric acid regeneration plants, the owner or operator shall establish site-specific operating parameter values for the minimum process offgas temperature and the maximum proportion of excess air fed to the process as described in §63.1162(b)(1) of this subpart. During the emission test, each operating parameter must be monitored and recorded with sufficient frequency to establish a representative average value for that parameter, but no less frequently than once every 15 minutes for parameters that are monitored continuously. Amount of iron in the spent pickle liquor shall be determined for each run by sampling the liquor every 15 minutes and analyzing a composite of the samples. The owner or operator shall determine the compliant monitoring values as the averages of the values recorded during any of the runs for which results are used to establish the emission concentration per paragraph (a)(2) of this section. An owner or operator may conduct multiple performance tests to establish alternative compliant operating parameter values. Also, an owner or operator may reestablish compliant operating parameter values as part of any performance test that is conducted subsequent to the initial test or tests.

(2) During this performance test, the owner or operator of an existing affected plant may establish an alternative concentration standard if the owner or operator can demonstrate to the Administrator's satisfaction that the plant cannot meet a concentration limitation for Cl<sub>2</sub> of 6 ppmv when operated within its design parameters. The alternative concentration standard shall be established through performance testing while the plant is operated at maximum design temperature and with the minimum proportion of excess air that allows production of iron oxide of acceptable quality while measuring the Cl<sub>2</sub> concentration in the process exhaust gas. The measured concentration shall be the concentration standard for that plant.

(d) *Test methods.* (1) The following test methods in appendix A of 40 CFR part 60 shall be used to determine compliance under §63.1157(a), §63.1157(b), §63.1158(a), and §63.1158(b) of this subpart:

(i) Method 1, to determine the number and location of sampling points, with the exception that no traverse point shall be within one inch of the stack or duct wall;

(ii) Method 2, to determine gas velocity and volumetric flow rate;

(iii) Method 3, to determine the molecular weight of the stack gas;

(iv) Method 4, to determine the moisture content of the stack gas; and

(v) Method 26A, "Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources—Isokinetic Method," to determine the HCl mass flows at the inlet and outlet of a control device or the concentration of HCl discharged to the atmosphere, and also to determine the concentration of Cl<sub>2</sub> discharged to the atmosphere from acid regeneration plants. If compliance with a collection efficiency standard is being demonstrated, inlet and outlet measurements shall be performed simultaneously. The minimum sampling time for each run shall be 60 minutes and the minimum sample volume 0.85 dry standard cubic meters (30 dry standard cubic feet). The concentrations of HCl and Cl<sub>2</sub> shall be calculated for each run as follows:

$$C_{\text{HCl}}(\text{ppmv}) = 0.659 C_{\text{HCl}}(\text{mg/dscm}),$$

$$\text{and } C_{\text{Cl}_2}(\text{ppmv}) = 0.339 C_{\text{Cl}_2}(\text{mg/dscm}),$$

where C(ppmv) is concentration in ppmv and C(mg/dscm) is concentration in milligrams per dry standard cubic meter as calculated by the procedure given in Method 26A.

(2) The owner or operator may use equivalent alternative measurement methods approved by the Administrator.

### § 63.1162 Monitoring requirements.

(a) The owner or operator of a new, reconstructed, or existing steel pickling facility or acid regeneration plant subject to this subpart shall:

(1) Conduct performance tests to measure the HCl mass flows at the control device inlet and outlet or the concentration of HCl exiting the control device according to the procedures described in §63.1161 of this subpart. Performance tests shall be conducted either annually or according to an alternative schedule that is approved by the applicable permitting authority, but no less frequently than every 2 1/2 years or twice per title V permit term. If any performance test shows that the HCl emission limitation is being exceeded, then the owner or operator is in violation of the emission limit.

(2) In addition to conducting performance tests, if a wet scrubber is used as the emission control device, install, operate, and maintain systems for the measurement and recording of the scrubber makeup water flow rate and, if required, recirculation water flow rate. These flow rates must be monitored continuously and recorded at least once per shift while the scrubber is operating. Operation of the wet scrubber with excursions of scrubber makeup water flow rate and recirculation water flow rate less than the minimum values established during the performance test or tests will require initiation of corrective action as specified by the maintenance requirements in §63.1160(b)(2) of this subpart.

(3) If an emission control device other than a wet scrubber is used, install, operate, and maintain systems for the measurement and recording of the appropriate operating parameters.

(4) Failure to record each of the operating parameters listed in paragraph (a)(2) of this section is a violation of the monitoring requirements of this subpart.

