~~DRAFT~~PROPOSED CAAPP PERMIT
~~October 6, 2008~~
June 15, 2009

217/782-2113

TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

PERMITTEE:

U. S. Steel Corporation
Granite City Works
Attn: ~~Larry Siebenberger~~Jill A. Foust
20th & State Streets
Granite City, Illinois 62040

I.D. No.: 119813AAI
Application No.: 96030056

Date Received: March 6, 1996
Date Issued: TO BE DETERMINED
Expiration Date[1]: TO BE DETERMINED

Operation of: Integrated Steel Mill
Source Location: 20th and State Streets, Granite City
Responsible Official: ~~Sharon Owen~~Richard E. Veitch, General Manager

This permit is hereby granted to the above-designated Permittee to OPERATE an Integrated Steel Mill Plant, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

If you have any questions concerning this permit, please contact Anatoly Belogorsky at 217/782-2113.

Edwin C. Bakowski, P.E.
~~Acting~~ Manager, Permit Section
Division of Air Pollution Control

~~ECB~~DES:AB:~~jws~~

cc: Illinois EPA, FOS, Region 3
CES
Lotus Notes

[1] Except as provided in Conditions 1.5 and 8.7 of this permit.

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1.0 SOURCE IDENTIFICATION

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1.1 Source

U. S. Steel Corporation
Granite City Works
20th and State Streets
Granite City, Illinois 62040
618/451-3456

I.D. No.: 119813AAI
County: Madison
Standard Industrial Classification: 3312, Integrated Steel Mill

1.2 Owner/Parent Company

United States Steel Corporation
600 Grant Street
Pittsburgh, Pennsylvania 15219

1.3 Operator

U. S. Steel Corporation
Granite City Works
20th and State Streets
Granite City, Illinois 62040

~~Larry Siebenberger~~
Jill A. Foust
618/451-3456

1.4 Source Description

Integrated steel manufacturing employing raw material processing/preparation, coke production, iron production, steel production, and steel finishing.

1.5 Title I Conditions

As generally identified below, this CAAPP permit contains certain conditions for emission units at this source that address the applicability of permitting programs for the construction and modification of sources, which programs were established pursuant to Title I of the Clean Air Act (CAA) and regulations thereunder. These programs include 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203, Major Stationary Sources Construction and Modification (MSSCAM), and are implemented by the Illinois EPA pursuant to Sections 9, 9.1, 39(a) and 39.5(7)(a) of the Illinois Environmental Protection Act (Act). These conditions continue in effect, notwithstanding the expiration date specified on the first page of this permit, as their authority derives from Titles I and V of the CAA, as well as Titles II and X of the Act. (See also Condition 8.7.)

a. ~~a.~~ This permit contains “Title I conditions” that reflect Title I requirements established in permits previously issued for this source, which conditions are specifically designated as “T1.”

b. This permit contains Title I conditions that are newly established in this CAAPP permit, which conditions are specifically designated as “T1N.”

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2.0 LIST OF ABBREVIATIONS AND ACRONYMS COMMONLY USED

ACMA	Alternative Compliance Market Account
Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
ATU	Allotment Trading Unit
BAT	Best Available Technology
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
ERMS	Emissions Reduction Market System
HAP	Hazardous Air Pollutant
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
$PM_{2.5}$	Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 microns as measured by applicable test or monitoring methods
PSD	Prevention of Significant Deterioration
RMP	Risk Management Plan
SO_2	Sulfur Dioxide
T1	Title I – identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New – identifies Title I conditions that are being established in this permit
T1R	Title I Revised – identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
USEPA	United States Environmental Protection Agency
VOM	Volatile Organic Material

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3.0 CONDITIONS FOR INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

a. Coal Handling Operations

N/A

b. Coke Production

N/A

c. Coke Oven Gas By-Products Recovery Plant

Ammonium Sulfate Handling

d. Blast Furnaces

N/A

e. Basic Oxygen Furnaces

N/A

f. Continuous Casting

Tanks #543, #544, #545, #555

g. Finishing Operations

Scale Pits
#6 Zinc Pot (backup)
#7 and #8 Zinc Pots
Storage Tanks ##306-310, #403, #427, #800, #815

h. Wastewater Treatment

N/A

i. Boiler Houses

N/A

3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

a. Coal Handling Operations

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N/A

b. Coke Production

N/A

c. Coke Oven Gas By-Products Recovery Plant

Storage Tanks #116, #117, #118, #120

d. Blast Furnaces

Torpedo Car Dekishing

e. Basic Oxygen Furnaces

Lime/Magnesium Handling and Storage Unit

f. Continuous Casting

N/A

g. Finishing Operations

72″ Line & Cold Mill

h. Wastewater Treatment

N/A

i. Boiler Houses

N/A

3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

a. Coal Handling Operations

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

b. Coke Production

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

c. Coke Oven Gas By-Products Recovery Plant

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

d. Blast Furnaces

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in

combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

e. Basic Oxygen Furnaces

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

f. Continuous Casting

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

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Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

g. Finishing Operations

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

h. Wastewater Treatment

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

i. Boiler Houses

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Gas turbines and stationary reciprocating internal combustion engines of less than 112 kW (150 horsepower) power output [35 IAC 201.210(a)(15)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b). Note: These activities are not required to be individually listed.

3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.3.2), the Permittee shall comply with the following requirements, as applicable:

3.2.1 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322 (see Attachment 2) and 35 IAC Part 266. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.

3.2.2 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or, if no odor nuisance exists, do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.

3.2.3 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 219.182.

3.2.4 For each open burning activity, the Permittee shall comply with 35 IAC Part 237, including the requirement to obtain a permit for open burning in accordance with 35 IAC 237.201, if necessary.

3.2.5 For each storage tank that has a storage capacity greater than 946 liters (250 gallons) and, if no odor nuisance exists, that stores an organic material with a vapor pressure exceeding 2.5 psia, the Permittee shall comply with the applicable requirements of 35 IAC 219.122, which requires use of a permanent submerged loading pipe, submerged fill, a vapor recovery system, or an equivalent device approved by the Illinois EPA. [Note: storage tanks used for storing gasoline and any hazardous air pollutants are not eligible for insignificant activities].

3.2.6 For sulfuric acid operations and storage, the Permittee shall comply with the following emission limits of sulfuric acid and/or sulfur trioxide from all emission sources (with the exception of fuel combustion emission sources and acid manufacturing) at a plant or premises, pursuant to 35 IAC 214.303:

a. 45.4 grams in any one hour period for sulfuric acid usage less than 1180 Mg/yr (100 percent acid basis) (0.10 lbs/hr up to 1300 T/yr); and

b. 250 grams per metric ton of acid used for sulfuric acid usage greater than or equal to 1180 Mg/yr (100 percent acid basis) (0.50 lbs/T over 1300 T/yr).

3.3 Addition of Insignificant Activities

3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).

3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.

3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Department	Description	Emission Control Equipment	Subsection
Coal Handling Operations	Coal Handling, Primary Coal Crusher and Coal Pulverizer	~~Baghouses~~Pulverizer Baghouse	7.1
Coke Production	Coke Oven Batteries "A" and "B"	Venturi Scrubber; Flares	7.2
Coke Oven Gas By-Products Recovery Plant	*By-Products:*		7.3
	Coke Oven Gas	Flare	
	Tar and Flushing Liquor	None	
	Light Oil	~~None~~Vapor Recovery System	
Blast Furnaces	Blast Furnaces "A" and "B"	Casthouse Baghouse; Iron Spout Baghouse; Blast Furnace Flare	7.4
Basic Oxygen Furnaces	BOF #1/#2 and auxiliary equipment	Electrostatic Precipitator; Baghouses	7.5
Continuous Casting	Steel Continuous Casting and Slab Formation	Baghouse #1	7.6
Hot Strip Mill	Slab Reheat Furnaces #1,#2,#3,#4	None	7.7
Finishing Operations	Pickling Line	Fume Scrubber	7.8
	Galvanizing Lines #~~6, #7~~7A and #8	Fume Scrubber; Catalytic Converter (line #8)	
	Coating Operations	None	
Wastewater Treatment	Wastewater Treatment Plant and By-Products Wastewater Treatment System	None	7.9
Boiler Houses	Boilers #1 to #10 with a heat input of 60 mmBtu/Hr each;	None	7.10
	Boilers #11 & #12 with a heat input of 225 mmBtu/Hr each	None	
Internal Combustion Engines	Engine for the existing #4 Coke Oven Gas (COG) booster pump	Non-Selective Catalytic Reduction (NSCR) system	7.11
	Emergency Generator	None	
Gasoline Storage and Dispensing	Five Gasoline Storage Tanks and associated Dispensing Operations	None	7.12

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Fugitive Emissions	Landfill Vehicular Traffic on Roadways, Parking Lots and Other Open Areas Truck Unloading Storage Piles loaded on batch or continuous basis; wind erosion Batch material transfer from storage piles	None	7.13

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5.0 OVERALL SOURCE CONDITIONS

5.1 Applicability of Clean Air Act Permit Program (CAAPP)

5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of NO_x, PM_{10}, SO_2, VOM, CO, and HAP emissions.

5.1~~5.2 Area Designation~~

~~5.2.1 This permit is issued based on the source being located in an area that, as of the date of permit issuance, is designated nonattainment for the National Ambient Air Quality Standards for ozone (moderate nonattainment), PM_{10}, $PM_{2.5}$, and attainment or unclassifiable for all other criteria pollutants (CO, lead, NO_x, SO_2).~~

~~5.2~~.2 For purposes of the CAAPP, U.S. Steel is considered a single source with Stein Steel Mill Services (I.D. 119813AAD) located at 20th Street and Edwardsville in Granite City. Stein Steel Mill Services has elected to obtain a separate CAAPP permit for it operations.

5.~~2~~1.3 For purposes of the CAAPP, U.S. Steel is considered a single source with ~~Beelman Truck Company~~Granite City Slag, LLC (I.D. 119040ATF) located at 20th Street and Edwardsville in Granite City. ~~Beelman Truck Company~~ Granite City Slag has elected to obtain a separate CAAPP permit for it operations.

5.~~2~~1.4 For purposes of the CAAPP, U.S. Steel is considered a single source with AKJ Industries, Inc (I.D. 119040AEB) located at 20th Street and Edwardsville in Granite City. AKJ Industries has elected to obtain a separate CAAPP permit for it operations.

5.~~2~~1.5 For purposes of the CAAPP, U.S. Steel is considered a single source with Oil Technology, Inc (I.D. 119040ATG) located onsite of Granite City Steel (Route 203) in Granite City. Oil Technology has elected to obtain a separate CAAPP permit for it operations.

5.~~2~~1.6 For purposes of the CAAPP, U.S. Steel is considered a single source with Tube City IMS (I.D.119040ATL) located at 2500 East 23rd Street in Granite City. Tube City has elected to obtain a separate CAAPP permit for it operations.

5.~~2~~1.7 For purposes of the CAAPP, U.S. Steel is considered a single source with Gateway Energy & Coke Co LLC (I.D. 119040ATN) located at Edwardsville Road in Granite City. Gateway Energy & Coke Co LLC shall obtain a separate CAAPP permit within 12 months after construction of a new heat recovery coke manufacturing plant is complete and the plant is in operation.

5.2 Area Designation

5.2.1 This permit is issued based on the source being located in an area that, as of the date of permit issuance, is designated nonattainment for the National Ambient Air Quality Standards for

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ozone (moderate nonattainment), $PM_{2.5}$, and attainment or unclassifiable for all other criteria pollutants (PM_{10}, CO, lead, NO_x, SO_2).

5.3 Source-Wide Applicable Provisions and Regulations

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5.3.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions for Specific Emission Units) of this permit.

5.3.2 In addition, emission units at this source are subject to the following regulations of general applicability, if not otherwise specified anywhere in this permit:

a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.

b. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

c. The following emission limitations applied to the source as established in 35 IAC 212.316~~:~~ [Please note that these limits are also described in relevant subsections of Section 7 of this Permit]:

i. Emission Limitation for Crushing and Screening Operations. No person shall cause or allow fugitive particulate matter emissions generated by the crushing or screening of slag, stone, coke or coal to exceed an opacity of 10 percent [35 IAC 212.316(b)].

ii. Emission Limitations for Storage Piles. No person shall cause or allow fugitive particulate matter emissions from any storage pile to exceed an opacity of 10 percent, to be measured four ft from the pile surface [35 IAC 212.316(d)].

iii. Additional Emissions Limitations for the Granite City Vicinity as defined in 35 IAC 212.324(a)(1)(C) for Roadways or Parking Areas Located at Slag Processing Facilities or Integrated Iron and Steel Manufacturing Plants: No person shall cause or allow fugitive particulate matter emissions from any roadway or parking area located at a slag processing facility or integrated

iron and steel manufacturing plant to exceed an opacity of 5 percent [35 IAC 212.316(e)(1)].

iv. Emission Limitation for All Other Emission Units. Unless an emission unit has been assigned a particulate matter, PM_{10}, or fugitive particulate matter emissions limitation elsewhere in this Section or in Subparts R or S of this Part, no person shall cause or allow fugitive particulate matter emissions from any emission unit to exceed an opacity of 20 percent [35 IAC 212.316(f)]..

d. Operations of U.S. Steel and PM/PM_{10} emissions from this location are regulated by 35 IAC Part 212 Subpart R: "Primary and Fabricated Metal Products and Machinery Manufacture"~~:~~" [Please note that these limits are also described in relevant subsections of Section 7 of this Permit]:

i. Specifically, the following emission limits are established in 35 IAC 212.458(b) for specific emission units operated by the Permittee:

No person shall cause or allow the emission of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed the following limits during any one hour period:

A. 22.9 mg/scm (0.01 gr/scf) from any process emissions unit located at integrated iron and steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C), except as otherwise provided in 35 IAC 212.458 or in 35 IAC 212.443 and 212.446;

B. 5 percent opacity for continuous caster spray chambers or continuous casting operations at steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)C) of Subpart R;

C. 32.25 ng/J (0.075 lbs/mmbtu) of heat input from the burning of coke oven gas at all emission units, other than coke oven combustion stacks, at steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C) of Subpart R;

D. 38.7 ng/J (0.09 lbs/mmbtu) of heat input from the slab furnaces at steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C) of Subpart R;

E. 2.15 ng/J (0.005 lb/mmbtu) of heat input from the steel works boilers located at the steel making facilities at steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C); and

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F. 27.24 kg/hr (60 lbs/hr) and 0.1125 kg/Mg (0.225 lbs/T) of total steel in process whichever limit is more stringent for the total of all basic oxygen furnace processes described in 35 IAC 212.446(a) of Subpart R and measured at the BOF stack located at steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C).

ii. Exceptions (35 IAC 212.458(c)). The mass emission limits contained in 35 IAC 212.458(b) shall not apply to those emission units with no visible emissions other than that of fugitive particulate matter; however, if a stack test is performed, 35 IAC 212.458(c) is not a defense to a finding of a violation of the mass emission limits contained in 35 IAC 212.458(b).

e. Pursuant to 35 IAC 214.421, no person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any existing fuel combustion emission source at a steel mill located in the Chicago or St. Louis (Illinois) major metropolitan area burning any solid, liquid or gaseous fuel, or any combination thereof, to exceed the allowable emission rate determined by the equation specified in 35 IAC 214.421(a), as discussed further in the appropriate parts of Section 7.

f. Specific requirements and limitations for particular emission units operated by U.S. Steel and described in 35 IAC 212.442 through 212.452 are discussed further in the appropriate parts of Section 7.

g. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 219.302, 219.303, 219.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC Part 219 Subpart G shall apply only to photochemically reactive material [35 IAC 219.301].

5.3.3 Fugitive Particulate Matter Operating Program

a. This source shall be operated under the provisions of an operating program prepared by the Permittee and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions [35 IAC 212.309(a)]. The Permittee shall comply with the fugitive particulate matter operating program, submitted to the Illinois EPA and incorporated by reference into this permit, and any amendments to the program submitted pursuant to Condition 5.3.3(b) below. As a minimum, the

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operating program shall include the provisions identified in 35 IAC 212.310.

b. The operating program shall be amended from time to time by the Permittee so that the operating program is current. Such amendments shall be consistent with the requirements set forth by this Condition and shall be submitted to the Illinois EPA [35 IAC 212.312].

c. The operating program outlined in 35 IAC 212.309 and 212.310 shall include the following operations as established by 35 IAC 212.309(a):

i. Storage Piles (35 IAC 212.304);

ii. Conveyor Loading Operations (35 IAC 212.305);

iii. Traffic Areas (35 IAC 212.306);

iv. Materials Collected by Pollution Control Equipment (35 IAC 212.307); and

v. Spraying or Choke-Feeding Required (35 IAC 212.308).

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5.3.4 PM_{10} Contingency Measure Plan

This stationary source meets the criteria in 35 IAC 212.700 and is required to prepare and submit a contingency measure plan reflecting the PM_{10} emission reductions as set forth in 35 IAC 212.701 and 212.703. The plan submitted to the Illinois EPA is incorporated by reference into this permit and shall be implemented by the Permittee in accordance with 35 IAC 212.704 following notification by the Illinois EPA. The source shall comply with the applicable requirements of 35 IAC Part 212, Subpart U.

5.3.5 Ozone Depleting Substances

The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

5.3.6 ~~Risk Management Plan (RMP)~~

~~a. This stationary source, as defined in 40 CFR 68.3, is subject to 40 CFR Part 68, the federal regulations for Chemical Accident Prevention. This condition is imposed in this permit pursuant to 40 CFR 68.215(a)(1).~~

~~b. The owner or operator of a stationary source shall revise and update the RMP submitted pursuant to 40 CFR 68.150, as specified in 40 CFR 68.190.~~

~~5.3.7~~ Standards for Asbestos Demolition and Renovation (40 CFR 61.145)

a. Prior to demolition or renovation of the affected facility or part of the affected facility, the Permittee shall fulfill notification requirements established by 40 CFR 61.145(b).

b. During demolition or renovation, the Permittee shall comply with the procedures for asbestos emission control established by 40 CFR 61.145(c).

5.3.~~8~~7 Applicable Federal Standards (40 CFR Parts 61 and 63)

The source is subject to the following federal standards promulgated by USEPA:

40 CFR Part 61/63 Subpart	**Name of the standard**	**Affected Unit**	**Subsection of this CAAPP**
L (61)	Benzene emissions from Coke By-Product Recovery Plants	Coke Gas By-Products Recovery Plant	7.3
FF (61)	Benzene Waste Operations	Coke Gas By-Products Recovery Plant	7.3
V (61)	Equipment Leaks (Fugitive)	Coke Gas By-Products Recovery Plant	7.3
M (61)	Asbestos	Source-wide, related to asbestos demolishing	5.3
L (63)	Coke Oven Batteries	Batteries “A” and “B”	7.2
CCCCC (63)	Coke Ovens: pushing, quenching	Batteries “A” and “B”	7.2
ZZZZ (63)	Reciprocating Internal Combustion Engines	Engines	7.11

FFFFF (63)	Integrated Iron and Steel	Blast Furnaces "A" and "B" Two Basic Oxygen Furnaces	7.4; 7.5
CCC (63)	Steel Pickling-HCL Process	Finishing Department	7.8

The detailed descriptions of the applicable requirements of these standards are provided further in the appropriate subsections of this permit.

5.3.~~9~~8 Future Emission Standards

a. Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, 62, or 63, or 35 IAC Subtitle B after the date this permit is issued, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by Condition 9.8. This permit may also have to be revised or reopened to address such new regulations (see Condition 9.12.2).

b. This permit and the terms and conditions herein do not affect the Permittee's past and/or continuing obligation with respect to statutory or regulatory requirements governing major source construction or modification under Title I of the CAA. Further, neither the issuance of this permit nor any of the terms or conditions of the permit shall alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance.

c. Reserved for Case-by-Case MACT Determination for the New Cogeneration Boiler under Significant Modification of this permit.

5.3.~~10~~9 Episode Action Plan

a. Pursuant to 35 IAC 244.142, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144.

b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared.

c. If an operational change occurs at the source which invalidates the plan, a revised plan shall be submitted to the

Illinois EPA for review within 30 days of the change, pursuant to 35 IAC 244.143(d). Such plans shall be further revised if disapproved by the Illinois EPA.

5.3.10 Risk Management Plan (RMP)

Should this stationary source, as defined in 40 CFR 68.3, become subject to the federal regulations for Chemical Accident Prevention in 40 CFR Part 68, then the owner or operator shall submit the items below. This condition is imposed in this permit pursuant to 40 CFR 68.215(a)(2)(i) and (ii).

a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or

b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the RMP, as part of the annual compliance certification required by Condition 9.8.

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5.4 Source-Wide Non-Applicability of Regulations of Concern

a. Except where noted, 35 IAC 212.321 and 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.441 through 212.452 [35 IAC 212.441].

b. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture pursuant to 35 IAC 212.324(a)(3)(C).

c. This source (as a source of coke manufacturing, by-products recovery plant, iron and steel production) is excluded from the control requirements of 35 IAC Part 219 Subpart TT pursuant to 35 IAC 219.980(e).

d. This source does not receive any off-site waste as defined 40 CFR 63.680(b) and, therefore, not subject to 40 CFR Part 63 Subpart DD "Off-site Waste and Recovery Operations".

5.5 Source-Wide Control Requirements and Work Practices

a. The source is subject to the following requirements established in 35 IAC 212.324(f):

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Maintenance and Repair. ~~For any process emission unit subject to 35 IAC 212.324(a), the~~The owner or operator shall maintain and repair all air pollution control equipment in a manner that assures that the emission limits and standards in this Section shall be met at all times. 35 IAC 212.324 shall not affect the applicability of 35 Ill. Adm. Code 201.149. Proper maintenance shall include the following minimum requirements:

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~~a~~i. Visual inspections of air pollution control equipment;

~~b~~ii. Maintenance of an adequate inventory of spare parts; and

~~c~~iii. Expeditious repairs, unless the emission unit is shutdown.

b. Visual inspections of air pollution control equipment identified above shall be conducted on a monthly basis. This condition has been established pursuant to 39.5(7)(b).

5.6 Source-Wide Production and Emission Limitations

5.6.1 Permitted Emissions for Fees

Emission limitations are not set for this source for the purpose of permit fees. The Permittee shall be required to pay the maximum fee, pursuant to Section 39.5(18)(a)(ii)(A) of the Act.

5.6.2 Emissions of Hazardous Air Pollutants

Source-wide emission limitations for HAPs as listed in Section 112(b) of the CAA are not set. This source is considered to be a major source of HAPs.

5.6.3 Other Source-Wide Production and Emission Limitations

a. Total production of iron and steel by U.S. Steel/Granite City plant shall not exceed the following limits:

Product	Net tons/yr
Iron	3,165,000
Steel	3,580,000

Compliance with annual limits shall be determined on a calendar year basis.

b. i. Total fuel usage for blast furnaces stoves (A and B), boilers 1-10 & 11/12, ladle drying preheaters and existing blast furnace gas flares shall not exceed the following limits:

A. Natural Gas usage:

225 million ft^3 per month and 1,346 million ft^3 per year;

B. Blast Furnace Gas (BFG) usage:

30,800 million ft^3 per month and 185,030 million ft^3 per year; and

C. Fuel Oil usage:

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60,000 gallons per month and 365,000 gallons per year.

ii. Annual emissions from the fuel combustion units identified in Condition 5.6.3(b)(i) above shall not exceed the following limits in tons/year:

PM/PM_{10}	SO_2	NO_x	VOM	CO	Lead
274	641	706	2	1,295	0.06

iii. Annual emissions from each individual fuel used in the fuel combustion units identified in Condition 5.6.3(b)(i) above shall not exceed the following limits:

A. Natural Gas

Pollutant	Emission Factor (Lbs/mmcf)	Maximum Emissions (Tons/Yr)
PM	5.1	3.43
PM-10	5.1	3.43
SO_2	0.6	0.40
NO_x	306	205.94
VOM	2.8	1.88
CO	40	26.92

B. BFG

Pollutant	Emission Factor (Lbs/mmcf)	Maximum Emissions (Tons/Yr)
PM	2.9	268.29
PM-10	2.9	268.29
SO_2	6.65	615.22
NO_x	5.28	488.48
CO	13.7	1,267.46

C. Fuel Oil

Pollutant	Emission Factor (Lbs/Mgal)	Maximum Emissions (Tons/Yr)
PM	9.72	1.77
PM-10	9.72	1.77
SO_2	141.3	25.79
NO_x	55.0	10.04
VOM	0.28	0.05

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CO	5.0	0.91
Lead	0.336	0.06 (waste oil)

iv. Compliance with annual limits shall be determined on a calendar year basis.

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c. The above limitations of Conditions 5.6.3(a) and (b) were established in Permit 95010001, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for 40 CFR 52.21 [T1].

d. i. Emissions of SO_2 from the so called "sulfur dioxide emission units" operated at the site shall not exceed the following limits:

Unit Operating Group	Sulfur Dioxide Emissions		
	(Lbs/3-Hours)	(Lbs/Day	(Tons/Yr)
Slab Reheat Furnaces (1-3)	2,299	9,754	987
Slab Reheat Furnace 4	---	11,873	1,204
Blast Furnace Stoves (A and B)	---	19,774	3,609
Boilerhouse Boilers(1-10)	---	20,285	3,702
Blast Furnace Boilers (11 and 12)	---	20,584	3,756
Ladle Drying Preheaters	555	2,786	509
Blast Furnace Casthouse Baghouse	---	3,430	626
Iron Spout Baghouse	---	170	31

ii. These limits were established in the Federal State Operating Permit (FESOP) 94120017 and ensure that compliance with the national ambient air quality standard for sulfur dioxide is maintained in the surrounding area.

iii. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

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5.7 Source-Wide Testing Requirements

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a. Pursuant to 35 IAC 201.282 and Section 4(b) of the Act, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:

i. Testing by Owner or Operator: The Illinois EPA may require the owner or operator of the emission source or air pollution

control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests [35 IAC 201.282(a)].

ii. Testing by the Illinois EPA: The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary [35 IAC 201.282(b)].

iii. Any such tests are also subject to the Testing Procedures of Condition 8.5 set forth in the General Permit Conditions of Section 8.

b. Testing Requirements established by FESOP #94120017:

i. Each coke oven gas (COG) flow meter testing used in compliance calculations shall be performed at least every 12 months after the initial test, in accordance with the procedures of 40 CFR 60, Appendix B, Performance Specification 6.

ii. The results of these tests shall be sent to the IEPA's Division of Air Pollution, Control Permit Section and Regional Office within 14 days after summarizing of results. In addition, the results shall be maintained in accordance with the recordkeeping requirements specified in this permit.

iii. The H_2S monitor shall be initially, and at least every 12 months thereafter, performance tested in accordance with 40 CFR 60, Appendix B, Performance Specification 7 as follows:

A. The H_2S content in grains per standard cubic foot of COG shall be determined using 40 CFR 60, Appendix A, Method 11 as adapted to measure higher ranges of H_2S.

B. The following revisions shall be made to Method 11 to allow the measuring of higher ranges of H_2S:

1. Diluent air shall mean air containing less than 0.5 ppm total sulfur compounds and less than 10 ppm each of moisture and hydrocarbons.

2. 7.0 Procedure - Located after the sampling valve, there will be a gas mixing box with a metered supply of (heated) diluent air. This metered

supply of diluent air will be introduced prior to sampling and adjusted so that the final dilution of the sample will be 1:20 (i.e., 0.05 liters/min of sample to 0.95 liters/min of dilution air).

3. 9.4 - Vm = Volume of gas sample through the gas meter (meter conditions), liters/20.

Vm_{CSTD} = (Corrected) volume at standard conditions of gas sampled through the dry gas meter. (Standard Liters).

The results of these tests shall be sent to the IEPA's Division of Air Pollution, Control Permit Section and Regional Office within 14 days after summarizing of results. In addition, the results shall be maintained in accordance with the recordkeeping specified in this permit.

iv. A. Once every 12 months after the initial test, the weight percent sulfur content and density of the fuel oil in tanks 101, 102 and 5 shall be determined by testing a representative sample of the oil in each tank.

B. Prior to taking the oil samples to be tested, the contents of tanks 101, 102 and 5 shall be mixed by utilizing the recirculation systems to ensure that the contents of the tanks are reasonably uniform, and hence representative of the entire contents of the tanks.

C. The Permittee shall use the American Society for Testing and Materials (ASTM) method D129-64 for sulfur content in weight percent and ASTM method D12-98 for density in pounds per gallon(lbs/gal).

v. A. Emissions of sulfur dioxide from the blast furnace casthouse baghouse and/or iron spout baghouse shall be measured within 90 days of the receipt of a written request by the Illinois EPA. The Illinois EPA will provide additional time for testing upon request from the Permittee which shows that it is not feasible to perform representative testing within 90 days. These tests shall be designed to allow evaluation of compliance with the emission limits of this permit.

B. These tests shall be performed by an independent testing service under conditions which are representative of maximum emissions.

C. The following methods shall be used for the testing:

Location of sample points	USEPA Method 1
Gas flow and velocity	USEPA Method 2
Sulfur Dioxide	USEPA Method 6B

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D. The Illinois EPA shall be notified before these tests to enable the Illinois EPA to observe these tests. Notification for the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the test. The Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Agency's ability to observe testing.

E. The Final Report of these tests shall include at a minimum:

1. A tabular summary of results which includes:

- ~~I~~identity of the emission unit and/or units tested;
- ~~T~~tons of hot metal cast per day;
- ~~S~~sulfur dioxide emission rate in lbs/day;
- ~~C~~compliance demonstrated - Yes/No.

2. Description of test methods and procedures used, including description of sampling train, analysis equipment, and test schedule.

3. Detailed description of test conditions, including, pertinent process information (e.g. fuel or raw material consumption).

4. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.

~~c. Test methods and procedures for the total annual benzene quantity waste determination (40 CFR 61.355(a),(b) and (c)):~~

~~i. The Permittee shall determine the total annual benzene quantity from facility waste by the following procedure:~~

c. Opacity Testing

The Permittee shall perform the tests to demonstrate no visible emissions from the units described in Condition 5.3.2(d)(i)(A), (B) and (C) in order to avoid applicability of appropriate standards of 35 212.458(b) (see also Condition 5.3.2(d)(i)).

i. The Permittee shall identify the group of emission units subject to the emission limit addressed in Condition 5.3.2(d)(i)(A), keep the records of identified emission units and submit the list of such emission units to the Illinois EPA within 40 days after issuance of this permit.

ii. The Permittee shall conduct annual visible emission observations of the following emission units by using USEPA Method 22: caster spray chambers; Blast Furnace stoves; reheat furnaces; and emission units identified by Permittee in Condition 5.7(c)(i) above.

iii. If the visible emissions are detected from the affected unit(s) during testing, then corrective action and subsequent test(s) shall be conducted within 5 (five) days. If the subsequent test(s) fails to demonstrate no visible emissions from the affected unit(s), then the source shall notify the Illinois EPA that the source is planning to conduct compliance performance tests by using USEPA Methods 5 and/or 9. These tests shall be conducted within 90 days of the previously failed test(s) and in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

~~A. For each waste stream subject to 40 CFR Part 61, Subpart FF, having a flow-weighted annual average water content greater than 10 percent water, on a volume basis as total water, or is mixed with water or other wastes at any time and the resulting mixture has an annual average water content greater than 10 percent as specified in 40 CFR 61.342(a), the Permittee shall:~~

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~~1. Determine the annual waste quantity for each waste stream using the procedures specified in 40 CFR 61.355(b).~~

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~~2. Determine the flow-weighted annual average benzene concentration for each waste stream using the procedures specified in paragraph 40 CFR 61.355(c).~~

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~~3. Calculate the annual benzene quantity for each waste stream by multiplying the annual waste quantity of the waste stream times the flow-weighted annual average benzene concentration.~~

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~~B. Total annual benzene quantity from facility waste is calculated by adding together the annual benzene quantity for each waste stream generated during the year and the annual benzene quantity for each process unit turnaround waste annualized according to 40 CFR 61.355(b)(4).~~

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~~C. If the total annual benzene quantity from the source waste is less than 10 Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr, (1.1 ton/yr) then the Permittee shall:~~

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1. Comply with the recordkeeping requirements of 40 CFR 61.356 and reporting requirements of 40 CFR 61.357; and

2. Repeat the determination of total annual benzene quantity from facility waste at least once per year and whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more.

D. For instances when the total annual benzene quantity from the source waste is more than 10 Mg/yr (11 ton/yr) or less than 1 Mg/yr (1.1 ton/yr), the Permittee shall comply with the requirements established in 40 CFR 61.355(a)(3) or 40 CFR 61.355 (a)(5), respectively.

ii. 40 CFR 61.355(b): For purposes of the calculation of the benzene waste rates required by 40 CFR 61.355(a), the Permittee shall determine the annual waste quantity at the point of waste generation, unless otherwise provided in 40 CFR 61.355(b)(1), (2), (3), and (4), by one of the following methods given in 40 CFR 61.355(b)(5) through (7):

A. Select the highest annual quantity of waste managed from historical records representing the most recent 5 years of operation;

B. Use the maximum design capacity of the waste management unit; or

C. Use measurements that are representative of maximum waste generation rates.

iii. 40 CFR 61.355(c): For the purposes of the calculation required by 40 CFR 61.355(a), the Permittee shall determine the flow-weighted annual average benzene concentration in a manner that meets the requirements given in paragraph 40 CFR 61.355(c)(1) using either of the methods given in 40 CFR 61.355(c)(2) and (c)(3).

A. The determination of flow-weighted annual average benzene concentration shall meet all of the following criteria:

1. The determination shall be made at the point of waste generation except for the specific cases given in 40 CFR 61.355 (c)(1)(i)(A) through (D):

a. The determination for sour water streams that are processed in sour water strippers shall be made at the point that the water exits the sour water stripper.

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~~b. The determination for wastes at coke by-product plants subject to and complying with the control requirements of 40 CFR 61.132, 61.133, 61.134, or 61.139 of Subpart L shall be made at the location that the waste stream exits the process unit component or waste management unit controlled by Subpart L or at the exit of the ammonia still, provided that the following conditions are met:~~

~~i. The transfer of wastes between units complying with the control requirements of Subpart L, process units, and the ammonia still is made through hard piping or other enclosed system.~~

~~ii. The ammonia still meets the definition of a sour water stripper in 40 CFR 61.341.~~

~~c. The determination of flow-weighted annual average benzene concentration for process unit turnaround waste shall be made using either of the methods given in 40 CFR 61.355(c)(2) or (c)(3). The resulting flow-weighted annual average benzene concentration shall be included in the calculation of annual benzene quantity as provided in 40 CFR 61.355(a)(1)(iii) for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process unit turnaround.~~

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~~2. Volatilization of the benzene by exposure to air shall not be used in the determination to reduce the benzene concentration.~~

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~~3. Mixing or diluting the waste stream with other wastes or other materials shall not be used in the determination to reduce the benzene concentration.~~

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~~4. The determination shall be made prior to any treatment of the waste that removes benzene, except as specified in 40 CFR 61.355 (c)(1)(i)(A) through (D).~~

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~~5. For wastes with multiple phases, the determination shall provide the weighted-~~

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~~average benzene concentration based on the benzene concentration in each phase of the waste and the relative proportion of the phases.~~

~~B. *Knowledge of the waste*. The Permittee shall provide sufficient information to document the flow-weighted annual average benzene concentration of each waste stream. Examples of information that could constitute knowledge include material balances, records of chemicals purchases, or previous test results provided the results are still relevant to the current waste stream conditions. If test data are used, then the Permittee shall provide documentation describing the testing protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the flow-weighted annual average benzene concentration for the waste stream. When Permittee and the Administrator (Illinois EPA or USEPA) do not agree on determinations of the flow-weighted annual average benzene concentration based on knowledge of the waste, the procedures under 40 CFR 61.355(c)(3) shall be used to resolve the disagreement.~~

~~C. Measurements of the benzene concentration in the waste stream shall be done in accordance with the procedures established in 40 CFR 61.355(c)(3).~~

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5.8 Source-Wide Monitoring Requirements

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Coke oven gas flow meters and hydrogen sulfide monitor operation –(based on the requirements established by FESOP #94120017):

a. The Permittee shall operate a system for monitoring the hydrogen sulfide (H_2S) content of the coke oven gas (COG) for each unit operating group described in Condition 5.6.3(d)(i).

b. The Permittee shall test, operate, and maintain a system for measuring the COG usage for each unit operating group.

c. These systems shall result in the acquisition of validated data which are representative of each unit operating groups emissions.

d. A flow meter shall be maintained on the main Blast Furnace and Steelworks COG feed lines and each individual emission unit or unit operating group and shall be used to measure the COG usage rate. Flow meters shall be used to measure the COG usage on each individual emission unit or unit operating group. The total COG usage for each unit operating group as a whole shall be the sum of the individual usage for the emission units of that group as

measured by the individual meters or that measured by a single flow meter measuring the COG usage for the unit operating group as a whole.

e. The COG flow meter system shall meet the applicable requirements of Performance Specification 6 of 40 CFR 60, Appendix B, i.e., flow rate measurement specifications.

f. The COG flow meter system shall be capable of recording the COG usage in standard cubic feet on an hourly and daily basis.

g. The COG flow meter system shall be operated, and data collected, reduced and maintained, in accordance with the applicable requirements of 40 CFR 60.13 and 35 Ill. Adm. Code Part 201 Subpart L.

h. i. Sufficient information on COG usage shall be obtained from the COG flow meter system to allow the determination of hourly and/or daily COG usage for each unit operating group, as needed for the emission rate calculations of this permit.

ii. If a single flow meter on an unit operating group fails, then the COG usage for that group may be calculated using the difference between overall total COG usage and the total COG usage at the remaining properly operating COG flow meters, or the difference in COG usage from the main COG feed line of the affected unit operating group and the COG usage at the remaining properly operating flow meters associated with that main feed line;

iii. In the event that several flow meters are down such that the above COG usage calculation is not possible, the COG usage for the affected unit operating group(s) shall be determined by a method approved by the Agency (e.g., use of temporary backup measurement system). In no case shall COG usage not be determined by a method described in this permit, or an approved alternative method, so as to result in insufficient data being obtained to determine the COG usage for any unit operating group as needed to evaluate compliance using the emission rate calculations of this permit.

i. i. The Permittee shall ~~install,~~ operate~~,~~ and maintain a continuous monitoring system to measure and record the H_2S content in the COG of the main COG feed line.

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ii. The H_2S concentration shall be measured on a wet gas basis.

iii. The H_2S monitoring system shall meet the applicable requirements of Performance Specification 7 of 40 CFR 60, Appendix B.

iv. The H_2S monitoring system shall be equipped with a strip chart recorder or disk storage and shall be capable of recording the H_2S content in grains per standard cubic feet on a hourly average basis and daily average basis.

v. The H_2S monitoring system shall be operated, and data collected, reduced and maintained, in accordance with the applicable requirements of 40 CFR 60.13 and 35 Ill. Adm. Code Part 201 Subpart L.

vi. The H_2S monitoring system shall obtain hourly average H_2S content data for at least 75% of the daily operating hours in which COG is produced (e.g., at 24 hours/day COG production, at least 18 hourly averages of H_2S content must be obtained). In the event that this minimum data requirement cannot be met by the H_2S monitoring system, the H_2S content data shall be supplemented or obtained by one of the following alternative methods:

A. H_2S determined by type of coal used during that period and previous recorded H_2S content when using this coal type. This method shall only be used for a maximum of 15 days per calendar year.