(5) Each monitoring device shall be certified by the manufacturer to be accurate to within 5 percent and shall be calibrated in accordance with the manufacturer's instructions but not less frequently than once per year.

(6) The owner or operator may develop and implement alternative monitoring requirements subject to approval by the Administrator.

(b) The owner or operator of a new, reconstructed, or existing acid regeneration plant subject to this subpart shall also install, operate, and maintain systems for the measurement and recording of the:

(1) Process offgas temperature, which shall be monitored continuously and recorded at least once every shift while the facility is operating in production mode; and

(2) Parameters from which proportion of excess air is determined. Proportion of excess air shall be determined by a combination of total air flow rate, fuel flow rate, spent pickle liquor addition rate, and amount of iron in the spent pickle liquor, or by any other combination of parameters approved by the Administrator in accordance with §63.8(f) of subpart A of this part. Proportion of excess air shall be determined and recorded at least once every shift while the plant is operating in production mode.

(3) Each monitoring device must be certified by the manufacturer to be accurate to within 5 percent and must be calibrated in accordance with the manufacturer's instructions but not less frequently than once per year.

(4) Operation of the plant with the process offgas temperature lower than the value established during performance testing or with the proportion of excess air greater than the value established during performance testing is a violation of the operational standard specified in §63.1159(a) of this subpart.

(c) The owner or operator of an affected hydrochloric acid storage vessel shall inspect each vessel semiannually to determine that the closed-vent system and either the air pollution control device or the enclosed loading and unloading line, whichever is applicable, are installed and operating when required.

### **§ 63.1163 Notification requirements.**

(a) *Initial notifications.* As required by §63.9(b) of subpart A of this part, the owner or operator shall submit the following written notifications to the Administrator:

(1) The owner or operator of an area source that subsequently becomes subject to the requirements of the standard shall provide notification to the applicable permitting authority as required by §63.9(b)(1) of subpart A of this part.

(2) As required by §63.9(b)(2) of subpart A of this part, the owner or operator of an affected source that has an initial startup before June 22, 1999, shall notify the Administrator that the source is subject to the requirements of the standard. The notification shall be submitted not later than October 20, 1999 (or within 120 calendar days after the source becomes subject to this standard), and shall contain the information specified in §§63.9(b)(2)(i) through 63.9(b)(2)(v) of subpart A of this part.

(3) As required by §63.9(b)(3) of subpart A of this part, the owner or operator of a new or reconstructed affected source, or a source that has been reconstructed such that it is an affected source, that has an initial startup after the effective date and for which an application for approval of construction or reconstruction is not required under §63.5(d) of subpart A of this part, shall notify the Administrator in writing that the source is subject to the standards no later than 120 days after initial startup. The notification shall contain the information specified in §§63.9(b)(2)(i) through 63.9(b)(2)(v) of subpart A of this part, delivered or postmarked with the notification required in §63.9(b)(5) of subpart A of this part.

(4) As required by §63.9(b)(4) of subpart A of this part, the owner or operator of a new or reconstructed major affected source that has an initial startup after June 22, 1999, and for which an application for approval of construction or reconstruction is required under §63.5(d) of subpart A of this part shall provide the information specified in §§63.9(b)(4)(i) through 63.9(b)(4)(v) of subpart A of this part.

(5) As required by §63.9(b)(5) of subpart A of this part, the owner or operator who, after June 22, 1999, intends to construct a new affected source or reconstruct an affected source subject to this standard, or reconstruct a source such that it becomes an affected source subject to this standard, shall notify the Administrator, in writing, of the intended construction or reconstruction.

(b) *Request for extension of compliance.* As required by §63.9(c) of subpart A of this part, if the owner or operator of an affected source cannot comply with this standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with §63.6(i)(5) of subpart A of this part, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in §§63.6(i)(4) through 63.6(i)(6) of subpart A of this part.

(c) *Notification that source is subject to special compliance requirements.* As required by §63.9(d) of subpart A of this part, an owner or operator of a new source that is subject to special compliance requirements as specified in §§63.6(b)(3) and 63.6(b)(4) of subpart A of this part shall notify the Administrator of his/her compliance obligations not later than the notification dates established in §63.9(b) of subpart A of this part for new sources that are not subject to the special provisions.

(d) *Notification of performance test.* As required by §63.9(e) of subpart A of this part, the owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin, to allow the Administrator to review and approve the site-specific test plan required under §63.7(c) of subpart A of this part and, if requested by the Administrator, to have an observer present during the test.

(e) *Notification of compliance status.* The owner or operator of an affected source shall submit a notification of compliance status as required by §63.9(h) of subpart A of this part when the source becomes subject to this standard.