B. A manual sample of COG shall be taken daily and the H_2S content shall be determined by 40 CFR 60, Appendix A, Method 11, as adapted to measure higher ranges of H_2S. This value, or a value based on the mean of the daily values plus two standard deviations for the previous 90 days for which a reading was obtained, whichever is higher, shall be used. Should a coal blend change occur during the period this alternative method is being used, the mean value plus two standard deviations will be adjusted to reflect any potential change in the H_2S content from that of the previous coal blend.

vii. The H_2S monitoring system shall be the primary means of determining the H_2S content of the COG. The alternative methods, as specified above, shall only be used in the event of a malfunction or breakdown of the H_2S monitoring system.

j. In the event of malfunction or breakdown of a COG flow meter or the H_2S monitoring system, the Permittee shall repair and recalibrate the meter or monitoring system as soon as practicable but no later than 10 days after the malfunction or breakdown is detected, unless prior Illinois EPA approval is obtained by submitting adequate justification to the Illinois EPA detailing the reasons for delay. Records of repair and recalibration must be maintained in accordance with the recordkeeping requirements of this permit. This condition does not relieve the Permittee of the minimum data obtaining requirements of this permit.

5.9 Source-Wide Recordkeeping Requirements

5.9.1 Annual Emission Records

a. The Permittee shall maintain records of total annual emissions on a calendar year basis for the emission units with emission limits established by Condition 5.6.3 for the purposes of compliance demonstration with Condition 5.6.3, pursuant to Section 39.5(7)(b) of the Act.

b. The Permittee shall maintain records of the total annual production of iron and steel on a calendar year basis for the purposes of compliance demonstration with Condition 5.6.3, pursuant to Section 39.5(7)(b) of the Act.

5.9.2 Records for HAP Emissions

The Permittee shall maintain source-wide records of HAP emissions on a calendar year basis and individually for the emission units or group of emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit ~~to demonstrate compliance with Condition 5.6.3~~and emitting HAPs, pursuant to Section 39.5(7)(b) of the Act.

~~5.9.2 Records for HAP Emissions~~

~~The Permittee shall maintain records of HAP emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit, pursuant to Section 39.5(7)(b) of the Act.~~

5.9.3 Records for Source-Wide Control Requirements and Work Practices

a. The Permittee shall keep a copy of the fugitive particulate matter operating plan, and any amendments to the plan, as required by Condition 5.3.3. The Permittee shall also keep a record of activities completed according to the plan.

b. The Permittee shall keep copy of the PM_{10} contingency plan, as described by Condition 5.3.4. The Permittee shall also keep a record of activities completed according to the plan.

c. The Permittee shall keep the following records pursuant to 35 IAC 212.316(g):

i. The owner or operator of any fugitive particulate matter emission unit subject to 35 IAC 212.316 shall keep written records of the application of control measures as may be needed for compliance with the opacity limitations of this Section and shall submit to the Illinois EPA an annual report containing a summary of such information.

ii. The records required under 212.316(g) shall include at least the following:

A. The name and address of the source;

B. The name and address of the owner and/or operator of the source;

C. A map or diagram showing the location of all emission units controlled, including the location, identification, length, and width of roadways;

D. For each application of water or chemical solution to roadways by truck: the name and location of the roadway controlled, application rate of each truck, frequency of each application, width of each application, identification of each truck used, total quantity of water or chemical used for each application and, for each application of chemical solution, the concentration and identity of the chemical;

E. For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent, and, if diluted, percent of concentration, used each day; and

F. A log recording incidents when control measures were not used and a statement of explanation.

d. The Permittee shall keep the following records of maintenance and repair pursuant to 35 IAC 212.324(g):

i. Written records of inventory and documentation of inspections, maintenance, and repairs of all air pollution control equipment shall be kept in accordance with 35 IAC 212.324(f).

ii. The owner or operator shall document any period during which any process emission unit was in operation when the air pollution control equipment was not in operation or was malfunctioning so as to cause an emissions level in excess of the emissions limitation. These records shall include documentation of causes for pollution control equipment not operating or such malfunction and shall state what corrective actions were taken and what repairs were made.

iii. A written record of the inventory of all spare parts not readily available from local suppliers shall be kept and updated.

iv. Copies of all records required by 35 IAC 212.324(g) shall be submitted to the Illinois EPA within ten (10) working days after a written request by the Illinois EPA.

v. The records required under 35 IAC 212.324(g) shall be available for inspection and copying by the Illinois EPA representatives during working hours.

vi. Upon written request by the Illinois EPA, a report shall be submitted to the Illinois EPA for any period specified in the request stating the following: the dates during which any process emission unit was in operation when the air pollution control equipment was not in operation or was not operating properly, documentation of causes for pollution control equipment not operating or not operating properly, and a statement of what corrective actions were taken and what repairs were made.

5.9.4 Records required by FESOP #94120017:

a. The hourly average, 3-hour average and daily average H_2S content of the COG in grains per standard cubic foot.

b. The H_2S monitor strip chart or disk storage.

c. Thousand standard cubic feet of COG used per 3-hours for slab reheat furnaces 1-3 and ladle drying preheaters and per day for each unit operating group.

d. The calibration, maintenance and repair of the H_2S monitor and each COG flow meter used in compliance calculations.

e. The weight percent sulfur content of the fuel oil in tanks 101, 102 and 5 as determined by the testing requirement of this permit and as determined after each instance that oil is added to a tank.

f. The density (lbs/gal) of the fuel oil in tanks 101, 102 and 5 as determined by the testing requirement of this permit and as determined after each instance that oil is added to a tank.

g. Gallons of fuel oil used from tank 5 per 3-hours for slab reheat furnaces 1-3 and per day from tanks 101, 102 and 5.

h. Tons of hot metal cast per day and annually at the Blast Furnace Casthouse.

i. SO_2 emissions of each unit operating group in terms of the associated emission limits of this permit (i.e., lbs/3-hrs and lbs/day) accompanied by the data from which they were determined.

j. SO_2 emissions of each unit operating group in tons/month.

k. SO_2 emissions of each unit operating group in tons/year determined by using a rolling total of the previous 12 consecutive months of data.

5.9.5 Records required by ~~40 CFR 61.356 (Benzene Waste Operations, Subpart FF):~~permit 95010001 [Note: most of the records established in 95010001 are presented further in appropriate subsections of Section 7]:

~~a. Each owner or operator of a facility subject to the provisions of Subpart FF shall comply with the recordkeeping requirements of 40 CFR 61.356. Each record shall be maintained in a readily accessible location at the facility site for a period not less than two years from the date the information is recorded unless otherwise specified.~~

~~b. Each owner or operator shall maintain records that identify each waste stream at the facility subject to Subpart FF, and indicate whether or not the waste stream is controlled for benzene emissions in accordance with Subpart FF. In addition the owner or operator shall maintain the following records:~~

~~For each waste stream not controlled for benzene emissions in accordance with Subpart FF, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information for the waste stream: waste stream identification, water content, whether or not the waste stream is a process wastewater stream, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.~~

a. ~~5.9.6~~Records of fuel usage as follows: Usage of natural gas and BFG (total combined million ft^3 per month and year, each) and fuel oil (total combined gallons/month and year) for the blast furnace stoves (A and B), boiler house boilers (1-10), blast furnace boilers (11 and 12), ladle drying preheaters and blast furnace gas flares.

b. Records of annual emissions associated with combustion of different fuels as identified in Condition 5.6.3(b).

5.9.6 Records of the testing results and procedures required by Condition 5.7.

5.9.7 Retention and Availability of Records

a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein).The Permittee shall keep the

last 3 years of data on-site and remaining 2 years data may be kept at an offsite location. The Permittee shall make all these readibly accessible records available to the Illinois EPA or USEPA for inspection and/or copying upon request.

b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

5.10 Source-Wide Reporting Requirements

5.10.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the source with the permit requirements and emission limits established in Section 5, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken. There are also reporting requirements for unit specific emission units set forth in Section 7 of this permit.

5.10.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information, including HAP emissions, for the previous calendar year.

5.10.3 Reporting requirements established by FESOP #94120017

a. Any apparent violation of the requirements (e.g., emission limits) of the permit #94120017 (these requirements are incorporated in Section 5 of this Permit) as determined by recordkeeping or testing shall be reported to the Illinois EPA in writing within 30 days of the apparent violation. The report shall include the following:

i. The starting date and time of the apparent violation.

ii. The duration of the apparent violation.

iii. Identity of the emission units involved.

iv. A description of the apparent violation~~, including the operating parameters of the emission unit~~(s) involved.

v. The emission levels in lbs/day that occurred.

vi. A statement identifying the probable cause(s) of the apparent violation.

vii. Corrective actions taken at the time of the apparent violation, actions taken to lessen emissions, and actions taken to prevent future occurrences.

b. The Permittee shall submit quarterly reports (every 3 calendar months) to the Illinois EPA. This report is due 30 days after the end of the reporting period and may be submitted on computer disk. This report shall contain the following information for the days during the quarter:

i. A summary showing the emissions of SO_2 for each unit operating group for each day and the 12 month rolling average in tons/year.

ii. A statement identifying any apparent violations which occurred during the quarter covered by the report or, if there have been no apparent violations, a statement to that effect.

iii. A summary of any COG flow meter and H2S monitor downtime.

iv. Identification of any days for which data for at least 75% of the operating hours of the unit operating group was not obtained by an approved method; justification for not obtaining the data; and description of corrective action taken.

c. These reports shall be sent to IEPA Compliance Section in Springfield and IEPA Regional Office in Collinsville.

d. Copies of the Final Report for the tests identified in Condition 5.7.7(b) shall be submitted to the Illinois EPA along with the quarterly reports required by this CAAPP permit within 30 days after the reported quarter.

e. The quarterly reports specified above shall be combined and submitted with other reports required by this permit, including the quarterly monitoring reports for the source as described in Condition 8.6.1.

~~5.10.4~~5.10.4 Reporting requirements established by permit #95010001:

The Permittee shall submit the following additional information from the prior calendar year with the Annual Emissions Report, due May 1st of each year:

a. Iron and steel production (tons/month and tons/yr, each);

b. Natural gas and BFG usage ($mmft^3$/month and $mmft^3$/yr, each); and

c. Fuel oil usage (thousand gallons/month and thousand gallons/yr, for each type of oil).

5.10.5 Other Source-Wide Reporting Requirements

a. i. A quarterly report shall be submitted to the Illinois EPA stating the following: the dates any necessary control measures were not implemented, a listing of those control measures, the reasons that the control measures were not implemented, and any corrective actions taken. This information includes, but is not limited to, those dates when controls were not applied based on a belief that application of such control measures would have been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to the requirements of this Section. This report shall be submitted to the Agency thirty (30) calendar days from the end of a quarter. Quarters end March 31, June 30, September 30, and December 31 [35 IAC 212.316(g)(5)].

ii. The reporting requirements from the above are established for fugitive particulate matter control measures implemented for the certain operations identified in 35 IAC 212.316(b) through 212.316(f).

b. Upon written request by the Illinois EPA, a report shall be submitted to the Illinois EPA for any period specified in the request stating the following: the dates during which any process emission unit was in operation when the air pollution control equipment was not in operation or was not operating properly, documentation of causes for pollution control equipment not operating or not operating properly, and a statement of what corrective actions were taken and what repairs were made [35 IAC 212.324(g)(6)].

c. 40 CFR Part 63, Subpart FFFFF

Part 70 monitoring report. The Permittee shall report all deviations as defined in Subpart FFFFF in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A). If the Permittee submits a compliance report for an affected source along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emission limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation to report deviations from permit requirements for an affected source to the permitting authority. ~~5.10.5 Reporting Requirements Established in 40 CFR 61.357~~

~~The following updated reports shall be submitted to the Illinois EPA pursuant to 40 CFR 61.357(b) and (c):~~

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a. If the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr), then the Permittee shall submit a report that updates the information listed in 40 CFR 61.357(a)(1) through (a)(3)whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more.

b. If the total annual benzene quantity from facility waste is less than 10 Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr (1.1 ton/yr) then the Permittee shall submit a report that updates the information listed in 40 CFR 61.357 (a)(1) through (a)(3). The report shall be submitted annually and whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more. If the information in the annual report required by 40 CFR 61.357 (a)(1) through (a)(3) is not changed in the following year, the Permittee shall submit a statement to that effect.

5.10.6 Reporting of Malfunctions and Breakdowns

The Permittee shall provide the following notification and reports to the Illinois EPA, Air Compliance Section and Collinsville Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of an affected operations subject to malfunction and breakdown provisions appropriately identified in subsections of Section 7:

a. i. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction or breakdown.

ii. Upon achievement of compliance, the Permittee shall give a written follow-up notice within 15 days to the Illinois EPA, Air Compliance Section and Collinsville Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the affected unit (operations) was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the affected unit (operations) was taken out of service.

iii. If compliance is not achieved within 5 working days of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Air Compliance Section and Collinsville Regional Field Office, within 5 days of the occurrence and every 14 days thereafter, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the malfunction or

~~breakdown, corrective actions accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete or the affected unit (operations) will be taken out of service.~~

~~b. In accordance with the due dates in Condition 8.6.1, the Permittee shall submit semi-annual malfunction and breakdown reports to the Illinois EPA pursuant to Sections 39.5(7)(a) and (f) of the Act. These reports may be submitted along with other semi-annual reports and shall include the following information for malfunctions and breakdowns of the affected unit (operations) during the reporting period:~~

~~i. A listing of malfunctions and breakdowns, in chronological order, that includes:~~

~~A. The date, time, and duration of each incident.~~

~~B. The identity of the affected operation(s) involved in the incident.~~

~~ii. Dates of the notices and reports to the Illinois EPA.~~

~~iii. Any supplement information the Permittee wishes to provide to the notices and reports to the Illinois EPA.~~

~~iv. The aggregate duration of all incidents during the reporting period.~~

~~v. If there have been no such incidents during the reporting period, this shall be stated in the report.~~

~~5.10.7 Reporting of Startups~~

~~In accordance with the due dates in Condition 8.6.1, the Permittee shall submit semi-annual startup reports to the Illinois EPA pursuant to Sections 39.5(7)(a) and (f) of the Act. These reports may be submitted along with other semi-annual reports and shall include the following information for startups of the affected unit (operations) as described in appropriate subsection of Section 7 during the reporting period:~~

~~a. A list of the startups of the affected unit (operations), including the date, duration and description of each startup, accompanied by a copy of the records pursuant to Section 7 for each startup for which such records were required.~~

~~b. If there have been no startups of an affected unit (operations) during the reporting period, this shall be stated in the report.~~

[40 CFR 63.7841)]

d. All other deviations not specifically addressed by Section 5.10 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

5.11 Source-Wide Operational Flexibility/Anticipated Operating Scenarios

In the event of the abrupt stop of performing operations currently conducted at this site by the companies (sources) identified by Condition 5.2.2, U.S. Steel is allowed the following:

a. Take control of those operations for the purposes of avoiding unneeded service interruption.

b. Under these circumstances, U.S. Steel should be in charge of those operations and complying with current or future conditions and requirements established in the proposed or issued CAAPP permits to the companies identified by Condition 5.2.2, as long as the revised version of this U.S. Steel CAAPP permit will be revised and issued. Request for revision of this CAAPP permit should be submitted to the Illinois EPA as soon as practically possible after scheduled or unscheduled interruption of the service by the current co-located operators.

5.12 Source-Wide Compliance Procedures

5.12.1 General Procedures for Calculating Emissions

a. Except as provided in Condition 9.1.3, compliance with the source-wide emission limits specified in Condition 5.6 shall be based on the recordkeeping and reporting requirements of Conditions 5.9 and 5.10, and compliance procedures in Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit.

b. Emissions of regulated air pollutants (including HAP's) from each individual emission unit or group of emission units as described in appropriate subsections of Section 5 and Section 7, shall be calculated by using either the current version of USEPA's Factor Information Retrieval (FIRE) system, the latest on-site testing data collected from the approved tests conducted by the Permittee, emission factors identified in construction permit conditions ~~or other generally accepted engineering calculations~~ with a clear reference to the method of emission calculations being used~~.~~ or other engineering calculations accepted by the Illinois EPA. The emissions shall be calculated by using the following example of the general equation:

Emissions = Emission Rate x Production Rate

If a control device is used for any emission unit and emission factor is presented in terms of uncontrolled emissions, then

the equation above shall be modified accordingly to address overall reduction achieved by control.

5.12.2 Compliance with Conditions 5.6 and 5.8

a. All of the following conditions have been established in FESOP #94120017:

~~a~~i. Compliance with the lbs/3-hours limits shall be demonstrated by using emission rate calculations for eight discrete 3-hour periods per day, with the first period beginning at midnight, as described further.

~~b~~ii. Compliance with the daily emission limits established in FESOP #94120017 (See Condition 5.6) shall be demonstrated by using emission rate calculation equations based on a daily block basis (i.e., midnight to midnight), as described further.

~~c~~ iii. The compliance calculations shall be the primary compliance method for determining compliance with the emission limits in this permit, except for the blast furnace casthouse baghouse and iron spout baghouse, for which stack testing shall be the primary means of determining compliance.

~~d~~ iv. Total SO_2 emissions from an unit operating group for determination of compliance with the SO_2 limits of this permit shall be the sum of the emissions resulting from the use of COG and fuel oil at the unit operating group, i.e.:

Lbs SO_2 per unit operating group = SO_2 emissions from fuel oil usage + SO_2 emissions from COG usage

Special Note: The SO_2 emissions which would result from the use of blast furnace gas and natural gas in the unit operating groups has been accounted for in the SO_2 limits of this permit. This was accomplished by lowering the permitted SO_2 from the SO_2 levels used for air quality modeling by an amount equal to the SO_2 which would have been emitted should the unit operating groups use blast furnace gas or natural gas continuously. The SO_2 emissions from blast furnace gas and natural gas were calculated using standard emission factors as found in AIRS Facility Subsystem, Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants, EPA Document Number EPA 450/4-90-003, and Compilation of Air Pollution Emission Factors, Vol. 1, Stationary Point and Other Sources, AP-42.

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~~e~~ v. The SO_2 emissions attributable to fuel oil usage shall be calculated using the recorded parameters required by this permit and the following equation:

Lbs SO_2/period = gallons of oil burned per period x sulfur content in weight percent of the fuel oil used x density of the fuel oil used in pounds per gallon x 2.

Note that emissions attributable to fuel oil used in each tank must be calculated individually using the most recent recorded parameters of the oil in that tank.

~~f~~ vi. The SO_2 emissions attributable to COG usage shall be calculated using the recorded parameters required by this permit and the following equation:

Lbs SO_2/period = thousand standard cubic feet of COG burned per period x average H_2S content of the COG in grains per standard cubic foot for the period x 0.269.

~~g~~ vii. Stack test measurement shall be the primary method of determining the compliance of the Blast Furnace Casthouse and Iron Spout Baghouse with the lbs/day limits in this permit. The secondary means of determining compliance shall be the following emission calculation equations:

~~i~~ A. The SO_2 attributable to the Blast Furnace Casthouse Baghouse shall be calculated using an emission factor of 0.173 lbs SO_2 per ton of hot metal cast.

~~ii~~ B. The SO_2 attributable to the Iron Spout Baghouse shall be calculated using an emission factor of 0.0063 lbs SO_2 per ton of hot metal cast.

~~h~~ viii. Compliance with the tons/yr limits of FESOP #94120017 (See Condition 5.6) shall be determined using a rolling total of 12 consecutive calendar months of data.

~~i~~ ix. Usage of fuel oil for a specific time period shall be determined by monitoring the difference in oil height in a tank before and after oil use, and then converting this difference in height to gallons of oil used for that period.

~~j~~ x. When fuel oil is used at both unit operating groups of Slab Reheat Furnaces 1-3 and Slab Reheat Furnace 4 during the same period such that the oil usage at each individual unit operating group is not directly measurable using the above specified difference in oil height method, the oil usage at the individual unit operating groups during such period shall be calculated

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using a ratio of the Btu's of each unit operating group during that period times the oil usage.