#### **§ 63.1164 Reporting requirements.**

(a) *Reporting results of performance tests.* As required by §63.10(d)(2) of subpart A of this part, the owner or operator of an affected source shall report the results of any performance test as part of the notification of compliance status required in §63.1163 of this subpart.

(b) *Progress reports.* The owner or operator of an affected source who is required to submit progress reports under §63.6(i) of subpart A of this part shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

(c) *Periodic startup, shutdown, and malfunction reports.* Section 63.6(e) of subpart A of this part requires the owner or operator of an affected source to operate and maintain each affected emission source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the level required by the standard at all times, including during any period of startup, shutdown, or malfunction. Malfunctions must be corrected as soon as practicable after their occurrence.

(1) *Plan.* As required by §63.6(e)(3) of subpart A of this part, the owner or operator shall develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, or malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standards.

(2) *Reports.* As required by §63.10(d)(5)(i) of subpart A of this part, if actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the startup, shutdown, and malfunction plan, the owner or operator shall state such information in a semiannual report. The report, to be certified by the owner or operator or other responsible official, shall be submitted semiannually and delivered or postmarked by the 30th day following the end of each calendar half; and

(3) *Immediate Reports.* Any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures in the startup, shutdown, and malfunction plan, the owner or operator shall comply with all requirements of §63.10(d)(5)(ii) of subpart A of this part.

[64 FR 33218, June 22, 1999, as amended at 71 FR 20458, Apr. 20, 2006]

#### **§ 63.1165 Recordkeeping requirements.**

(a) *General recordkeeping requirements.* As required by §63.10(b)(2) of subpart A of this part, the owner or operator shall maintain records for 5 years from the date of each record of:

- (1) The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment);
  - (2) The occurrence and duration of each malfunction of the air pollution control equipment;
  - (3) All maintenance performed on the air pollution control equipment;
  - (4) Actions taken during periods of startup, shutdown, and malfunction and the dates of such actions (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when these actions are different from the procedures specified in the startup, shutdown, and malfunction plan;
  - (5) All information necessary to demonstrate conformance with the startup, shutdown, and malfunction plan when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. This information can be recorded in a checklist or similar form (see §63.10(b)(2)(v) of subpart A of this part);
  - (6) All required measurements needed to demonstrate compliance with the standard and to support data that the source is required to report, including, but not limited to, performance test measurements (including initial and any subsequent performance tests) and measurements as may be necessary to determine the conditions of the initial test or subsequent tests;
  - (7) All results of initial or subsequent performance tests;
  - (8) If the owner or operator has been granted a waiver from recordkeeping or reporting requirements under §63.10(f) of subpart A of this part, any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements;
  - (9) If the owner or operator has been granted a waiver from the initial performance test under §63.7(h) of subpart A of this part, a copy of the full request and the Administrator's approval or disapproval;
  - (10) All documentation supporting initial notifications and notifications of compliance status required by §63.9 of subpart A of this part; and
  - (11) Records of any applicability determination, including supporting analyses.
- (b) *Subpart CCC records.* (1) In addition to the general records required by paragraph (a) of this section, the owner or operator shall maintain records for 5 years from the date of each record of:
- (i) Scrubber makeup water flow rate and recirculation water flow rate if a wet scrubber is used;
  - (ii) Calibration and manufacturer certification that monitoring devices are accurate to within 5 percent; and
  - (iii) Each maintenance inspection and repair, replacement, or other corrective action.
- (2) The owner or operator of an acid regeneration plant shall also maintain records for 5 years from the date of each record of process offgas temperature and parameters that determine proportion of excess air.
- (3) The owner or operator shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the Administrator for the life of the affected source or until the source is no longer subject to the provisions of this subpart. In addition, if the operation and maintenance plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the plan on record to be made available for inspection by the Administrator for a period of 5 years after each revision to the plan.

(c) *Recent records.* General records and subpart CCC records for the most recent 2 years of operation must be maintained on site. Records for the previous 3 years may be maintained off site.

**§ 63.1166 Implementation and enforcement.**

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (8) of this section.

(1) Approval of alternatives to the requirements in §§63.1155, 63.1157 through 63.1159, and 63.1160(a).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of any alternative measurement methods for HCl and Cl<sub>2</sub> to those specified in §63.1161(d)(1).

(4) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(5) Approval of any alternative monitoring requirements to those specified in §§63.1162(a)(2) through (5) and 63.1162(b)(1) through (3).

(6) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

(7) Waiver of recordkeeping requirements specified in §63.1165.

(8) Approval of an alternative schedule for conducting performance tests to the requirement specified in §63.1162(a)(1).

[68 FR 37356, June 23, 2003]

**§§ 63.1167-63.1174 [Reserved]**

**Table 1 to Subpart CCC of Part 63—Applicability of General Provisions (40 CFR Part 63, Subpart A) to Subpart CCC**

Reference	Applies to Subpart CCC	Explanation
63.1–63.5	Yes.	
63.6 (a)–(g)	Yes.	
63.6 (h)	No	Subpart CCC does not contain an opacity or visible

		emission standard.
63.6 (i)–(j)	Yes.	
63.7–63.9	Yes.	
63.10 (a)–(c)	Yes.	
63.10 (d) (1)–(2)	Yes.	
63.10 (d)(3)	No	Subpart CCC does not contain an opacity or visible emission standard.
63.10 (d) (4)–(5)	Yes.	
63.10 (e)–(f)	Yes.	
63.11	No	Subpart CCC does not require the use of flares.
63.12–63.15	Yes	

# Indiana Department of Environmental Management Office of Air Quality

## Technical Support Document (TSD) for an Administrative Amendment to a Part 70 Operating Permit

### Source Description and Location

Source Name:	Nucor Steel
Source Location:	4537 South Nucor Road, Crawfordsville, Indiana 47933 3560 South Nucor Road, Crawfordsville, Indiana 47933
County:	Montgomery
SIC Code:	3312
Part 70 Operating Permit No.:	107-7172-00038
Part 70 Operating Permit Issuance Date:	December 29, 2006
Administrative Amendment No.:	107-26849-00038
Permit Reviewer:	Aida De Guzman

### Source Definition

Nucor is a "source" pursuant to Indiana and federal regulations. When NuPro Steel LLC (NuPro) purchased Heidtman Steel Products, Incorporated, Nucor and NuPro became one "source" under the regulations because (1) they have common ownership or common control; (2) have the same two-digit Standard Industrial (SIC) Code; and (3) are located on contiguous or adjacent properties. See 326 IAC 1-2-73. As a result, the permit governing operation of the "source" is being modified to incorporate the operation of NuPro. Although Nucor and NuPro are one "source" for air regulatory purposes and are owned by the same parent corporation, they are still independent companies.

The steel mini-mill and pickling plants consists of a source with on-site contractors:

- (a) Nucor Steel - Plant ID 107-00038, the primary operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana 47933;
- (b) NuPro Steel, LLC- Plant ID 107-00046, own by Nucor Corporation, is located at 3560 South Nucor Road, Crawfordsville, Indiana 47933;
- (c) Whitesville Mill Service Company, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933;
- (d) BOC Gases, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933; and
- (e) Heritage Environmental Services, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933.

### Existing Approvals

The Nucor Steel was issued Part 70 Operating Permit No. T107-7172-00038 on December 29, 2006. The source has since received the following approvals:

- (a) First Administrative Amendment No. 107-24009-00038, issued on January 26, 2007;
- (b) First Significant Permit Modification No. 107-24022-00038, issued April 20, 2007;

- (c) Second Significant Permit Modification No. 107-24284-00038, issued August 8, 2007;
- (d) Third Significant Permit Modification No. 107-24699-00038, issued on January 22, 2008; and
- (e) Second Administrative Amendment No. 107-26116-00038, issued on April 4, 2008.

<b>County Attainment Status</b>
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The source is located in Montgomery County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Not designated.
<sup>1</sup> Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM2.5.	

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NOx are considered when evaluating the rule applicability relating to ozone. Montgomery County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Montgomery County County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15<sup>th</sup>, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.
- (c) Montgomery County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).
- (d) Fugitive Emissions  
 Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

<b>Source Status</b>
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The table below summarizes the potential to emit of Nucor Steel, prior to the proposed source modification/re-permitting of NuPro Steel, LLC under Nucor Steel Part 70 Operating Permit, after consideration of all enforceable limits established in the effective permits:

Pollutant	Potential to Emit (tons/year)
PM	greater than 100
PM10	greater than 100
SO <sub>2</sub>	greater than 100
VOC	greater than 100
CO	greater than 100
NO <sub>x</sub>	greater than 100

- (a) This existing source (Nucor Steel) is an existing major stationary source because at least one attainment pollutant (PM, PM10, VOC, SO<sub>2</sub>, NO<sub>x</sub> and CO) is emitted at 100 tons per year or greater and it is in one of the 28 listed source categories.