~~k. i~~ xi. A. The sulfur content and density as determined by the ASTM methods specified in the testing requirements of this permit shall be used in emission calculations until any additional oil is added to a tank upon which the sulfur content and density of that tank as calculated in the following item (ii) shall be used.

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~~ii~~ B. The sulfur content and density of the fuel oil shall be determined after each instance that oil is added to a tank by taking a weighted average of the sulfur content and density of the oil in that tank and the oil being added, provided that the sulfur content and density of the fuel oil being added must be determined by the ASTM methods indicated above. Alternatively, the Permittee may use the ASTM methods indicated above in lieu of using the weighted average determination method.

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~~iii~~ C. The most recent determined values for the fuel oil weight percent sulfur content and density shall be used in compliance calculations.

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~~l~~xii. Usage of COG shall be determined by the COG flow meters.

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~~m~~ xiii. For use in the lbs/3-hours compliance calculations, the average H_2S content of COG shall be calculated using an arithmetic average of all available H_2S data during the 3-hour period that COG was burned. In the event that the H_2S monitoring system is unable to obtain a single reading for the 3-hour period, the H_2S content for that 3-hour period shall be obtained by one of the previously specified alternative methods of this permit (i.e., manual sampling of H_2S content or determined by type of coal used during that period and previous recorded H_2S content when using this coal type).

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~~n~~ xiv. For use in the lbs/day compliance calculations, the daily average H_2S content of COG shall be calculated using an arithmetic average of all available hourly average H_2S content data for that day, and at least data from 75% of the daily operating hours.

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~~5.13 Compliance Schedule and Current Enforcement Status~~

~~Placeholder for compliance schedule to be ordered by the Third Judicial Circuit in *People of the State of Illinois v. United States Steel Corporation*, Madison County Circuit Court, 05-CH-750.~~

b. The following conditions have been established in permit 95010001 for production increase:

i. Compliance with the iron and steel production limits in Condition 5.6.3 shall also be determined on a month by month basis by showing that the actual production of iron and steel from the plant did not exceed the scheduled rate of production for a month given in the most recent production schedule provided to the Illinois EPA that shows compliance with the following requirements.

ii. If no production schedule is submitted to the Illinois EPA by the Permittee for a particular year, the scheduled monthly production of iron and steel shall be set at one twelfth of the annual production limits in Condition 5.6.3.

iii. A. The Permittee may submit a schedule for iron and steel production for each month of the calendar year. Such schedule shall provide the scheduled monthly iron and steel production for each month and the total of such scheduled production shall not exceed the annual production limits in conditions 2(b) and 6(b). This schedule shall be submitted each year no later than December 15th of the preceding year.

B. During the course of the year, the Permittee may submit a revised production schedule which accounts for actual production levels which were below that scheduled for the previous months, provided that in no case shall the scheduled production for prior months in such a revised schedule be lowered to less than actual production levels or raised. Such revised schedule shall be submitted to the Agency no later than 15 days

after the first day of the month for which scheduled production has been raised. Such schedule shall be accompanied by data on actual production in preceding months.

6.0 CONDITIONS FOR EMISSIONS CONTROL PROGRAMS

This section is reserved for emissions control programs. As of the date of issuance of this permit, there are no such programs applicable to this source.

7.0 UNIT SPECIFIC CONDITIONS FOR SPECIFIC EMISSION UNITS

7.1 Coal Handling Operations

7.1.1 Description

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Coal Unloading:

Coal is received by truck and/or railcar and when unloading is complete the coal is piled by bulldozer. The coal is then transferred by front end loader to the hopper feeding the conveyor system on to the pulverizer building.
Coal can also be received by rail cars and is then dumped utilizing a rail car unloader to be conveyed to the pulverizer building.

Primary Coal Crushing:

This emissions unit is mainly used in the winter to break-up chunks of coal. This step is necessary to reduce the size of the coal to be processed in the pulverizer. Potential emission from this unit consist of particulate matter generated from the crushing operation.

Coal Pulverizer:

There are two coal pulverizers in this emission unit. Only one pulverizer can be used at any one time. The remaining pulverizer is maintained as a backup unit. The pulverizing step is necessary to reduce the size of the coal to aid in the coking process. Potential emissions from this unit consist of particulate matter generated from the pulverizing operations.

Note: This narrative description is for informational purposes only and is not enforceable.

7.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Coal Handling Operations	Coal Transfer to Feed Hopper via Front-end loader; Rail Car Unloading	N/A	None
	Primary Coal Crusher	Pre-1974	None
	Coal Pulverizer	Pre-1974	Baghouse
	Conveyors and Associated Transfer Points	Pre-1974	None
	Coal Storage Piles		None

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7.1.3 Applicable Provisions and Regulations

a. The “affected coal handling operations” for the purpose of these unit-specific conditions, is an emission unit described in Conditions 7.1.1 and 7.1.2.

b. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source [35 IAC 212.301].

c. Emission Limitation for Crushing and Screening Operations. No person shall cause or allow fugitive particulate matter emissions generated by the crushing or screening of slag, stone, coke or coal to exceed an opacity of 10 percent [35 IAC 212.316(b)].

d. Emission Limitations for Storage Piles. No person shall cause or allow fugitive particulate matter emissions from any storage pile to exceed an opacity of 10 percent, to be measured four ft from the pile surface [35 IAC 212.316(d)].

e. Emission limitation for conveyor: Emission Limitation for All Other Emission Units. Unless an emission unit has been assigned a particulate matter, PM_{10}, or fugitive particulate matter emissions limitation elsewhere in 35 IAC 212.316 or in Subparts R or S of 35 IAC Part 212, no person shall cause or allow fugitive particulate matter emissions from any emission unit to exceed an opacity of 20 percent.

f. No person shall cause or allow emissions of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed 0.01 gr/scf during any one hour period from process emission units [35 IAC 212.458(b)(7)].

g. Each affected coal handling operation is subject to IAC 212.322(a), which provides that:

   No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

h. See also source-wide rule applicability in Condition 5.3.

7.1.4 <u>Non-Applicability of Regulations of Concern</u>

a. 35 IAC 212.321 and 212.322 shall not apply to emission units, such as stock piles of particulate matter because of the

disperse nature of such emission units, such rules cannot reasonably be applied [35 IAC 212.323].

b. The emission limitations of 35 IAC 212.324 are not applicable to the affected coal handling operations. Pursuant to 35 IAC 212.324(a)(3), the affected operations are subject to the emission limitations of 35 IAC Part 212, Subpart R, "Primary and Fabricated Metal Products and Machinery Manufacture".

7.1.5 Control Requirements and Work Practices

a. The affected coal handling operations shall be operated in accordance with the provisions of the operating program as described in 35 IAC 212.309 and 212.310 (see also Condition 5.3.3).

b. The affected coal handling operations are part of the PM_{10} Contingency Plan as described in 35 IAC Part 212, Subpart U and Condition 5.3.4.

c. The affected coal handling operations are subject to the maintenance and repair requirements established in 35 IAC 212.324(f). See Condition 5.5 for detailed description of these requirements.

7.1.6 Production and Emission Limitations

Production and emission limitations are not set for the affected coal handling operations.

7.1.7 Testing Requirements

~~a. PM_{10} emissions subject to the concentration limit established in Condition 7.1.3(e) shall be determined in accordance with procedures published in 40 CFR Part 60, Appendix A, Methods 1 through 4, 201A or Method 5 (see 35 IAC 21.108 for more details).~~

~~b~~ a. Opacity emission evaluation shall be conducted in accordance with procedures published in 40 CFR Part 60, Appendix A, Method 9.

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~~c~~b. i. The Permittee shall have to measure the opacity of the emissions from the affected operations during representative weather and operating conditions determined by a qualified observer in accordance with USEPA Test Method 9, as further specified below, pursuant to Section 39.5(7)(d) of the Act.

A. For each affected operation, testing shall be conducted at least annually.

B. Upon written request by the Illinois EPA, such testing shall be conducted for specific affected

operation(s) within 45 calendar days of the request or on the date agreed upon by the Illinois EPA, whichever is later.

ii. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless the average opacities for the first 12 minutes of observations (two six-minute averages) are both less than 10.0 percent.

~~d. Testing of PM_{10} concentration in the air stream controlled by baghouse shall be conducted once every 5 years (at the time of CAAPP renewal) in accordance with test methods specified above.~~

~~e. The Permittee shall notify the Illinois EPA at least 30 days in advance of the date and time of these tests, pursuant to 35 IAC 212.108(e).~~

~~f. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for testing.~~

~~g~~c. The above testing conditions are established in accordance with 39.5(7)(d) and 39.5(7)(p) of the Act.

7.1.8 Inspection Requirements

a. The Permittee shall perform inspections of the affected coal handling operations on at least a quarterly basis, including associated control measures, while the affected operations are in use, to confirm compliance with the requirements of Condition 7.1.5. These inspections shall be performed with personnel not directly involved in the day-to-day operation of the affected operations and may be scheduled so that only a number of affected operations are reviewed during each inspection, provided however, that all affected operations that are in routine service shall be inspected at least once during each calendar quarter. [Sections 39.5(7)(a) and (d) of the Act]

b. The Permittee shall perform detailed inspections of the dust collection equipment for the affected coal handling operations at least every 12 months while the processes are out of service, with an initial inspection performed before any maintenance and repair activities are conducted during the period the process is out of service and a follow-up inspection performed after any such activities are completed. [Sections 39.5(7)(a) and (d) of the Act]

7.1.9 Monitoring Requirements

Monitoring requirements are not set for the affected coal handling operations.

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7.1.10 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected coal handling operations, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. The Permittee shall keep the following file(s) and log(s):

i. File(s) containing the following information for the affected coal handling operations, with supporting information:

A. Information related to the dust collection equipment associated with the affected operations, including design control efficiency or performance specifications and maximum design particulate matter emissions, gr/dscf.

B. The maximum ~~operating~~design capacity of each affected operation, (ton/hr).

ii. Maintenance and repair log(s) for the air pollution control equipment associated with the affected operations, including dust suppressant application systems, which log(s) shall list the activities performed on each item of equipment or system, with date and description. (See also Condition 9.6.1, Control Equipment Maintenance Records).

b. Records required by 35 IAC 212.316(g) and 212.324(g) (See Condition 5.9.3(c) and (d)).

c. The Permittee shall maintain records of the amount of coal received and processed at the source (tons/month and tons/year).

d. The Permittee shall maintain records of the following for the inspections required by Condition 7.1.8:

i. For the inspections required by Condition 7.1.8(a) for each affected operation:

A. Date and time the inspection was performed and name(s) of inspection personnel.

B. The observed condition of the control measures for each affected operation, including the presence of any visible emissions or accumulations of coal fines in the vicinity of the operation.

C. A description of any maintenance or repair associated with established control measures that is recommended as a result of the inspection and a review of outstanding recommendations for

maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.

D. A summary of the observed implementation or status of actual control measures, as compared to the established control measures.

ii. For the inspections required by Condition 7.1.8(b) for the dust collection equipment for affected operations:

A. Date and time the inspection was performed and name(s) of inspection personnel.

B. The observed condition of the equipment.

C. A summary of the maintenance and repair that is to be or was conducted on the equipment.

D. A description of any maintenance or repair that is recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.

E. A summary of the observed condition of the equipment as related to its ability to reliably and effectively control emissions.

e. Records of emissions of the affected coal handling operations, as calculated in accordance with requirements outlined in Condition 5.12.1(b).

f. The Permittee shall maintain records of the following for each incident when any affected coal handling operation operates without the established control measures:

i. The date of the incident and identification of the affected operations that were involved.

ii. A description of the incident, including the established control measures that were not present or implemented; the established control measures that were present, if any; other control measures or mitigation measures that were implemented, if any; and the magnitude of the PM emissions during the incident.

iii. The time at and means by which the incident was identified, e.g., scheduled inspection or observation by operating personnel.

iv. The length of time after the incident was identified that the affected operations continued to operate before established control measures were in place or the operations were shutdown (to resume operation only after established control measures were in place) and, if this time was more than one hour, an explanation why this time was not shorter, including a description of any mitigation measures that were implemented during the incident.

v. The estimated total duration of the incident, i.e., the total length of time that the affected operations ran without established control measures and the estimated amount of coal handled during the incident.

vi. A discussion of the probable cause of the incident and any preventative measures taken.

vii. A discussion whether any applicable emission standards, as listed in Condition 7.1.3, may have been violated during the incident, with supporting explanation.

g. The Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9 for the affected operations that it conducts or that are conducted at its behest by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to Condition 7.1.7(a), or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the affected operations, the observed opacity, and copies of the raw data sheets for the measurements.

7.1.11 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected coal handling operations with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- Emissions of PM/PM_{10} from the affected coal handling operations in excess of the limits specified in Condition 7.1.3 within 30 days of such occurrence.

- All other deviations not specifically addressed by Section 7.11 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

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7.1.12 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected coal handling operations.

7.1.13 Compliance Procedures

a. Compliance with the PM/PM_{10} emission limits of Condition 7.1.3 shall be achieved by the testing requirements of Condition 7.1.7, inspection requirements of Condition 7.1.8, recordkeeping requirements of Condition 7.1.10 and the operation and maintenance for control device(s) required by Condition 5.5.

b. Emissions from the affected coal handling operations shall be calculated in accordance with Condition 5.12.1(b).

7.2 Coke Production

7.2.1 Description

Two coke oven batteries (forty-five ovens each), dual collecting main by-product coke oven batteries, referred to as A and B, are utilized at this iron and steel mill. Each is capable of processing 454,000 tons/year of coal. Potential emissions from these batteries consist of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic materials, and HAPs.

Topside:

Emission points include leaks from coke oven charging, lids, offtakes, and soaking. Coal is charged utilizing sequential charging with steam aspiration to the collecting mains. Each oven has four charging port lids and two offtakes to the collecting mains. Soaking is the period that starts after the coking cycle, when an oven is dampered off from the collecting mains and its offtakes' standpipes are opened. This period ends with the beginning of the oven push.

Doors:

Emissions consist of leaks from coke oven doors. Each oven has two doors, with one on its push side and one on its coke side.

Pushing:

Once the coking cycle in an oven has been completed, the push and coke side doors are removed, respectively, by the pushing machine and coke-side door machines. A ram on the pushing machine pushes the coke out through a guide on the door machine. The coke falls through the guide, which is covered by a hood on the machine, and into the quench box. The emissions from oven pushing are controlled by the pushing system. This mobile control system consists of a venturi scrubber, mist eliminator and exhaust fan. The quench box and car travel with this system to the coke quenching operation.

Coke Quenching:

The operations carried out in this unit consist of coke quenching with water. Each quench car can hold one oven of coke. There are two areas where quenching can take place. The primary is the West Quench Tower. This tower is equipped with a baffle system. The east quench station is utilized as a backup for the West Tower.

Underfiring:

In this unit coke oven gas (COG) is combusted to generate the heat required to convert coal to coke. COG is also combusted at other emission units and excess is flared. Potential emissions from this unit are mainly the by-products of combustion of the coke oven gas and consist of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, and volatile organic materials.

Note: This narrative description is for informational purposes only and is not enforceable.

7.2.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Coke Oven Batteries “A” and “B”		Battery “A” was rebuilt between 1979 and 1980; Battery “B” was rebuilt between 1981 and 1982	
	Coking Process-Charging		None
	Coking Process - Pushing		Mobile Venturi Scrubber (PCS Cars #3 & #4)
	Coke Quenching		~~None~~Tower/Buffles (quench tower & backup quench station)
	Coke Oven Soaking		None
	Coke Oven Underfiring		None
	Fugitive Emissions from the operations (lid leaks, door leaks, offtake leaks)		None

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	Coke Handling Operations (PM fugitive emissions): • Conveyor #4 – Coke Transfer • Coke Screen #1 • Conveyor #5 – Coke Transfer • Conveyor #6 Coke Transfer • Coke Hopper • High Line Coke Transfer • Purchased Coke Receiving & Handling • Coke Storage Piles • Coke Stacking • Coke Feed System • Purchased Coke Screen #2 • Conveyors #16 and #16A – Coke Transfer • Conveyor #8 – Coke Transfer Blended Coal Transfer (PM fugitive emissions): • Transfer to Larry Cars	N/A	None

7.2.3 Applicable Provisions

a. The "affected coke oven operations" for the purpose of these unit-specific conditions, are the emission units and activities described in Conditions 7.2.1 and 7.2.2.

b. The affected coke oven operations are subject to 35 IAC 212.443. Certain provisions of this regulation are discussed further in this subsection.

c. The coke handling operations (as part of the affected coke oven operations) are subject to 35 IAC 212.316(b), 212.316(d) and 212.316(f). Certain provisions of these regulations are discussed further in this subsection.

d. i. The following affected coke oven operations are subject to 40 CFR Part 63, Subpart L Coke Oven Batteries: charging, doors, lids, offtakes, collecting mains and bleeder stacks. The Permittee is complying with the so-called LAER track under this NESHAP, as provided for by 40 CFR 63.304.

ii. For affected coke oven operations, the Permittee shall comply with applicable provisions of the NESHAP, 40 CFR 63 Subpart A.

e. i. The following affected coke oven operations— are subject to 40 CFR Part 63, Subpart CCCCC: pushing, soaking, quenching and battery underfiring stacks.

ii. For affected operations at the coke oven battery, the Permittee shall comply with applicable provisions of the NESHAP, 40 CFR 63 Subpart A as specified in Table 1 in 40 CFR 63 Subpart CCCCC.

7.2.3-1 Applicable Standards: Coke Oven Charging

a. 35 IAC 212.443(b)(1)(A)

No person shall cause or allow the emission of visible particulate matter from any coke oven charging operation, from the introduction of coal into the first charge port, as indicated by the first mechanical movement of the coal feeding mechanism on the larry car, to the replacement of the final charge port lid for more than a total of 125 seconds over 5 consecutive charges; provided however that 1 charge out of any 20 consecutive charges may be deemed an uncountable charge at the option of the operator.

b. 40 CFR 63.304(b)(2)(iv)

Emissions to the atmosphere from coke oven charging shall not exceed 12 seconds of visible emissions per charge, as determined by the procedures in 40 CFR 63.309(d)(2).

c. Battery “B”

The aggregate of visible emissions from the charging of coke ovens at Battery “B” shall not exceed a total 55 seconds during any 5 consecutive charges. This emission standard was established in the permit C808048.

7.2.3-2 Applicable Standards: Leaks from Doors

a. 35 IAC 212.443(d)

i. No person shall cause or allow visible emissions from more than 10 percent of all coke oven doors at any time.

Compliance shall be determined by a one pass observation of all coke oven doors on any one battery.

ii. No person shall cause or allow the operation of a coke oven unless there is on the plant premises at all times an adequate inventory of spare coke oven doors and seals and unless there is a readily available coke oven door repair facility.

b. Battery B: At no time shall there be any visible emissions from more than 5 percent of the door areas on Battery B. This limit was established in construction permit C808048.

c. 40 CFR 63.304(b)(2) and (b)(3)

i. On and after January 1, 1998:

3.8 percent leaking coke oven doors on each by- product coke oven battery not subject to the emission limitation in 40 CFR 63.304(b)(2)(i)(A), as determined by the procedures in 40 CFR 63.309(d)(1).

ii. On and after January 1, 2010, unless the Administrator promulgates more stringent limits pursuant to section 112(i)(8)(C) of the Clean Air Act (CAA):

3.3 percent leaking coke oven doors for each by-product coke oven battery not subject to the emission limitation 40 CFR 63.304(b)(3)(i), as determined by the procedures in 40 CFR 63.309(d)(1).