The table below summarizes the potential to emit HAPs of Nucor Steel, prior to the proposed source modification/re-permitting of NuPro Steel, LLC under Nucor Steel Part 70 Operating Permit, after consideration of all enforceable limits established in the effective permits:

HAPs	Potential to Emit (tons/year)
Single HAP	greater than 10
Total HAPs	greater than 25

- (a) This existing source, Nucor Steel is an existing major source for HAPs, under 326 IAC 2-7 because single HAP is emitted at 10 tons per year or more, or the combined HAPs is emitted at 25 tons per year or more.

**Actual Emissions**

The following table shows the actual emissions from Nucor Steel. This information reflects the 2006 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	227
PM10	227
PM2.5	227
SO <sub>2</sub>	260
VOC	20
CO	1,625
NO <sub>x</sub>	339
Pb	0.08

**Description of Proposed Modification**

The Office of Air Quality (OAQ) has received an application for air approval from Nucor Steel on August 7, 2008, relating to NuPro Steel, LLC purchase of Heidtman Steel Products, Inc, a registered source, now called NuPro Steel, LLC, a steel pickling and slitting plant. This activity constitutes a source modification to Nucor Steel plant. The NuPro Steel, LLC operations consists of the following emission units and control equipment:

- (a) One (1) steel pickling line, constructed in 1994 and re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour, and a maximum hydrochloric acid (HCl) pickling usage of 2,248 pounds per hour, controlled by a wet scrubber;
- (b) Slitting operations, 1/4 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 1994; and 1/2 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 2003 both lines re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour,

- (c) One (1) natural gas-fired boiler with a maximum heat input capacity of 10.9 million British thermal units per hour (MMBtu/hr), constructed in 1994 and re-permitted under Nucor Steel in 2008; and
- (d) Six (6) natural gas-fired air heaters, with each has a maximum heat input capacity of 0.8 MMBtu/hr, constructed in 1994 and re-permitted under Nucor Steel in 2008.

Heidtman Steel Products, Inc., now NuPro Steel, LLC is its own company, which buys steel from steel mills including Nucor Steel for processing which is then shipped out to customers. Now that Heidtman Steel Products, Inc. was purchased by NuPro Steel, it becomes part of Nucor Steel and it is considered a modification to Nucor Steel. This modification will not affect the existing emission units at the Nucor Steel plant. Nucor Steel will continue to supply the steel for pickling at this NuPro Steel facility.

**Emission Calculations**

See TSD Appendix A (Pages 1 through 4) of this document for detailed emission calculations.

**Permit Level Determination – Part 70**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE of the change before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

<b>Nupro Steel, LLC Operations</b>	
<b>Pollutant</b>	<b>Potential to Emit (tons/year)</b>
PM	4.3
PM10	4.8
PM2.5	4.8
SO <sub>2</sub>	0.0
VOC	0.4
CO	5.8
NO <sub>x</sub>	6.9

<b>HAPs</b>	<b>Potential To Emit (tons/year)</b>
Single HAP (HCl)	4.2
Combined HAPs	4.33

- (a) The modification has a potential to emit that is less than minor source modification levels and is considered exempt under 326 IAC 2-7-10.5. Additionally, it involves a modification under the provisions of Title I of the Clean Air Act, particularly NESHAP, 40 CFR Part 63, Subpart CCC and NSPS, 40 CFR Part 60, Subpart Dc, that are already included in the Part 70 Permit terms and conditions and no significant change in the existing monitoring Part 70 permit terms and conditions will be made. Therefore, pursuant to 326 IAC 2-7-11, this modification is subject to an Administrative Amendment.

**Permit Level Determination – PSD**

The table below summarizes the potential to emit, reflecting all limits, of the emission units added in this source modification. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process	PM	PM10/ PM2.5	VOC	NOx	CO
Pickling Line	0.08	0.08	0.0	0.0	0.0
1 Boiler	0.1	0.4	0.3	4.8	4.0
6 Heaters	0.0	0.2	0.1	2.1	1.8
Total PTE For the Modification	0.18	0.68	0.4	6.9	5.8
Significant Levels	25	15	40	40	100

This modification (NuPro Steel, LLC operations) to an existing major stationary source (Nucor Steel) is not major because the emissions increase from each attainment pollutant is less than the PSD significant level. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

**Federal and State Rule Applicability**

- (a) New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60)
  - (1) 40 CFR Part 60.40c, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr).
    - (A) 326 IAC 12, 40 CFR 60.40c, Subpart Dc, is applicable to one (1) natural gas-fired boiler, with a heat input capacity of 10.9 million British thermal units per hour and that was constructed in 1994.