7.2.3-3 Applicable Standards: Leaks from Lids

a. 35 IAC 212.443(e)

No person shall cause or allow visible emissions from more than 5 percent of all coke oven lids at any time. Compliance shall be determined by a one pass observation of all coke oven lids.

b. Battery B: There shall be no visible emissions from more than 1 percent of the charging ports or lids. This limit was established in construction permit C808048.

c. 40 CFR 63.304(b)(2)(ii)

0.4 percent leaking topside port lids, as determined by the procedures in 40 CFR 63.309(d)(1).

7.2.3-4 Applicable Standards: Leaks from Offtakes

a. 35 IAC 212.443(f)

No person shall cause or allow visible emissions from more than 10 percent of all coke oven offtake piping at any time. Compliance shall be determined by a one pass observation of all coke oven offtake piping.

b. Battery B: There shall be no visible emissions from more than 4 percent of the offtake piping on the coke ovens on Battery B. This limit was established in construction permit C808048.

c. 40 CFR 63.304(b)(2)(iii)

2.5 percent leaking offtake system(s), as determined by the procedures in 40 CFR 63.309(d)(1).

7.2.3-5 Applicable Standards: Coke Oven Pushing

a. 35 IAC 212.443(c)(1)(A)

Emissions of uncaptured particulate matter from pushing operations shall not exceed an average of 20 percent opacity for 4 consecutive pushes considering the highest average of six consecutive readings in each push.

b. 35 IAC 212.443(c)(2)

i. The particulate emissions from control equipment used to control emissions during pushing operations shall not exceed 0.040 pounds per ton of coke pushed. Compliance shall be determined in accordance with the procedures set forth in 40 CFR Part 60, Appendix A, Methods 1-5, incorporated by reference in Section 212.113. Compliance shall be based on an arithmetic average of three runs (stack tests) and the calculations shall be based on the duration of a push as defined in 35 IAC 212.443(c)(1)(A).

ii. The opacity of emissions from control equipment used to control emissions during pushing operations shall not exceed 20%. For a push of less than six minutes duration, the actual number of 15-second readings taken shall be averaged. Compliance shall be determined in accordance with 40 CFR part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113 [35 IAC 212.443(c)(2)(B)].

c. 40 CFR 63.7290(a)(4)

Particulate matter emissions to the atmosphere from the mobile control device that captures emissions during travel shall not exceed 0.04 lb/ton of coke.

d. Battery B

i. Pushing emissions shall be captured and cleaned by a single-spot, coke guide evacuated, enclosed quench car/scrubber car system which meets the following limitations:

A. The gas cleaning device shall be designed and operated to meet 0.04 pounds of particulate matter per ton of coke pushed during the pushing operation.

B. Visible emissions from the gas cleaning device outlet and uncaptured fugitive emissions shall not exceed 20 percent opacity.

ii. The above limits were established in construction permit C808048.

e. Spare cars, parts inventories, and maintenance practices shall be adequate to assure that at least 95 percent of the ovens on Battery B, and 90 percent of the ovens on Battery A, each based on a monthly average, are pushed into a quench car which meets the standards for pushing emissions set below:

i. For pushing of ovens on Battery B, visible emissions from the gas cleaning device outlet and uncaptured fugitive emissions shall not exceed 20 percent opacity as determined by the procedures set forth in the Consent Decree, Civil Action No. 81-3009.

ii. For pushing of ovens on Battery A, uncaptured emissions of fugitive particulate matter shall not exceed an average of 20% opacity for four consecutive pushes considering the highest average of six consecutive readings in each push.

iii. For pushing of ovens on Battery A, the opacity of emissions from control equipment used to control emissions shall not exceed 20%.

7.2.3-6 Applicable Standards: Coke Quenching

a. i. 40 CFR 63.7295(a)(1)(i)

For the quenching of hot coke, the Permittee must meet the following requirements of 40 CFR 63.7295(a)(1)(i):

The concentration of total dissolved solids (TDS) in the water used for quenching must not exceed 1,100 milligrams per liter (mg/L).

ii. 40 CFR 63.7295(a)(2)

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The Permittee must use acceptable makeup water, as defined in 40 CFR 63.7352, as makeup water for quenching.

iii. 40 CFR 63.7295(b)

For each quench tower at a coke oven battery, the Permittee should meet each of the following requirements in 40 CFR 63.7295(b)(1) through (b)(4):

A. Each tower is equipped with baffles such that no more than 5 percent of the cross sectional area of the tower may be uncovered or open to the sky;

B. Baffles in each quench tower shall be washed once each day that the tower is used to quench coke, except as specified below:

1. Baffles in a quench tower are not required to be washed if the highest measured ambient temperature remains less than 30 degrees Fahrenheit throughout that day (24-hour period). If the measured ambient temperature rises to 30 degrees Fahrenheit or more during the day, the Permittee shall resume daily washing according to the schedule in the operation and maintenance plan.

2. The Permittee shall continuously record the ambient temperature on days that the baffles were not washed.

C. Inspection and repair provisions are discussed further in Condition 7.2.7-1.

b. 35 IAC 212.443(h)(1)

All coke oven quench towers shall be equipped with grit arrestors or equipment of comparable effectiveness. Baffles shall cover 95 percent or more of the cross sectional area of the exhaust vent or stack and must be maintained. Quench water shall not include untreated coke by-product plant effluent. —All water placed on the coke being quenched shall be quench water.

c. 35 IAC 212.443(h)(2)

Total dissolved solids concentrations in the quench water shall not exceed a weekly average of 1200 mg/L.

7.2.3-7 Applicable Standards: Combustion (Battery) Stack

a. 35 IAC 212.443(g)

i. No person shall cause or allow the emissions of particulate matter from a coke oven combustion stack to exceed 110 mg/dscm (0.05 gr/dscf); and

ii. No person shall cause or allow the emission of particulate matter from a coke oven combustion stack to exceed 30% opacity. Compliance shall be determined in accordance with 40 CFR part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113. However, the opacity limit shall not apply to a coke oven combustion stack when a leak between any coke oven and the oven's vertical or crossover flues is being repaired, after pushing coke from the oven is completed, but before resumption of charging. The exemption from the opacity limit shall not exceed three (3) hours per oven repaired. The owner or operator shall keep written records identifying the oven repaired, and the date, time, and duration of all repair periods. These records shall be subject to the requirements of 35 IAC 212.324(g)(4) and (g)(5).

b. 40 CFR 63.7296

The permittee must not discharge to the atmosphere any emissions from any battery stack at a new or existing by-product coke oven battery that exhibits —opacity greater than the following applicable limits:

i. Daily average of 15 percent opacity for a battery on a normal coking cycle.

ii. Daily average of 20 percent opacity for a battery on batterywide extended coking.

c. Non-sulfate particulate matter emissions from the battery stack serving Battery B shall not exceed 0.03 gr/dscf. This emission standard was established in permit #82060043, as a revision to construction permit C808048.

7.2.3-8 Applicable Standards: Bypass/Bleeder Stack

a. i. Pursuant to 40 CFR 63.307(a)(1), the Permittee shall operate and properly maintain a bypass/bleeder stack flare system that is capable of controlling 120 percent of the normal gas flow generated by the affected battery.

ii. Coke oven emissions shall not be vented to the atmosphere through bypass/bleeder stacks, except through the flare system or an alternative control device as described in 40 CFR 63.307(d) [40 CFR 63.307(a)(2)].

iii. Each flare installed pursuant to 40 CFR 63.307 shall meet the applicable requirements specified by 40 CFR

63.307(b) with compliance determined as specified by 40 CFR 63.309(h).

b. Pursuant to 40 CFR 63.307(c), the flare shall be operated with no visible emissions, as determined by the methods specified in 40 CFR 63.309(h)(1), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

7.2.3-9 Applicable Standards: Coke Handling Operations

a. 35 IAC 212.316(b)

Emission Limitation for Crushing and Screening Operations. No person shall cause or allow fugitive particulate matter emissions generated by the crushing or screening of slag, stone, coke or coal to exceed an opacity of 10 percent.

b. 35 IAC 212.316(f)

The following limit is applied for conveyor transfer points:

Emission Limitation for All Other Emission Units. Unless an emission unit has been assigned a particulate matter, PM-10, or fugitive particulate matter emissions limitation elsewhere in this Section or in Subparts R or S of 25 IAC Part 212, no person shall cause or allow fugitive particulate matter emissions from any emission unit to exceed an opacity of 20 percent.

7.2.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture, pursuant to 35 IAC 212.324 (a)(3).

b. Except where noted, 35 IAC 212.321 and 35 IAC 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452 [35 IAC 212.441].

c. ~~c~~The affected coke oven operations are not the fuel combustion emission units/sources as defined in 35 IAC 211.2470 and therefore not subject to the fuel combustion emission regulations addressed in 35 IAC Parts 212, 214, 216 and 217.

d. See also Condition 5.4(c).

7.2.5-1 Work Practices: Coking and Soaking Plans (40 CFR 63.7291 and 63.7294)

a. The Permittee shall comply with the work practice standards for fugitive pushing emissions as specified by 40 CFR 63.7291. In particular:

i. The Permittee shall observe and record the opacity of fugitive pushing emissions as required by 40 CFR 63.7291(a)(1), (a)(2), (a)(3) and (a)(4).

ii. The Permittee shall undertake timely corrective action(s) in the event that the opacity of fugitive pushing emissions exceeds the applicable limit, as required by 40 CFR 63.7291(a)(5) through (a)(7).

iii. Pursuant to 40 CFR 63.7291(b), the Permittee may request to use an alternative to the work practice standards in 40 CFR 63.7291(a) using the procedure provided in 40 CFR 63.6(g).

b. i. Pursuant to 40 CFR 63.7294(a), the Permittee shall operate the coke ovens pursuant to a written work practice plan for soaking (soaking plan), which includes the measures specified by 40 CFR 63.7294(a). For this purpose, an initial soaking plan shall be submitted to the Illinois EPA for review prior to resumption of operation of the battery based on design information and supplemented as needed with a revised soaking plan. The revised soaking plan shall be based on actual observations of the operation of the battery submitted by July 1, 2006 or within 120 days of resumption of operation of the battery, whichever is later.

ii. Pursuant to 40 CFR 63.7294(a)(4) and (5), if soaking emissions are caused by leaks from the collecting main, the Permittee shall take corrective actions to eliminate soaking emissions in accordance with the actions identified in the soaking work plan. If soaking emissions are not caused by leaks, the Permittee must determine whether the soaking emissions are due to incomplete coking. If incomplete coking is the cause of the soaking emissions, the Permittee must put the oven back on the collecting main until it is completely coked or the Permittee must ignite the standpipe emissions as specified by 40 CFR 63.7294(a)(4) and (5).

iii. Pursuant to 40 CFR 63.7294(b), the Permittee may request to use an alternative to the work practice standards in 40 CFR 63.7294(a) using the above procedure provided in 40 CFR 63.6(g).

7.2.5-2 <u>Work Practice Plan (40 CFR 63.306)</u>

a. Pursuant to 40 CFR 63.306(a), for affected units subject to the NESHAP, 40 CFR 63 Subpart L, the Permittee shall maintain a written emission control work practice plan (work practice plan) for the affected battery designed to achieve compliance with visible emission limitations for doors, topside port lids, offtake systems, and charging operations under 40 CFR Subpart L. As provided by 40 CFR 63.306(a)(3), failure to

implement one or more obligations under the plan and/or any recordkeeping requirement(s) under 40 CFR 63.311(f)(4) for an emission point during a particular day is a single violation.

b. Pursuant to 40 CFR 63.306(a)(1) and (b), the Permittee shall organize the work practice plan to indicate clearly which parts of the plan pertain to each emission point subject to visible emission standards under 40 CFR Subpart L. Each of the following provisions, at a minimum, shall be addressed in the plan in sufficient detail and with sufficient specificity to allow USEPA and the Illinois EPA to evaluate the plan for completeness and enforceability:

i. An initial and refresher training program for all coke plant operating personnel with responsibilities that impact emissions, including contractors, in job requirements related to emission control and the requirements of 40 CFR Subpart L, including work practice requirements, that includes all the elements specified by 40 CFR 63.306(b)(1). Contractors with responsibilities that impact emission control may be trained by the Permittee or by qualified contractor personnel; however, the Permittee shall ensure that the contractor training program complies with the requirements of 40 CFR 63.306(b)(1).

ii. Procedures for controlling emissions from coke oven doors, including the elements specified by 40 CFR 63.306(b)(2).

iii. Procedures for controlling emissions from charging operations, including the elements specified by 40 CFR 63.306(b)(3).

iv. Procedures for controlling emissions from topside port lids, including the elements specified by 40 CFR 63.306(b)(4).

v. Procedures for controlling emissions from offtake system(s), including the elements specified by 40 CFR 63.306(b)(5).

vi. Procedures for each emission point subject to visible emission limitations under 40 CFR 63 Subpart L for maintaining, a daily record of the performance of plan requirements pertaining to the daily operation of the battery and its emission control equipment, including the elements specified by 40 CFR 63.306(b)(7).

vii. Any additional work practices or requirements specified by the USEPA or Illinois EPA pursuant to 40 CFR 63.306(d).

c. Pursuant to 40 CFR 63.306(c) the Permittee shall implement the provisions of the work practice plan pertaining to a particular emission point:

i. Following the second independent exceedance of the visible emission limitation for the emission point in any consecutive 6-month period, by no later than 3 days after receipt of written notification of the second such exceedance from the certified observer. For this purpose, the second exceedance is "independent" if the criteria of 40 CFR 63.306(c)(1)(i)(A), (B) or (C) are met.

ii. And continue to implement such plan provisions until the visible emission limitation for the emission point is achieved for 90 consecutive days. After the visible emission limitation for a particular emission point is achieved for 90 consecutive days, any exceedances prior to the beginning of the 90 days are not included in making the above determination of exceedances.

~~d. Revisions to the work practice plan are subject to the provisions in 40 CFR 63.306(a)(2) and (d), which provide that the Permittee shall submit any revision of the plan to the USEPA and Illinois EPA and that in certain circumstances, upon request by the USEPA or Illinois EPA, the Permittee shall expeditiously review and revise as needed the work practice plan for a particular emission point and the USEPA or Illinois EPA may disapprove a plan revision if it determines that the revised plan is inadequate.~~

d. Revisions to the work practice plan shall be done in accordance with 40 CFR 63.306(d) and (a)(2).

7.2.5-3 Work Practices: Startup, Shutdown and Malfunction Plans

a. Pursuant to 40 CFR 63.7310, for affected units subject to 40 CFR 63 Subpart CCCCC:

i. The Permittee shall comply with the emission limitations, work practice standards, and operating and maintenance requirements of 40 CFR 63 Subpart CCCCC, at all times except periods of startup, shutdown, and malfunction as defined at 40 CFR 63.2.

ii. The Permittee shall develop and implement a written startup, shutdown and malfunction plan according to the provisions in 40 CFR 63.6(e)(3).

b. Pursuant to 40 CFR 63.310, for affected units subject to 40 CFR 63 Subpart L:

i. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain the affected units, and associated pollution

control equipment, in a manner consistent with good air pollution control practices (supported by the recordkeeping of the maintenance activities performed) for minimizing emissions to the levels required by standards under 40 CFR Subpart L. Failure to adhere to the requirement of 40 CFR 63.310 shall not constitute a separate violation if a violation of an applicable performance or work practice standard has also occurred [40 CFR 63.310(a)].

ii. The Permittee shall develop and implement according to 40 CFR 63.310(c), a written startup, shutdown, and malfunction plan that describes procedures for operating the affected units, including associated air pollution control equipment, during a period of a startup, shutdown, or malfunction in a manner consistent with good air pollution control practices for minimizing emissions, and procedures for correcting malfunctioning process and air pollution control equipment as quickly as practicable [40 CFR 63.310(b)].

iii. Pursuant to 40 CFR 63.310(c), during a period of startup, shutdown, or malfunction the Permittee shall operate the battery (including associated air pollution control equipment) in accordance with the procedure specified in the startup, shutdown, and malfunction plan; and malfunctions shall be corrected as soon as practicable after their occurrence, in accordance with the plan.

iv. To satisfy the requirement for a startup, shutdown, and malfunction plan, the Permittee may use the standard operating procedures manual for the battery, provided the manual meets all the requirements of 40 CFR 63.310 and is made available for inspection at reasonable times when requested by the Administrator (USEPA) or Illinois EPA, as provided by 40 CFR 63.310(g).

v. The USEPA or Illinois EPA may require reasonable revisions to a startup, shutdown, and malfunction plan as provided by 40 CFR 63.310(h).

vi. Pursuant to 40 CR 63.310((i), if the Permittee demonstrates to the satisfaction of the Administrator (USEPA and Illinois EPA) that a startup, shutdown, or malfunction has occurred, then an observation occurring during such startup, shutdown, or malfunction shall not:

A. Constitute a violation of relevant requirements of 40 CFR 63 Subpart L;

B. Be used in any compliance determination under 40 CFR 63.309; or

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C. Be considered for purposes of 40 CFR 63.306 (the work practice plan), until the Administrator (USEPA and Illinois EPA) has resolved the claim that a startup, shutdown, or malfunction has occurred, as further provided by 40 CFR 63.310(i)(3).

vii. The Permittee shall maintain all records related to startup, shutdown and malfunction, including internal reports which form the basis of each malfunction notification under 40 CFR 63.310(d) as required by 40 CFR 63.310(f).

7.2.5-4 Work Practices: Operation during Shutdown and Malfunction

Subject to the following terms and conditions, the Permittee is authorized to continue operation of the affected coke oven batteries in violation of the applicable state standards in Condition 7.2.3 in the event of a malfunction or breakdown of the affected units and applicable control practices. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent risk of injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns. This authorization supersedes the general prohibition in Condition 9.2.3 against continued operation in such circumstances.

a. This authorization only allows such continued operation as necessary to provide essential service or to prevent risk of injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.

b. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practical repair the affected emission/process units and/or applicable control practices.

c. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.2.11 and 7.2.12. For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the affected emission unit(s) out of service.

d. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply

with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.

e. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.2.5-5 The coke handling operations shall be operated in accordance with the provisions of the Fugitive Particulate Matter Operating Program (see also Condition 5.3.3) as required by 35 IAC 212.309 and 212.310.

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7.2.6 Production and Emission Limitations

a. i. The amount of coal charged to the affected Battery "B" shall not exceed 454,000 tons per year. This limit was established in construction permit C808048.

ii. Emissions and operation of equipment shall not exceed the following limits:

Equipment	PM Emissions	
	Lb/hr	T/yr
PCS Cars #3 and #4	4.2	18.3

iii. The above limitations were established in Permit 88070071, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

iv. Compliance with annual limits shall be determined on a calendar year basis [T1].

b. i. Supplementary natural gas usage for the coke ovens pursuant shall not exceed 20 million scf/month and 123 million scf/yr [T1].

ii. Emissions of carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter (PM), volatile organic materials (VOM), and nitrogen oxides (NO_x) shall not exceed 50, 20, 7.5, 20, and 20 Tons/yr, respectively [T1].

iii. The above limitations were established in Permit 04110018 pursuant to PSD and issued for installation of a blending station for the purpose of blending natural gas and coke oven gas on the under-fire system for the coke oven batteries. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

iv. ~~iv.~~ Compliance with annual limits shall be determined on a calendar year basis [T1].

v. Upon commencement of operation of a new cogeneration boiler described in permit 06070023, the emission limitations for blending operations from above are no longer valid and shall be substituted with much lower limits from the permit 06070023, Condition 2.6.2.

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7.2.7-1 Inspection Requirements

a. Pursuant to 40 CFR 63.308, for the collecting mains, the Permittee shall conduct daily inspections for leaks and promptly repair any leaks as specified by 40 CFR 63.308(a) through (d).

b. Implement inspection procedures of coke oven doors as established by 40 CFR 63.306(b)(2) and required to be included into the work practice plan specified in 40 CFR 63.306.

c. Pursuant to 40 CFR 63.7295(b), for the quench tower, the Permittee shall perform inspections on at least a monthly basis for damaged or missing baffles and initiate repair or replacement within 30 days, which shall be completed as soon as practicable, as specified by 40 CFR 63.7295(b)(3) and (4).

7.2.7-2 Measurement Requirements

a. Pursuant to 35 IAC 212.443(h)(3), the quench water shall be sampled for total dissolved solids concentrations in accordance with the methods specified in Standard Methods for the Examination of Water and Wastewater, Section 209C, "Total Filtrable Residue Dried at 103-105°C" 15th Edition, 1980, incorporated by reference in 35 IAC 212.113. Analyses shall be performed on grab samples of the quench water as applied to the coke. Samples shall be collected a minimum of five days per week per quench tower and analyzed to report a weekly concentration. The samples for each week shall be analyzed either:

i. Separately, with the average of the individual daily concentrations determined; or

ii. As one composite sample, with equal volumes of the individual daily samples combined to form the composite sample.

b. Pursuant to 40 CFR 63.7333(f), the Permittee shall sample and analyze quench water for total dissolved solids on at least a weekly basis in accordance with the procedures specified by 40 CFR 63.7325(a).

7.2.7-3 Testing Requirements

a. i. Pursuant to 40 CFR 63.309(a), daily performance tests shall be conducted by a certified observer each day, 7 days per week for the affected battery, as specified by 40 CFR 63.309, the results of which shall be used in accordance with procedures specified in 40 CFR 63 Subpart L to determine compliance with each of the applicable visible emission limitations for coke oven doors, topside port lids, offtake systems, and charging operations in 40 CFR 63 Subpart L.

ii. The Permittee shall enter into a contract providing for the inspections and performance tests required under the NESHAP, 40 CFR 63 Subpart L, to be performed by a Method 303 certified observer. The inspections and performance tests will be conducted at the expense of the Permittee, during the period that the USEPA is the implementing agency [40 CFR 63.309(a)(5)(ii)].

~~Note: As the Illinois EPA has not entered into a delegation agreement with USEPA for the NESHAP, 40 CFR 63 Subpart L, the USEPA is the enforcement authority for provisions of 40 CFR 63 Subpart L related to the certified observer. If the Illinois EPA were to enter into such a delegation agreement, the Permittee would have to pay an inspection fee to the Illinois EPA in accordance with 40 CFR 63.309(a)(4) to defray the cost of the daily performance tests required under 40 CFR 63.309(a)~~

A. The certified observer shall conduct daily performance tests according to the requirements specified in 40 CFR 63.309(c).

B. Pursuant to 40 CFR 63.309(c)(3), upon request of the certified observer the Permittee shall demonstrate pursuant to Reference Method 303 the accuracy of the pressure measurement device for the collecting mains and shall not adjust the pressure to a level below the range of normal operation during or prior to the inspection.

C. In no case shall the owner or operator knowingly block a coke oven door, or any portion of a door for the purpose of concealing emissions or

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preventing observations by the certified observer, as prohibited by 40 CFR 63.309(c)(6).

D. 1. Pursuant to 40 CFR 63.309(e), the certified observer shall make available to the implementing agency and Illinois EPA, as well as to the Permittee, a copy of the daily inspection results by the end of the day and shall make available the calculated rolling average for each emission point to the Permittee as soon as practicable following each performance test. The information provided by the certified observer is not a compliance determination.

2. Pursuant to 40 CFR 63.306(d)(3), if the certified observer calculates that a second exceedance (or if applicable, a second independent exceedance) has occurred, the certified observer shall notify the Permittee. No later than 10 days after receipt of such notification, the Permittee shall notify the administrator (USEPA) and Illinois EPA of any finding of whether work practices are related to the cause or solution of the problem.

Note: Pursuant to 40 CFR 63.306(d)(6), the reviewing authority (USEPA) may disapprove the submitted finding if it determines that a revised work practice plan is needed to prevent exceedances of the applicable visible emission limitations.

iii. Pursuant to 40 CFR 63.309(f), compliance with the NESHAP, 40 CFR 63 Subpart L shall not be determined more often than the schedule provided for performance tests under 40 CFR 63.309. If additional valid emissions observations are obtained (or in the case of charging, valid sets of emission observations), the arithmetic average of all valid values (or valid sets of values) obtained during the day shall be used in any computations performed to determine compliance under 40 CFR 63.309(d) or determinations under 40 CFR 63.306.

iv. Pursuant to 40 CFR 63.309(i), no observations obtained during any program for training or for certifying observers under 40 CFR 63 Subpart L shall be used to determine compliance with the requirements of 40 CFR 63 Subpart L or any other federally enforceable standard.

v. Pursuant to 40 CFR 63.309(h)(1), for a flare installed to meet the requirements of 40 CFR 63.307(b) (see Condition 7.2.3-8(b)):

Compliance with the provisions in 40 CFR 63.307(c) (visible emissions for flares) shall be determined using Method 22 in appendix A to 40 CFR Part 60, with an observation period of 2 hours.

b. Testing requirements established by 40 CFR Subpart CCCCC:

i. Tests for initial compliance demonstration shall be performed in accordance with 40 CFR 63.7320(a), (b) and (c).

ii. Pursuant to 40 CFR 63.7321, for each control device subject to an emission limit for particulate matter in 40 CFR 63.7290(a), the Permittee must conduct subsequent performance tests no less frequently than twice (at mid-term and renewal) during each term of the Title V operating permit.

iii. The Permittee must conduct each performance test that applies to the source according to the following requirements in 40 CFR 63.7322:

To determine compliance with a process-weighted mass rate of particulate matter (lb/ton of coke) from a control device applied to pushing emissions where a cokeside shed is not used, follow these test methods and procedures:

A. Determine the concentration of particulate matter according to the following test methods in Appendix A to 40 CFR part 60.

1. Method 1 to select sampling port locations and the number of traverse points. Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

2. Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

3. Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

4. Method 4 to determine the moisture content of the stack gas.

5. Method 5 or 5D, as applicable, to determine the concentration of front half particulate matter in the stack gas.

B. During each particulate matter test run, sample only during periods of actual pushing when the capture system fan and control device are engaged. Collect a minimum sample volume of 30 dry standard cubic feet of gas during each test run. Three valid test runs are needed to comprise a performance test. Each run must start at the beginning of a push and finish at the end of a push (*i.e.*, sample for an integral number of pushes).

C. Determine the total combined weight in tons of coke pushed during the duration of each test run according to the procedures in the Permittee's source test plan for calculating coke yield from the quantity of coal charged to an individual oven.

D. Compute the process-weighted mass emissions (E_p) for each test run using the following equation:

$$E_p = \frac{C \times Q \times T}{P \times K} \qquad \text{(Eq. 1)}$$

$$E_p = \frac{C \times Q \times T}{P \times K} \qquad \text{(Eq. 1)}$$

Where:
E_p = Process weighted mass emissions of particulate matter, lb/ton;
C = Concentration of particulate matter, gr/dscf;
Q = Volumetric flow rate of stack gas, dscf/hr;
T = Total time during a run that a sample is withdrawn from the stack during pushing, hr;
P = Total amount of coke pushed during the test run, tons; and
K = Conversion factor, 7,000 gr/lb.

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iv. A. For compliance demonstration with opacity limits, the Permittee must conduct each performance test that applies to the affected source according to the following requirements in 40 CFR 63.7324(b):

To determine compliance with the daily average opacity limit for stacks of 15 percent for a by-product coke oven battery on a normal coking cycle or 20 percent for a by-product coke oven battery on batterywide extended coking, follow the test methods and procedures outlined below:

1. Using the continuous opacity monitoring system (COMS) required in 40 CFR 63.7330(e), measure and record the opacity of emissions from each battery stack for a 24-hour period.

2. Reduce the monitoring data to hourly averages as specified in 40 CFR 63.8(g)(2).

3. Compute and record the 24-hour (daily) average of the COMS data.

v. A. If the Permittee elects the TDS limit for quench water in 40 CFR 63.7295(a)(1)(i), the Permittee must conduct each performance test that applies to the affected source according to the following conditions in 40 CFR 63.7325 (a)(1) and (2):

1. Take the quench water sample from a location that provides a representative sample of the quench water as applied to the coke (*e.g.*, from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions.

2. Determine the TDS concentration of the sample using Method 160.1 in 40 CFR part 136.3 (see residue—filterable"), except that you must dry the total filterable residue at 103 to 105°C (degrees Centigrade) instead of 180°C.

B. If at any time the Permittee elects to meet the alternative requirements for quench water in 40 CFR 63.7295(a)(1)(ii), the Permittee must establish a site-specific constituent limit according to the following procedures in 40 CFR 63.7325(b)(1) through (4):

1. Take a minimum of nine quench water samples from a location that provides a representative sample of the quench water as applied to the coke (*e.g.*, from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions.

2. For each sample, determine the TDS concentration according to the requirements

in 40 CFR 63.7325 (a)(2) and the concentration of benzene, benzo(a)pyrene, and naphthalene using the applicable methods in 40 CFR part 136 or an approved alternative method.

3. Determine and record the highest sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in any sample that has a TDS concentration less than or equal to the TDS limit of 1,100 mg/L. This concentration is the site-specific constituent limit.

4. Submit the site-specific limit, sampling results, and all supporting data and calculations to the Permittee's permitting authority for review and approval.

C. If the Permittee elects the constituent limit for quench water in 40 CFR 63.7295(a)(1)(ii), the Permittee must conduct each performance test that applies to affected source according to the following conditions in 40 CFR 63.7325(c)(1) and (2):

1. Take a quench water sample from a location that provides a representative sample of the quench water as applied to the coke (*e.g.*, from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions.

2. Determine the sum of the concentration of benzene, benzo(a)pyrene, and naphthalene in the sample using the applicable methods in 40 CFR part 136 or an approved alternative method.

c. i. Pursuant to 35 IAC 212.443(c)(1)(A), opacity readings for pushing uncontrolled emissions shall be taken at 15-second intervals, beginning from the time the coke falls into the receiving car or is first visible as it emerges from the coke guide whichever occurs earlier, until the receiving car enters the quench tower or quenching device. For a push of less than 90 seconds duration, the actual number of 15-second readings shall be averaged.

ii. Pursuant to 35 IAC 212.443(c)(1)(B), opacity readings for pushing uncontrolled emissions shall be taken by a qualified observer located in a position where the oven being pushed, the coke receiving car and the path to the

quench tower are visible. The opacity shall be read as the emissions rise and clear the top of the coke battery gas mains. The qualified observer shall record opacity readings of emissions originating at the receiving car and associated equipment and the coke oven, including the standpipe on the coke side of the oven being pushed. Opacity readings shall be taken in accordance with the procedures set forth in 40 CFR Part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113, except that Section 2.5 for date reduction shall not be used. The qualified observer referenced in this subsection shall be certified pursuant to 40 CFR part 60, Appendix A, Method 9, incorporated by reference in Section 212.113. THE PROVISIONS OF SECTION 111 OF THE CLEAN AIR ACT...RELATING TO STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES...ARE APPLICABLE IN THIS STATE AND ARE ENFORCEABLE UNDER THE ACT [415 ILCS 5/9.1(b)].

d. Coke Oven Underfiring (combustion stacks)

i. One year before renewal date of this CAAPP permit, the Permittee shall conduct performance test(s) and furnish the Illinois EPA a written report of the results of such test(s).

ii. These tests shall be designed to measure the PM, VOM, CO and NO_x emissions from the coke ovens combustion stacks under conditions which are representative of maximum emissions.

iii. The following USEPA test methods shall be used for testing of emissions, unless another method is approved by the Illinois EPA. Refer to 40 CFR 51, Appendix M, and 40 CFR 60, Appendix A, for test methods.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
PM	Method 5
VOM	Method 18 or 25A
CO	Method 10
NO_x	Method 7

iv. Test notification and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

e. Testing conditions are established pursuant to 39.5(7)(d) and (p) of the Act.

7.2.8 Operating Limits

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a. The Permittee shall establish the following operating limits, pursuant to 40 CFR 63.7323:

i. For a venturi scrubber applied to pushing emissions from a coke oven battery, the Permittee must establish site-specific operating limits for pressure drop and scrubber water flow rate according to the procedures in 40 CFR 63.7323(a)(1) and (2) as described below:

A. Using the continuous parameter monitoring systems (CPMS) required in 40 CFR 63.7330(b), measure and record the pressure drop and scrubber water flow rate for each particulate matter test run during periods of pushing. A minimum of one pressure drop measurement and one scrubber water flow rate measurement must be obtained for each push.

B. Compute and record the average pressure drop and scrubber water flow rate for each test run. Your operating limits are the lowest average pressure drop and scrubber water flow rate values recorded during any of the three runs that meet the applicable emission limit.

ii. For a capture system applied to pushing emissions from a coke oven battery, the Permittee must establish a site-specific operating limit according to the procedures in 40 CFR 63.7323(c)(1), (2), or (3) as described below:

A. If the Permittee elects the operating limit in 40 CFR 63.7290(b)(3) for volumetric flow rate, measure and record the total volumetric flow rate at the inlet of the control device during each push sampled for each particulate matter test run. This operating limit is the lowest volumetric flow rate recorded during any of the three runs that meet the emission limit.

B. If the Permittee elects the operating limit in 40 CFR 63.7290(b)(3)(i) for fan motor amperes, measure and record the fan motor amperes during each push sampled for each particulate matter test run. This operating limit is the lowest fan motor amperes recorded during any of the three runs that meet the emission limit.

C. If the Permittee elects the operating limit in 40 CFR 63.7290(b)(3)(ii) for static pressure or fan RPM, measure and record the static pressure at the inlet of the control device or fan RPM during each push sampled for each particulate matter test run. This operating limit for static pressure is the minimum vacuum recorded during any of the three runs that meets the emission limit. This operating

limit for fan RPM is the lowest fan RPM recorded during any of the three runs that meets the emission limit.

iii. The Permittee may change the operating limit for a venturi scrubber, capture system, or mobile control device that captures emissions during pushing if the Permittee meets the requirements in 40 CFR 63.7323 (e)(1) through (3) as described below:

A. Submit a written notification to the Administrator of Permittee's request to conduct a new performance test to revise the operating limit.

B. Conduct a performance test to demonstrate that emissions of particulate matter from the control device do not exceed the applicable limit in 40 CFR 63.7290(a).

C. Establish revised operating limits according to the applicable procedures in 40 CFR 63.7323.

7.2.9 Monitoring Requirements

a. For pushing, the Permittee shall at all times conduct continuous monitoring as follows, pursuant to the following of 40 CFR 63.7330(b) and 63.7330(d):

i. For each venturi scrubber applied to pushing emissions, the Permittee must at all times monitor the pressure drop and water flow rate using a CPMS according to the requirements in 40 CFR 63.7331(e).

ii. For each capture system applied to pushing emissions, the Permittee must at all times monitor the volumetric flow rate according to the requirements in 40 CFR 63.7331(g), the fan motor amperes according to the requirements in 40 CFR 63.7331(h), or the static pressure or the fan RPM according to the requirements in 40 CFR 63.7331(i).

b. For each by-product coke oven battery, the Permittee must monitor at all times the opacity of emissions exiting each stack using a COMS according to the requirements in 40 CFR 63.7331(j) [40 CFR 63.7330(e)].

c. Installation, operation, and maintenance requirements for the monitors [40 CFR 63.7331]:

i. For each CPMS required in 40 CFR 63.7330, the Permittee must develop and make available for inspection upon request by the permitting authority a site-specific monitoring plan that addresses the following requirements of 40 CFR 63.7331(b)(1) through (6):

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A. Installation of the CPMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.*, on or downstream of the last control device);

B. Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system;

C. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations);

D. Ongoing operation and maintenance procedures in accordance with the general requirements of ~~§§~~40 CFR 63.8(c)(1), (3), (4)(ii), (7), and (8);

E. Ongoing data quality assurance procedures in accordance with the general requirements of ~~§~~40 CFR 63.8(d); and

F. Ongoing recordkeeping and reporting procedures in accordance the general requirements of ~~§§~~40 CFR 63.10(c), (e)(1), and (e)(2)(i).

ii. The Permittee must conduct a performance evaluation of each CPMS in accordance with a site-specific monitoring plan [40 CFR 63.7331(c)].

iii. The Permittee must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan [40 CFR 63.7331(d)].

iv. For each venturi scrubber applied to pushing emissions, the Permittee must ~~install,~~ operate, and maintain the CPMS to measure and record the pressure drop across the scrubber and scrubber water flow rate during each push according to the requirements in 40 CFR 63.7331(b) through (d) except as specified in 40 CFR 63.7331 (e)(1) through (3) and specified below:

A. Each CPMS must complete a measurement at least once per push;

B. Each CPMS must produce valid data for all pushes; and

C. Each CPMS must determine and record the daily (24-hour) average of all recorded readings.

v. If the Permittee elects the operating limit in 40 CFR 63.7290(b)(3) for a capture system applied to pushing emissions, the Permittee must install, operate, and maintain a device to measure the total volumetric flow rate at the inlet of the control device [40 CFR 63.7331(g)].

vi. If the Permittee elects the operating limit in 40 CFR 63.7290(b)(3)(i) for a capture system applied to pushing emissions, the Permittee must install, operate, and maintain a device to measure the fan motor amperes [40 CFR 63.7331(h)].

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vii. If the Permittee elects the operating limit in 40 CFR 63.7290(b)(3)(ii) for a capture system applied to pushing emissions, then the Permittee must install, operate and maintain a device to measure static pressure at the inlet of the control device or the fan RPM [40 CFR 63.7331(i)].

viii. For each by-product coke oven battery, the Permittee must ~~install,~~ operate~~,~~ and maintain a COMS to measure and record the opacity of emissions exiting each stack according to the requirements in 40 CFR 63.7331(j)(1) through (5) and the following below:

A. The Permittee must install, operate, and maintain each COMS according to the requirements in 40 CFR 63.8(e) and Performance Specification 1 in 40 CFR Part 60, Appendix B. The Permittee shall identify periods the COMS is out-of-control, including any periods that the COMS fails to pass a daily calibration drift assessment, quarterly performance audit, or annual zero alignment audit.

B. The Permittee must conduct a performance evaluation of each COMS according to the requirements in 40 CFR 63.8 and Performance Specification 1 in appendix B to 40 CFR Part 60.

C. The Permittee must develop and implement a quality control program for operating and maintaining each COMS according to the requirements in 40 CFR 63.8(d). At minimum, the quality control program must include a daily calibration drift assessment, quarterly performance audit, and an annual zero alignment audit of each COMS.

D. Each COMS installed, operated and maintained by the Permittee must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for

each successive 6-minute period. The Permittee must reduce the COMS data as specified in 40 CFR 63.8(g)(2).

E. The Permittee must determine and record the hourly and daily (24-hour) average opacity according to the procedures in 40 CFR 63.7324(b) using all the 6-minute averages collected for periods during which the COMS is not out-of-control.

f. The Permittee shall continuously monitor the following operating parameters of scrubbers #3 and #4, as established in the current version of the site-specific monitoring plan:

i. Pressure drop measuring system;
ii. Water flow rate measuring system; and
iii. Fan motor revolution per minute (rpm) measuring system.

7.2.10 Continuous Compliance Demonstration Requirements

a. With emission limitations [40 CFR 63.7333]:

i. For each control device applied to pushing emissions and subject to the emission limit in 40 CFR 63.7290(a), the Permittee must demonstrate continuous compliance by meeting the following requirements in 40 CFR 63.7333 (a)(1)and (2):

A. Maintaining emissions of particulate matter at or below the applicable limits in 40 CFR 63.7290(a)(1) through (4); and

B. Conducting subsequent performance tests to demonstrate continuous compliance no less frequently than twice during each term of the Title V operating permit (at mid-term and renewal).

ii. For each venturi scrubber applied to pushing emissions and subject to the operating limits in 40 CFR 63.7290(b)(1), the Permittee must demonstrate continuous compliance by meeting the following requirements in 40 CFR 63.7333 (b)(1) through (3):

A. Maintaining the daily average pressure drop and scrubber water flow rate at levels no lower than those established during the initial or subsequent performance test.