Nonapplicable portions of the NSPS will not be included in the permit. The following requirements shall apply to this one 10.9 MMBtu/hr natural gas-fired boiler:

    - 40 CFR 60.40c
    - 40 CFR 60.41c
    - 40 CFR 60.48c(a)(1), (g), (i)
  - (2) There are no other NSPS standards that are applicable to this modification.
- (b) National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63)
  - (1) 40 CFR Part 63, Subpart CCC – National Emission Standards for Hazardous Air Pollutants for Steel Pickling – HCl Process Facilities and Hydrochloric Acid Regeneration Plants that are new and existing that pickle carbon steel using hydrochloric acid solution that contains 6 percent or more weight HCl and is at a

temperature of 100 °F or higher that are major sources for HAP or are parts of facilities that are major sources for HAPs.

- (A) 326 IAC 20, 40 CFR Part 63, Subpart CCC is applicable to the NuPro Steel, LLC steel pickling operation.

Nonapplicable portions of the NSPS will not be included in the permit. The following requirements shall apply to this steel pickling operation:

40 CFR 63.1155  
40 CFR 63.1156  
40 CFR 63.1157  
40 CFR 63.1159  
40 CFR 63.1160(a)(1), (b)  
40 CFR 63.1161  
40 CFR 63.1162  
40 CFR 63.1163(a)(2), (d), (e)  
40 CFR 63.1164  
40 CFR 63.1165  
40 CFR 63.1166

Table 1 to Subpart CCC of Part 63 – Applicability of General Provisions (40 CFR Part 63, Subpart A) to Subpart CCC

- (2) There are no other NESHAP standards that are applicable to this modification.

<b>State Rule Applicability Determination</b>
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- (a) 326 IAC 2-2 (Prevention of Significant Deterioration)

Nucor Steel began operation in 1989. Nucor Steel belongs to one of the twenty-eight (28) listed source categories with a PSD major source threshold of 100 tons per year. Nucor Steel is a major PSD source. This modification is not subject to 326 IAC 2-2, PSD requirements because no attainment pollutant is emitted at PSD significant level.

- (b) 326 IAC 6-3 (326 IAC 6-3-2 (Particulate Emissions Limitation)

- (1) Steel Pickling Line:

Pursuant to 326 IAC 6-3-2(e), the particulate emissions from the steel pickling line shall not exceed the 49.1 pound per hour limit when operating at a process weight rate of 80 tons per hour of steel. This particulate emissions limit is based on the following equation:

Interpolation and extrapolation of the data for the process weight rates in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The pickling line is in compliance with this rule, because its particulate emissions even without the scrubber are less than the particulate emissions limit under the rule.

- (2) Slitting Operation:  
 This process is exempt from 326 IAC 6-3-2 because it does not emit particulate.

(c) 326 IAC 6-2 (Particulate Emissions for Sources of Indirect Heating Facilities)

- (1) The one (1) natural gas-fired 10.9 MMBtu/hr boiler, constructed after the applicability date of September 21, 1983, is subject to 326 IAC 6-2-4. The PM emissions from this boiler shall be limited to 0.28 pound per MMBtu heat input. This PM limit is based on the following equation:

$$Pt = 1.09 / Q^{0.26}$$

Where:

- Pt = Pounds of PM emitted per million Btu (lb/MMBtu) heat input; and
- Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input  
 = 189.92 MMBtu/hr

Existing Boilers:

1 Cold Mill Boiler (CMB #1)	=	34 MMBtu/hr
BOC Gases Boiler (ID No. 1)	=	9 MMBtu/hr
BOC Gases Boiler (ID No. 2)	=	15 MMBtu/hr
Hydrogen Plant Boiler	=	9.98 MMBtu/hr
Boiler ID No.501	=	71.04 MMBtu/hr
<u>Cold Mill Boiler (CMB#2)</u>	=	<u>40 MMBtu/hr</u>
Existing source heat input rate (Q) =		179.02 MMBtu/hr
<u>NuPro's Boiler</u>	=	<u>10.90 MMBtu/hr</u>
Total source heat input rate (Q) =		189.92 MMBtu/hr

Using natural gas for fuel:

0.1 ton of PM/yr \* yr/8760 hrs \* 2000 lb/ton \* hr/10.9 MMBtu = 0.002 lb/MMBtu is less than the limit of 0.28 lb/MMBtu. Therefore, the boiler is capable of complying with the rule.

- (2) The six (6) natural gas-fired air heaters, each with a heat input capacity of 0.80 MMBtu/hr are direct fired units. Therefore, they are not subject to 326 IAC 6-2.

(d) 326 IAC 7-1 (Sulfur Dioxide Emissions Limitation)

The 0.28 MMBtu/hr waste oil burner is not subject to 326 IAC 7-1, because its PTE is less than 25 tons per year or less than 10 pounds per hour, and it is not using fuel oil.