B. Operating and maintaining each CPMS according to 40 CFR 63.7331(b) and recording all information

needed to document conformance with these requirements.

C. Collecting and reducing monitoring data for pressure drop and scrubber water flow rate according to 40 CFR 63.7331(e)(1) through (3).

iii. For each capture system applied to pushing emissions and subject to the operating limit in 40 CFR 63.7290(b)(3), the Permittee must demonstrate continuous compliance by meeting the following requirements in 40 CFR 63.7333 (d)(1), (2), or (3):

A. If the Permittee elects the operating limit for volumetric flow rate in 40 CFR 63.7290(b)(3):

1. Maintaining the daily average volumetric flow rate at the inlet of the control device at or above the minimum level established during the initial or subsequent performance test; and

2. Checking the volumetric flow rate at least every 8 hours to verify the daily average is at or above the minimum level established during the initial or subsequent performance test and recording the results of each check.

B. If the Permittee elects the operating limit for fan motor amperes in 40 CFR 63.7290(b)(3)(i):

1. Maintaining the daily average fan motor amperages at or above the minimum level established during the initial or subsequent performance test; and

2. Checking the fan motor amperage at least every 8 hours to verify the daily average is at or above the minimum level established during the initial or subsequent performance test and recording the results of each check.

C. If the Permittee elects the operating limit for static pressure or fan RPM in 40 CFR 63.7290(b)(3)(ii):

1. Maintaining the daily average static pressure at the inlet to the control device at an equal or greater vacuum than

established during the initial or subsequent performance test or the daily average fan RPM at or above the minimum level established during the initial or subsequent performance test; and

2. Checking the static pressure or fan RPM at least every 8 hours to verify the daily average static pressure at the inlet to the control device is at an equal or greater vacuum than established during the initial or subsequent performance test or the daily average fan RPM is at or above the minimum level established during the initial or subsequent performance test and recording the results of each check.

iv. Beginning on the first day compliance is required under 40 CFR 63.7283, the Permittee must demonstrate continuous compliance for each by-product coke oven battery subject to the opacity limit for stacks in 40 CFR 63.7296(a) by meeting the following requirements in 40 CFR 63.7333(e)(1) and (2):

A. Maintaining the daily average opacity at or below 15 percent for a battery on a normal coking cycle or 20 percent for a battery on batterywide extended coking; and

B. Operating and maintaining a COMS and collecting and reducing the COMS data according to 40 CFR 63.7331(j).

v. Beginning on the first day compliance is required under 40 CFR 63.7283, the Permittee must demonstrate continuous compliance with the TDS limit for quenching in 40 CFR 63.7295(a)(1)(i) by meeting the following requirements in 40 CFR 63.7333(f)(1) and (2):

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A. Maintaining the TDS content of the water used to quench hot coke at 1,100 mg/L or less; and

B. Determining the TDS content of the quench water at least weekly according to the requirements in 40 CFR$ 63.7325(a) and recording the sample results.

vi. Beginning on the first day compliance is required under 40 CFR 63.7283, the Permittee must demonstrate continuous compliance with the constituent limit for quenching in 40 CFR 63.7295(a)(1)(ii) by meeting the following requirements in 40 CFR 63.7333(g)(1) and (2):

A. Maintaining the sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in the water used to quench hot coke at levels less than or equal to the site-specific limit approved by the permitting authority; and

B. Determining the sum of the constituent concentrations at least monthly according to the requirements in 40 CFR 63.7325(c) and recording the sample results.

b. Compliance with the work practice standards [40 CFR 63.7334]:

i. For each by-product coke oven battery with vertical flues subject to the work practice standards for fugitive pushing emissions in 40 CFR 63.7291(a), the Permittee must demonstrate continuous compliance according to the following requirements of 40 CFR 63.7334(a)(1) through (8):

A. The Permittee shall observe and record the opacity of fugitive emissions for four consecutive pushes per operating day, except the Permittee may make fewer or non-consecutive observations as permitted by 40 CFR 63.7291(a)(3). The Permittee shall maintain records of the pushing schedule for each oven and records indicating the legitimate operational reason for any change in the pushing schedule according to 40 CFR 63.7291(a)(4).

B. The Permittee shall observe and record the opacity of fugitive emissions from each oven in a battery at least once every 90 days. If an oven cannot be observed during a 90-day period, the Permittee shall observe and record the opacity of the first push of that oven following the close of the 90-day period that can be read in accordance with the procedures in 40 CFR 63.7334(a)(1) through (8).

C. The Permittee shall make all observations and calculations for opacity observations of fugitive pushing emissions in accordance with Method 9 in appendix A to 40 CFR part 60 using a Method 9 certified observer unless the Permittee has an approved alternative procedure under 40 CFR 63.7334(a)(7).

D. The Permittee shall record pushing opacity observations at 15-second intervals as required in section 2.4 of Method 9 Appendix A to 40 CFR part

60. The following requirements do not apply: (section 2.4 of Method 9) for a minimum of 24 observations; the data reduction requirements in (section 2.5 of Method 9); and obtaining at least 3 hours of observations (thirty 6-minute averages) to demonstrate initial compliance (40 CFR 63.6(h)(5)(ii)(B)) does not apply.

E. If fewer than six but at least four 15-second observations can be made, the Permittee shall use the average of the total number of observations to calculate average opacity for the push. Missing one or more observations during the push (*e.g.*, as the quench car passes behind a building) does not invalidate the observations before or after the interference for that push. However, a minimum of four 15-second readings must be made by the Permittee for a valid observation.

F. The Permittee shall begin observations for a push at the first detectable movement of the coke mass. The Permittee shall end observations of a push when the quench car enters the quench tower.

1. For a battery without a cokeside shed, the Permittee shall observe fugitive pushing emissions from a position at least 10 meters from the quench car that provides an unobstructed view and avoids interferences from the topside of the battery. This may require the observer to be positioned at an angle to the quench car rather than perpendicular to it. Typical interferences for the observer to avoid include emissions from open standpipes and charging. Opacity of emissions shall be observed above the battery top with the sky as the background where possible. The Permittee shall record the oven number of any push not observed because of obstructions or interferences.

2. An observer may reposition after the push to observe emissions during travel if necessary.

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G. If it is infeasible to implement the procedures in 40 CFR 63.7334 (a)(1) through (6) for an oven due to physical obstructions, nighttime pushes, or other reasons, the Permittee may apply to an appropriate permitting authority (USEPA) for permission to use an alternative procedure. The

application must provide a detailed explanation of why it is infeasible to use the procedures in 40 CFR 63.7334 (a)(1) through (6), identify the oven and battery numbers, and describe the alternative procedure. An alternative procedure must identify whether the coke in that oven is not completely coked, either before, during, or after an oven is pushed.

H. For each oven observed that exceeds an opacity of 30 percent for any short battery, the Permittee must take corrective action and/or increase the coking time in accordance with 40 CFR 63.7291(a). The Permittee shall maintain records documenting conformance with the requirements in 40 CFR 63.7291(a).

ii. For each by-product coke oven battery subject to the work practice standard for soaking in 40 63.7294(a), the Permittee must demonstrate continuous compliance by maintaining records that document conformance with requirements in 40 CFR 63.7294(a)(1) through (5) [40 CFR 63.7334(d)].

iii. For each coke oven battery subject to the work practice standard for quenching in 40 CFR 63.7295(b), the Permittee must demonstrate continuous compliance according to the following requirements of 40 CFR 63.7334(e)(1) through (3):

A. Maintaining baffles in each quench tower such that no more than 5 percent of the cross-sectional area of the tower is uncovered or open to the sky as required in 40 CFR 63.7295(b)(1);

B. Maintaining records that document conformance with the washing, inspection, and repair requirements in 40 CFR 63.7295(b)(2), including records of the ambient temperature on any day that the baffles were not washed; and

C. Maintaining records of the source of makeup water to document conformance with the requirement for acceptable makeup water in 40 CFR 63.7295(a)(2).

c. Compliance with the operation and maintenance requirements [40 CFR 63.7335]:

i. For each by-product coke oven battery, the Permittee shall demonstrate continuous compliance with the operation and maintenance requirements in 40 CFR

63.7300(b) by adhering at all times to the plan requirements and recording all information needed to document conformance [40 CFR 63.7335(a)].

ii. For each coke oven battery with a capture system or control device applied to pushing emissions, the Permittee shall demonstrate continuous compliance with the operation and maintenance requirements in 40 CFR 63.7300(c) by meeting the following requirements outlined in 40 CFR 63.7335(b):

A. Making monthly inspections of capture systems according to 40 CFR 63.7300(c)(1) and recording all information needed to document conformance with these requirements; and

B. Performing preventative maintenance for each control device according to 40 CFR 63.7300(c)(2) and recording all information needed to document conformance with these requirements~~;~~.

7.2.11 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected coke production operations, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. 40 CFR 63, Subpart CCCCC (40 CFR 63.7342 and 63.7343)

i. The Permittee shall keep the following records specified in 40 CFR 63.7342 (a)(1) through (3):

A. A copy of each notification and report that the Permittee submitted to comply with Subpart CCCCC, including all documentation supporting any initial notification or notification of compliance status that the Permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

B. The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

C. Records of performance tests, performance evaluations, and opacity observations as required in 40 CFR 63.10(b)(2)(viii).

ii. For each COMS or CEMS, the Permittee shall keep the following records specified in 40 CFR 63.7342(b)(1) through (4):

A. Records described in 40 CFR 63.10(b)(2)(vi) through (xi).

B. Monitoring data for COMS during a performance evaluation as required in 40 CFR 63.6(h)(7)(i) and (ii).

C. Previous (that is, superceded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3).

D. Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

iii. The Permittee shall keep the records in 40 CFR 63.6(h)(6) for visual observations [40 CFR 63.7342(c)].

iv. The Permittee shall keep the records required in 40 CFR 63.7333 through 63.7335 to show continuous compliance with each emission limitation, work practice standard, and operation and maintenance requirement that applies to the Permittee [40 CFR 63.7342(d)].

v. The Permittee shall keep its records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1) [40 CFR 63.7343(a)].

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vi. As specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record [40 CFR 63.7343(b)].

vii. The Permittee shall keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The Permittee may keep the records offsite for the remaining 3 years [40 CFR 63.7343(c)].

b. 40 CFR Part 63, Subpart L (40 CFR 63.311(f) and (g))

i. The Permittee shall maintain files of all required information in a permanent form suitable for inspection at an onsite location for at least 1 year and must thereafter be accessible within 3 working days to the Administrator for the time period specified in 40 CFR 70.6(a)(3)(ii)(B). Copies of the work practice plan developed under 40 CFR 63.306 and the startup, shutdown, and malfunction plan developed under 40 CFR 63.310 shall be kept onsite at all times. The Permittee shall maintain the following information:

A. A copy of the work practice plan required by 40 CFR 63.306 and any revision to the plan [40 CFR 63.311(f)(3)];

B. If the Permittee is required under 40 CFR 63.306(c) to implement the provisions of a work practice plan for a particular emission point, the following records shall be maintained by the Permittee regarding the implementation of plan requirements for that emission point during the implementation period [40 CFR 63.311(f)(4)]:

1. Copies of all written and audiovisual materials used in the training, the dates of each class, the names of the participants in each class, and documentation that all appropriate personnel have successfully completed the training required under 40 CFR 63.306(b)(1);

2. The records required to be maintained by the plan provisions implementing 40 CFR 63.306(b)(7);

3. Records resulting from audits of the effectiveness of the work practice program for the particular emission point, as required under 40 CFR 63.306(b)(2)(i), 63.306(b)(3)(i), 63.306(b)(4)(i), or 63.306(b)(5)(i); and

4. If the plan provisions for coke oven doors must be implemented, records of the inventory of doors and jambs as required under 40 CFR 63.306(b)(2)(vi).

C. The design drawings and engineering specifications for the bypass/bleeder stack flare system or approved alternative control device or system as required under 40 CFR 63.307 [40 CFR 63.311(f)(5)].

D. Records specified in 40 CFR 63.310(f) regarding the basis of each malfunction notification [40 CFR 63.311(f)(6)].

ii. Records required to be maintained and reports required to be filed with the Administrator under Subpart L shall be made available in accordance with the requirements of 40 CFR 63.311(g) by the Permittee to the authorized

collective bargaining representative of the employees at a coke oven battery, for inspection and copying.

A. Requests under 40 CFR 63.311(g) shall be submitted in writing, and shall identify the records or reports that are subject to the request with reasonable specificity;

B. The Permittee shall produce the reports for inspection and copying within a reasonable period of time, not to exceed 30 days. A reasonable fee may be charged for copying (except for the first copy of any document), which shall not exceed the copying fee charged by the Administrator under part 2 of this chapter;

C. Nothing in 40 CFR 63.311(g) section shall require the production for inspection or copying of any portion of a document that contains trade secrets or confidential business information that the Administrator would be prohibited from disclosing to the public under part 2 of this chapter; and

D. The inspection or copying of a document under 40 CFR 63.311(g) shall not in any way affect any property right of the owner or operator in such document under laws for the protection of intellectual property, including the copyright laws.

c. Records of the total annual coke production at batteries “A” and “B” (ton/yr) and separately for the battery “B”. [39.5(7)(b) of the Act].

d. Pursuant to 35 IAC 201.263 and Sections 39.5(7)(a) and (e) of the Act, the Permittee shall maintain records, related to malfunction and breakdown for affected operations that at a minimum, shall include:

i. Maintenance and repair log(s) for the affected operations that, at a minimum, address aspects or components of such operations for which malfunction or breakdown has resulted in excess emissions, which shall list the activities performed on such aspects or components, with date, description and reason for the activity. In addition, in the maintenance and repair log(s) for control equipment, the Permittee shall also list the reason for the activities that are performed.

ii. Records for each incident when operation of an affected process continued during malfunction or breakdown, including continued operation with excess emissions as

addressed by Condition 7.2.3, that include the following information:

A. Date and duration of malfunction or breakdown.

B. A description of the malfunction or breakdown.

C. The corrective actions used to reduce the quantity of emissions and the duration of the incident.

D. If excess emissions occurred for two or more hours:

1. A detailed explanation why continued operation of the affected operation was necessary.

2. A detailed explanation of the preventative measures planned or taken to prevent similar malfunctions or breakdowns or to reduce their frequency and severity.

3. An estimate of the magnitude of excess emissions occurring during the incident.

e. Records of the annual emissions released from the affected coke oven operations. These emissions shall be calculated in accordance with recommendations given in Condition 5.12.1(b).

g. Records of annual emissions as addressed in Condition 7.2.6(b)(ii) [39.5(7)(b),(d) and (p)].

h. Records of all test results required by Section 7.2 of this permit.

7.2.12 Reporting Requirements

a. 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7341)

i. Compliance report due dates. Unless the Administrator has approved a different schedule, the Permittee shall submit quarterly compliance reports for battery stacks and semiannual compliance reports for all other affected sources to the permitting authority according to the following requirements in 40 CFR 63.7341(a)(1) through (4):

A. The first quarterly compliance report for battery stacks must cover the period beginning on the compliance date and ending on the last date of the third calendar month. Each subsequent compliance report must cover the next calendar quarter.

B. The first semiannual compliance report must cover the period beginning on the compliance date and ending on June 30 or December 31, whichever date

comes first after the compliance date. Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

C. All quarterly compliance reports for battery stacks must be postmarked or delivered no later than one calendar month following the end of the quarterly reporting period. All semiannual compliance reports must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

D. For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), the Permittee may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in 40 CFR 63.7341(a)(1) through (3).

ii. Quarterly compliance report contents. Each quarterly report must provide information on compliance with the emission limitations for battery stacks in 40 CFR 63.7296. The reports must include the information in 40 CFR 63.7341(c)(1) through (3), and as applicable, paragraphs (c)(4) through (8).

iii. Semiannual compliance report contents. Each compliance report must provide information on compliance with the emission limitations, work practice standards, and operation and maintenance requirements for all affected sources except battery stacks. The reports must include the following information [40 CFR 63.7341(c)]:

A. Company name and address.

B. Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

C. Date of report and beginning and ending dates of the reporting period.

D. If the Permittee had a startup, shutdown, or malfunction during the reporting period and the

Permittee took actions consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR 63.10(d)(5)(i).

E. If there were no deviations from the continuous compliance requirements in 40 CFR 63.7333(e) for battery stacks, a statement that there were no deviations from the emission limitations during the reporting period. If there were no deviations from the continuous compliance requirements in 40 CFR 63.7333 through 63.7335 that apply to the Permittee (for all affected sources other than battery stacks), a statement that there were no deviations from the emission limitations, work practice standards, or operation and maintenance requirements during the reporting period.

F. If there were no periods during which a continuous monitoring system (including COMS, continuous emission monitoring system (CEMS), or CPMS) was out-of-control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which a continuous monitoring system was out-of-control during the reporting period.

G. For each deviation from an emission limitation in Subpart CCCCC (including quench water limits) and for each deviation from the requirements for work practice standards in Subpart CCCCC that occurs at an affected source where the Permittee is not using a continuous monitoring system (including a COMS, CEMS, or CPMS) to comply with the emission limitations in Subpart CCCCC, the compliance report must contain the following information (this includes periods of startup, shutdown, and malfunction):

1. The total operating time of each affected source during the reporting period.

2. Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

H. For each deviation from an emission limitation occurring at an affected source where the Permittee is using a continuous monitoring system (including COMS, CEMS, or CPMS) to comply with the emission limitation in Subpart CCCCC, the

Permittee shall include the following information (this includes periods of startup, shutdown, and malfunction):

1. The date and time that each malfunction started and stopped.

2. The date and time that each continuous monitoring system (including COMS, CEMS, or CPMS) was inoperative, except for zero (low-level) and high-level checks.

3. The date, time, and duration that each continuous monitoring system (including COMS, CEMS, or CPMS) was out-of-control, including the information in 40 CFR 63.8(c)(8).

4. The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

5. A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

6. A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

7. A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

8. An identification of each HAP that was monitored at the affected source.

9. A brief description of the process units.

10. A brief description of the continuous monitoring system.

11. The date of the latest continuous monitoring system certification or audit.

12. A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

iv. Immediate startup, shutdown, and malfunction report. If the Permittee had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with the Permittee's startup, shutdown, and malfunction plan, the Permittee shall submit an immediate startup, shutdown, and malfunction report according to the requirements in 40 CFR 63.10(d)(5)(ii).

v. Part 70 monitoring report. The Permittee shall report all deviations as defined in Subpart CCCCC in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A). If the Permittee submits a compliance report for an affected source along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emission limitation or work practice standard in Subpart CCCCC, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the Permittee may have to report deviations from permit requirements to the permitting authority.

b. 40 CFR Part 63, Subpart L (40 CFR 63.311)

i. Semiannual compliance certification. The Permittee shall include the following information in the semiannual compliance certification [40 CFR 63.311(d)]:

A. Certification, signed by the Permittee, that no coke oven gas was vented, except through the bypass/bleeder stack flare system of a by-product coke oven battery during the reporting period or that a venting report has been submitted according to the requirements in 40 CFR 63.311(e).

B. Certification, signed by the Permittee, that a startup, shutdown, or malfunction event did not occur for a coke oven battery during the reporting period or that a startup, shutdown, and malfunction event did occur and a report was

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submitted according to the requirements in 40 CFR 63.310(e).