**Compliance Determination and Monitoring Requirements**

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet

Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no compliance determination and monitoring requirements applicable to this modification.

### Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 107-7172-00038. Deleted language appears as ~~strike throughs~~ and new language appears in **bold**.

*The following Sections have been added in the permit to incorporate the NuPro Steel, LLC operations:*

#### SECTION D.34

##### Facility Description [326 IAC2-7-5(15)]

##### NuPro Steel, LLC Operations:

- (a) **One (1) steel pickling line, constructed in 1994 and re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour, and a maximum hydrochloric acid (HCl) pickling usage of 2,248 pounds per hour, controlled by a wet scrubber;**
- (b) **Slitting operations, 1/4 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 1994; and 1/2 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 2003 both lines re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour,**
- (c) **One (1) natural gas-fired boiler with a maximum heat input capacity of 10.9 million British thermal units per hour (MMBtu/hr), constructed in 1994 and re-permitted under Nucor Steel in 2008;**
- (d) **Six (6) natural gas-fired air heaters, with each has a maximum heat input capacity of 0.8 MMBtu/hr, constructed in 1994 and re-permitted under Nucor Steel in 2008; and**

**(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)**

##### Emission Limitations and Standards [326 IAC 2-7-5(1)]

##### D.34.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e), the particulate emissions from the steel pickling line shall not exceed the 49.1 pound per hour limit when operating at a process weight rate of 80 tons per hour of steel. This particulate emissions limit is based on the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission is pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

**D.34.2 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]**

Pursuant to 326 IAC 6-2-4, the PM emissions from the 10.9 MMBtu/hr Boiler shall be limited to 0.28 pound per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = 1.09 / Q^{0.26}$$

where Pt = Pounds of PM emitted per million Btu (lb/MMBtu) heat input, and  
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu per hour) heat input.

**SECTION E.2**

**Facility Description [326 IAC2-7-5(15)]**

**NuPro Steel, LLC Operation:**

- (c) One (1) natural gas-fired boiler with a maximum heat input capacity of 10.9 million British thermal units per hour (MMBtu/hr), constructed in 1994 and re-permitted under Nucor Steel in 2008.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**E.2.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]**

- (a) The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the facility described in this Section E.2 except when otherwise specified in 40 CFR 60, Subpart Dc.
- (b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

**E.2.2 New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc] [326 IAC 12]**

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Dc (New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units) (included as Attachment C of this permit) which are incorporated by reference as 326 IAC 12:

- (1) 40 CFR 60.40c  
(2) 40 CFR 60.41c  
(3) 40 CFR 60.48c(a)(1), (g), (i)

## SECTION E.3

### Facility Description [326 IAC2-7-5(15)]

#### NuPro Steel, LLC Operation:

- (a) One (1) steel pickling line, constructed in 1994 and re-permitted under Nucor Steel in 2008, with a maximum capacity of 160,000 pounds of hot rolled steel coils per hour, and a maximum hydrochloric acid (HCl) pickling usage of 2,248 pounds per hour, controlled by a wet scrubber.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

#### E.3.1 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A (General Provisions), which are incorporated by reference in 326 IAC 20-1, apply to the NuPro's Pickling Line except when otherwise specified in 40 CFR Part 63, Subpart CCC.

#### E.3.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for HCl Process Facilities and Hydrochloric Acid Regeneration Plants NESHAP [40 CFR Part 63, Subpart CCC][326 IAC 20]

The Permittee shall comply no later than July 31, 2010 with the following provisions of 40 CFR Part 63, Subpart CCC (National Emission Standards for Hazardous Air Pollutants (NESHAP) for HCl Process Facilities and Hydrochloric Acid Regeneration Plants (included as Attachment D of this permit) which are incorporated by reference as 326 IAC 20:

- (1) 40 CFR 63.1155
- (2) 40 CFR 63.1156
- (3) 40 CFR 63.1157
- (4) 40 CFR 63.1159
- (5) 40 CFR 63.1160(a)(1), (b)
- (6) 40 CFR 63.1161
- (7) 40 CFR 63.1162
- (8) 40 CFR 63.1163(a)(2), (d), (e)
- (9) 40 CFR 63.1164
- (10) 40 CFR 63.1165
- (11) 40 CFR 63.1166
- (12) Table 1 to Subpart CCC of Part 63 – Applicability of General Provisions (40 CFR Part 63, Subpart A) to Subpart CCC

### Conclusion and Recommendation

The NuPro Steel, LLC operations shall be subject to the conditions of the attached Administrative Amendment No. 107-26849-00038. The staff recommends to the Commissioner that this administrative permit amendment be approved.

**Appendix A: Emissions Calculations  
Pickling Line**

**Company Name:** Nucor Steel  
**Address City IN Zip:** 3560 South Nucor Rd. Crawfordsville, IN 47933  
**AA No.:** 107-26849  
**Plt ID:** 107-00038  
**Reviewer:** Aida De Guzman  
**Date Application Received:** 7-Aug-2008

<b>SUMMARY OF EMISSIONS</b>								
Uncontrolled Emissions (tons/year)								
Process	PM	PM10	PM2.5	VOC	NOx	CO	Single HAP	Combined HAPs
Pickling Line	4.2	4.2	4.2				4.2 HCl	4.2
1 Boiler	0.1	0.4	0.4	0.3	4.8	4.0	Hexane 1.238E-01	1.3E-01
6 Heaters	0.0	0.2	0.2	0.1	2.1	1.8		
<b>TOTAL PTE</b>	<b>4.3</b>	<b>4.8</b>	<b>4.8</b>	<b>0.4</b>	<b>6.9</b>	<b>5.8</b>	<b>4.20E+00 HCl</b>	<b>4.33E+00</b>
Controlled Emissions (tons/year)								
Process	PM	PM10	PM2.5	VOC	NOx	CO	Single HAP	Combined HAPs
Pickling Line	0.08	0.08	0.08				HCl 0.08	8.00E-02
1 Boiler	0.1	0.4	0.4	0.3	4.8	4.0	Hexane 1.238E-01	1.3E-01
6 Heaters	0.0	0.2	0.2	0.1	2.1	1.8		
<b>TOTAL PTE</b>	<b>0.18</b>	<b>0.68</b>	<b>0.68</b>	<b>0.4</b>	<b>6.9</b>	<b>5.8</b>	<b>1.238E-01</b>	<b>2.12E-01</b>

**Appendix A: Emissions Calculations  
Pickling Line**

**Company Name:** Nucor Steel  
**Address City IN Zip:** 3560 South Nucor Rd. Crawfordsville, IN 47933  
**AA No.:** 107-26849  
**Pit ID:** 107-00038  
**Reviewer:** Aida De Guzman  
**Date Application Received:** 7-Aug-2008

PICKLING LINE					
Inlet Concentration (µg/cuft)	Potential to Emit (tons/year)				
	Air Flow Rate (cubic ft/minute)	Uncontrolled PM/PM10/PM2.5	Scrubber Control Efficiency	Controlled PM/PM10/PM2.5	HAP
1111	6500	4.2	98.2%	0.08	4.2

Methodology:

Uncontrolled PTE, tons/yr = Inlet Concentration, µg/cu ft \* 1 gram/1,000,000 µg \* air flow rate, cuft/min \* 60 min/hr \* 8760 hr/yr \* lb/453.6 grams \* ton/2000 lb

Controlled PTE, tons/yr = Uncontrolled PTE, tons/yr \*(1-control Efficiency)

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

**Company Name: Nucor Steel  
Address City IN Zip: 3560 South Nucor Rd., Crawfordsville, IN 47933  
AA No.: 107-26849  
Plant No.: 107-00038  
Reviewer: Aida De Guzman  
Date Application Received: 8/7/2008**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

10.9	1 Boiler
4.8	6 heaters
15.7	

95.5
42.0

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0 **see below	5.5	84.0
1 Boiler PTE in tons/yr	0.1	0.4	0.0	4.8	0.3	4.0
6 heaters PTE in tons/year	0.0	0.2	0.0	2.1	0.1	1.8
<b>TOTAL PTE in tons/year</b>	<b>0.1</b>	<b>0.5</b>	<b>0.0</b>	<b>6.9</b>	<b>0.4</b>	<b>5.8</b>

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations  
 Natural Gas Combustion Only  
 MM BTU/HR <100  
 HAPs Emissions**

**Company Name: Nucor Steel  
 Address City IN Zip: 3560 South Nucor Rd., Crawfordsville, IN 47933  
 AA No.: 107-26849  
 Plant No.: 107-00038  
 Reviewer: Aida De Guzman  
 Date Application Received: 8/7/2008**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

10.9	1 Boiler 6 heaters
4.8	
15.7	

95.5
42.0
137.5

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Total Potential Emission in tons/yr	1.444E-04	8.252E-05	5.157E-03	1.238E-01	2.338E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	3.438E-05	7.564E-05	9.627E-05	2.613E-05	1.444E-04

Single HAP	<b>1.238E-01</b>
Combined HAPs	<b>1.317E-01</b>

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.