C. Certification, signed by the Permittee, that work practices were implemented if applicable under 40 CFR 63.306.

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ii. Report for the venting of coke oven gas other than through a flare system. The Permittee shall report any venting of coke oven gas through a bypass/bleeder stack that was not vented through the bypass/bleeder stack flare system to the Administrator as soon as practicable but no later than 24 hours after the beginning of the event. A written report shall be submitted within 30 days of the event and shall include a description of the event and, if applicable, a copy of the notification for a hazardous substance release required pursuant to §302.6 of this chapter [40 CFR 63.311(e)].

c. 40 CFR Part 63, Subpart L (40 CFR 63.310)

i. Pursuant to 40 CFR 63.310(d), in order for the provisions of 40 CFR 63.310(i) to apply with respect to the observation (or set of observations) for a particular day, notification of a startup, shutdown, or a malfunction shall be made by the Permittee:

If practicable, to the certified observer if the observer is at the source during the occurrence; or to the enforcement agencies (USEPA and Illinois EPA), in writing, within 24 hours of the occurrence first being documented by personnel, and if the notification to the certified observer was not made, an explanation of why no such notification was made.

ii. Pursuant to 40 CFR 63.310(e), within 14 days of the notification made under 40 CFR 63.310 (d), or after a startup or shutdown, the Permittee shall submit a written report to the Illinois EPA that describes the time and circumstances of the startup, shutdown, or malfunction; and describes actions taken that might be considered inconsistent with the startup, shutdown, or malfunction plan.

d. The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected coke oven operations with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

Emissions of regulated air pollutants from the affected coke oven operations in excess of the limits specified in Condition

7.2.6 shall be reported by the Permittee to the Illinois EPA Air Compliance Section within 30 days of such occurrence.

e. Reporting on the malfunction and breakdown shall be performed in accordance with Condition 5.10.6.

f. All other deviations not specifically addressed by Section 7.2.12 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

7.2.13 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected coke oven operations.

7.2.14 Compliance Procedures

a. Compliance with the applicable standards of Condition 7.2.3 shall be achieved by the work practice requirements of Condition 7.2.5, testing requirements of Condition 7.2.7-3 and monitoring requirements of Condition 7.2.9. In addition, the following procedures shall be implemented:

i. For oven charging, lids, doors and offtakes: observations and the performance tests (observations) shall be conducted in accordance with 40 CFR 63, Appendix A, Method 303. Method 303 is consistent with the procedures specified in 35 IAC 280.104 to 280.107 and the Consent Decree, Civil Action No.81-3009 referenced in construction permit C808048.

ii. For a coke oven push on Battery B: visible emissions from the gas cleaning device outlet and uncaptured fugitive emissions shall be determined by the procedures set forth in the Consent Decree, Civil Action No.81-3009. Each push must comply with the applicable visible emission limits from construction permit C808048.

iii. Opacity readings for uncaptured pushing emissions: pursuant to 35 IAC 212.443(c)(1)(A-B), opacity readings shall be taken at 15-second intervals, beginning from the time the coke falls into the receiving car or is first visible as it emerges from the coke guide whichever occurs earlier, until the receiving car enters the quench tower or quenching device. For a push of less than 90 seconds duration, the actual number of 15-second readings shall be averaged.

b. Compliance with the emission limits of Condition 7.2.6 shall be achieved by keeping the records of emissions calculated in accordance with Condition 5.12.1(b).

c. Emissions of regulated air pollutants (including (HAP’s) shall be calculated in accordance with Condition 5.12.1(b).

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7.3 Coke Oven Gas By-Products Recovery Plant

7.3.1 Description

Coke Oven Gas (COG) Processing Unit:

COG is made up of various organic materials volatilized during the coal-to-coke conversion process. U. S. Steel Granite City Works manufactures furnace coke with the “by-products” method. In this method the coke oven gas is collected and various byproducts are removed. Once suitably treated, the gas is used as a fuel at various locations throughout the facility.

COG from the coke ovens first passes through the primary cooler where it is cooled. The cooling of COG causes tar, naphthalene, and liquor to condense. The cool COG is then pushed through the entire by-product plant with the aid of exhausters. More tar and liquor are removed by the centrifugal force created in the exhausters. Droplets of tar, naphthalene, and liquor accumulate and drain to the tar sump. Ammonia present in the COG is then removed by passing it through ammonia absorber. The removal of ammonia is accomplished by exposing the COG to a spray of sulfuric acid in the ammonia absorber. The COG then enters the Tar Spray Final Cooler where the COG is cooled down to 29^{0}C and most of the naphthalene is removed with tar injection. Next COG passes through the Light Oil Scrubber, which is designed to remove the remaining naphthalene and “Light Oils.” COG exiting the Light Oil Scrubber is then clean and free of impurities. A portion of the COG is used to underfire the Coke Oven Batteries while the remaining enters the COG holding tank. From here, the COG travels to the boosters, where it is distributed to various parts of the plant.

Light Oil Processing Unit:

Processing the Light Oil generated at the Light Oil Scrubber, also called Benzol Washer, is the main activity of this unit. In the Light Oil Scrubber, wash oil is used to scrub out Light Oil from the Coke Oven Gas. Next wash oil is cleaned and re-circulated back through the Light Oil scrubber as described below.

After scrubbing out the light oil in the Light Oil Scrubber, the wash oil passes through two oil to vapor heat exchangers, where the light oil is vaporized. The vapors are then passed through two cool water condensers to condense out the light oil. The light oil then passes through the Secondary Light Oil Separator, where any remaining wash oil and water is removed. The liquid oil is then pumped into one of six storage tanks.

After passing through the oil to vapor heat exchangers, the wash oil passes through steam heaters, the Wash Oil Still, coolers, and finally the Wash Oil Recirculating Tank before it is reintroduced in the Light Oil Scrubber.

Coal Tar Processing:

Tar is collected into tar sumps. The tar is decanted by passing through one of three decanters. Sludge from the decanters is dumped into hoppers from where it is collected by a company for further treatment. Tar from these sumps passes through two dehydration tanks where the water is removed. The tar is then pumped to a storage tank, where it is stored until shipment.

Note: This narrative description is for informational purposes only and is not enforceable.

7.3.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
By-Products Recovery	Coke oven Gas Processing Unit (coke oven gas transfer and handling; gas coolers; gas processing/cleaning unit; COG holding tank)	Prior to 06/1982	None Flare (COG holding tank)
	Light Oil Processing (benzol washer; warshol still; condenser; wash oil recirculation system; light oil sump)	Prior to 06/1982	None

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	Coal Tar Processing (tar collection and transfer; tar storage tanks)	Prior to 06/1982	None
	Tar Storage Tanks (2)		None
	Light Oil Storage Tanks (6)		None
	Ammonia Liquor Storage Tanks (2)		None
	Railcar/Truck Loading (light oil)	2004	Vapor Recovery System; Negative Pressure

7.3.3 Applicable Provisions and Regulations

a. The “affected by-product recovery plant” for the purpose of these unit-specific conditions, is the group of emission units and/operations described in Conditions 7.3.1 and 7.3.2.

b. The affected by-product recovery plant is subject to 40 CFR Part 61, Subpart L, National Emission Standards for Benzene Emissions from Coke By-Product Recovery Plants. Certain provisions of this regulation are discussed further in this subsection.

c. The affected by-product recovery plant is subject to 40 CFR Part 61, Subpart V, National Emission Standards for Equipment Leaks (Fugitive Emissions). Certain provisions of this regulation are discussed further in this subsection.

d. The affected by-product recovery plant is subject to 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations. Certain provisions of this regulation are discussed further in this subsection.

e. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 1iters (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201, and further processed consistent with 35 IAC 219.108, or unless such tank is a pressure tank as described in 35 IAC 219.121(a) or is fitted with a recovery system as described in 35 IAC 219.121(b)(2) [35 IAC 219.122(b)].

f. See also source-wide rule applicability in Condition 5.3.

7.3.4 Non-Applicability of Regulations of Concern

a. The storage tanks used at the affected coke by-product recovery plant are not subject to 35 IAC 219.120 because of the exemption for vessels at coke by-product plants in 35 IAC 219.119(b).

b. The storage tanks used at the affected coke by-product recovery plant are not subject to 35 IAC 219.121 (Storage Containers of Volatile Petroleum Liquids (VPL)) because the liquids kept in those tanks are not the product of petroleum refinery and, therefore, do not meet the definition of VPL/petroleum liquids of 35 IAC Part 211.

c. The affected coke by-product recovery plant is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the initial CAAPP application was submitted prior to April 1998.

d. See also Condition 5.4(c).

7.3.5 Work Practices: Operation during Shutdown and Malfunction

Subject to the following terms and conditions, the Permittee is authorized to continue operation of the affected by-product recovery plant in violation of the applicable state standards in Condition 7.3.3 in the event of a malfunction or breakdown of the affected units and applicable control practices. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent risk of injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns. This authorization supersedes the general prohibition in Condition 9.2.3 against continued operation in such circumstances [35 IAC 201.262].

a. This authorization only allows such continued operation as necessary to provide essential service or to prevent risk of injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.

b. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practical repair the affected emission/process units and/or applicable control practices.

c. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.3.12(d) and 7.3.13. For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident

shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the affected emission unit(s) out of service.

d. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.

e. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.3.6 Control Requirements and Work Practices

a. The Permittee shall operate and maintain a Control System to meet the standards specified below in 40 CFR Part 61 Subpart L. This Control System consists of a Positive Pressure Gas Blanketing System supplied with clean coke oven gas controlling the light oil area and a Negative Pressure or Steam Blanketing System controlling tar, ammonia and liquor tanks.

i. The following procedures shall be conducted on the control system on a semiannual basis and after each time the control system is repressurized and the Permittee shall [40 CFR 61.132(b)]:

A. Inspect the ductwork for evidence of visible defects such as gaps or tears.

B. Monitor the connections and seals to determine if operating with no detectable emissions.

ii. A maintenance inspection of the control system shall be conducted on an annual basis for evidence of system abnormalities such as blocked or plugged lines, sticking valves, plugged condensate traps and other maintenance defects [40 CFR 61.132(c)].

iii. This control system shall be operated for no detectable emissions, as determined by the methods specified in 40 CFR 61.245 [40 CFR 61.132(b)].

b. 40 CFR Part 61, Subpart L:

i. The Permittee shall comply with 40 CFR 61.132 - Standard: Process vessels, storage tanks, and tar-intercepting sumps, which includes the following:

A. Each owner or operator of a furnace or a foundry coke byproduct recovery plant shall enclose and seal all openings on each process vessel, tar storage tank, and tar-intercepting sump.

B. The owner or operator shall duct gases from each process vessel, tar storage tank, and tar-intercepting sump to the gas collection system, gas distribution system, or other enclosed point in the by-product recovery process where the benzene in the gas will be recovered or destroyed. This control system shall be designed and operated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined by the methods specified in 40 CFR 61.245(c). This system shall be designed as a closed, positive pressure, gas blanketing system.

1. Except, the owner or operator may elect to install, operate, and maintain a pressure relief device, vacuum relief device, an access hatch, and a sampling port on each process vessel, tar storage tank, and tar-intercepting sump. Each access hatch and sampling port must be equipped with a gasket and a cover, seal, or lid that must be kept in a closed position at all times, unless in actual use.

2. The owner or operator may elect to leave open to the atmosphere the portion of the liquid surface in each tar decanter necessary to permit operation of a sludge conveyor. If the owner or operator elects to maintain an opening on part of the liquid surface of the tar decanter, the owner or operator shall install, operate, and maintain a water leg seal on the tar decanter roof near the sludge discharge chute to ensure enclosure of the major portion of liquid surface not necessary for the operation of the sludge conveyor.

C. Following the installation of any control equipment used to meet the requirements of 40 CFR 61.132(a), the owner or operator shall monitor the connections and seals on each control system to determine if it is operating with no detectable

emissions, using Method 21 (40 CFR part 60, appendix A) and procedures specified in 40 CFR 61.245(c), and shall visually inspect each source (including sealing materials) and the ductwork of the control system for evidence of visible defects such as gaps or tears. This monitoring and inspection shall be conducted on a semiannual basis and at any other time after the control system is repressurized with blanketing gas following removal of the cover or opening of the access hatch.

1. If an instrument reading indicates an organic chemical concentration more than 500 ppm above a background concentration, as measured by Method 21, a leak is detected.

2. If visible defects such as gaps in sealing materials are observed during a visual inspection, a leak is detected.

3. When a leak is detected, it shall be repaired by the Permittee as soon as practicable, but not later than 15 calendar days after it is detected.

4. A first attempt at repair of any leak or visible defect shall be made by the Permittee no later than 5 calendar days after each leak is detected.

D. Following the installation of any control system used to meet the requirements of 40 CFR 61.132(a), the owner or operator shall conduct a maintenance inspection of the control system on an annual basis for evidence of system abnormalities, such as blocked or plugged lines, sticking valves, plugged condensate traps, and other maintenance defects that could result in abnormal system operation. The owner or operator shall make a first attempt at repair within 5 days, with repair within 15 days of detection.

E. Each owner or operator of a furnace coke by-product recovery plant also shall comply with the requirements of 40 CFR 61.132(a) through (c) for each benzene storage tank, BTX storage tank, light-oil storage tank, and excess ammonia-liquor storage tank.

ii. The Permittee shall comply with 40 CFR 61.133 - Standard: Light-oil sumps, which includes the following:

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A. Each owner or operator of a light-oil sump shall enclose and seal the liquid surface in the sump to form a closed system to contain the emissions.

1. Except, the owner or operator may elect to install, operate, and maintain a vent on the light-oil sump cover. Each vent pipe must be equipped with a water leg seal, a pressure relief device, or vacuum relief device.

2. Except, the owner or operator may elect to install, operate, and maintain an access hatch on each light-oil sump cover. Each access hatch must be equipped with a gasket and a cover, seal, or lid that must be kept in a closed position at all times, unless in actual use.

3. The light-oil sump cover may be removed for periodic maintenance but must be replaced (with seal) at completion of the maintenance operation.

B. The venting of steam or other gases from the by-product process to the light-oil sump is not permitted.

C. Following the installation of any control equipment used to meet the requirements of 40 CFR 61.133(a), the owner or operator shall monitor the connections and seals on each control system to determine if it is operating with no detectable emissions, using Method 21 (40 CFR part 60, appendix A) and the procedures specified in 40 CFR 61.245(c), and shall visually inspect each source (including sealing materials) for evidence of visible defects such as gaps or tears. The Permittee shall conduct this monitoring and inspection shall be conducted semiannually and at any other time the cover is removed.

1. If an instrument reading indicates an organic chemical concentration more than 500 ppm above a background concentration, as measured by Method 21, a leak is detected.

2. If visible defects such as gaps in sealing materials are observed during a visual inspection, a leak is detected.

3. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected.

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4. A first attempt at repair of any leak or visible defect shall be made no later than 5 calendar days after each leak is detected.

iii. The Permittee shall comply with 40 CFR 61.134 - Standard: Naphthalene processing, final coolers, and final-cooler cooling towers, i.e., no (zero) emissions are allowed from these sources.

Note: The Permittee has replaced these sources with a Tar Spray Final Cooler, a closed system with negligible emissions.

iv. The Permittee shall mark each piece of equipment in benzene service to which Subpart L applies in such a manner that it can be readily distinguished from other pieces of equipment in benzene service pursuant to 40 CFR 61.135(c).

v. The Permittee shall comply with 40 CFR 61.135 - Standard: Equipment leaks.

A. Each owner or operator of equipment in benzene service shall comply with the requirements of 40 CFR 61, subpart V, except as provided in 40 CFR 61.135.

B. The provisions of 40 CFR 61.242-3 and 61.242-9 of Subpart V do not apply to Subpart L.

C. Each piece of equipment in benzene service to which Subpart L applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment in benzene service.

D. Each exhauster shall be monitored quarterly to detect leaks by the methods specified in 40 CFR 61.245(b) except as provided in 40 CFR 61.136(d) and paragraphs 40 CFR 61.135(e) through (g).

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1. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

2. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in 40 CFR 61.242-10(a) and (b).

3. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

E. Each exhauster equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluids to the atmosphere is exempt from the requirements of paragraph (d) of this section provided the following requirements are met:

1. Each exhauster seal system is:

   i. Operated with the barrier fluid at a pressure that is greater than the exhauster stuffing box pressure; or

   ii. Equipped with a barrier fluid system that is connected by a closed vent system to a control device that complies with the requirements of 40 CFR 61.242-11; or

   iii. Equipped with a system that purges the barrier fluid into a process stream with zero benzene emissions to the atmosphere.

2. The barrier fluid is not in benzene service.

3. Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

4. Each sensor as described in 40 CFR 61.135(e)(3) shall be checked daily or shall be equipped with an audible alarm.

5. The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

6. If the sensor indicates failure of the seal system, the barrier system, or both (based on the criterion determined under paragraph (e)(4)(ii) of this section), a leak is detected.

7. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 61.242-10.

8. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

F. An exhauster is exempt from the requirements of 40 CFR 61.135(d) if it is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of 40 CFR 61.242-11 except as provided in 40 CFR 61.135(g).

G. Any exhauster that is designated, as described in 40 CFR 61.246(e) for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 61.135(d) if the exhauster:

1. Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in 40 CFR 61.245(c); and

2. Is tested for compliance with paragraph 40 CFR 61.135(g)(1) initially upon designation, annually, and at other times requested by the Administrator.

c. 40 CFR Part 61, Subpart V:

i. 40 CFR 61.242-10: Standards: Delay of Repair

A. Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.

B. Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the process and that does not remain in VHAP (volatile hazardous air pollutant) service.

C. Delay of repair for valves will be allowed if:

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1. The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

2. When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 61.242-11.

D. Delay of repair for pumps will be allowed if:

1. Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

2. Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

E. Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

ii. 40 CFR 61.242-11: Standards: Closed-vent Systems and Control Devices.

A. Flares being used to comply with Subpart V shall comply with the requirements of 40 CFR 60.18 (discussed further in Condition 7.3(e))[40 CFR 61.242-11(d)].

B. Owners or operators of control devices that are used to comply with the provisions of Subpart V shall monitor these control devices to ensure that they are operated and maintained in conformance with their design [40 CFR 61.242-11(e)].

C. If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the following requirements [40 CFR 61.242-11(f)(1)].:

1. Conduct an initial inspection according to the procedures in 40 CFR 61.245(b); and

2. Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

D. If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall [40 CFR 61.242-11(f)(2)]:

1. Conduct an initial inspection according to the procedures in 40 CFR 61.245(b); and

2. Conduct annual inspections according to the procedures in 40 CFR 61.245(b).

d. 40 CFR 61.355(a)(3) through (a)(5) (Subpart FF).

i. If the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), then the owner or operator shall comply with the requirements of 40 CFR 61.342(c), (d), or (e).

ii. If the total annual benzene quantity from facility waste is less than 10 Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr, (1.1 ton/yr) then the owner or operator shall:

A. Comply with the recordkeeping requirements of 40 CFR 61.356 and reporting requirements of 40 CFR 61.357; and

B. Repeat the determination of total annual benzene quantity from facility waste at least once per year and whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more.

iii. If the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr) then the owner or operator shall:

A. Comply with the recordkeeping requirements of 40 CFR 61.356 and reporting requirements of 40 CFR 61.357; and

B. Repeat the determination of total annual benzene quantity from facility waste whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more.

[Note: currently the source maintains on-site generation of less than 1.1 ton/yr benzene generated waste].

e. Flares: 40 CFR Part 60 Subpart A (40 CFR 60.18(c) through (f)).

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i. Flares shall be designed for and operated with no visible emissions as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

ii. Flares shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18(f).

iii. An owner/operator has the choice of adhering to either the heat content specifications in 40 CFR 60.18(c)(3)(ii) and the maximum tip velocity specifications in CFR 60.18(c)(4), or adhering to the requirements in CFR 60.18 (c)(3)(i).

A. 1. Flares shall be used that have a diameter of 3 inches or greater, are non-assisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, V_{max}, as determined by the following equation:

$$V_{max} = (X_{H2} - K_1)* K_2$$

Where:
V_{max} = Maximum permitted velocity, m/sec.
K_1 = Constant, 6.0 volume-percent hydrogen.
K_2 = Constant, 3.9(m/sec)/volume-percent hydrogen.
X_{H2} = The volume-percent of hydrogen, on a wetbasis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in 40 CFR 60.17).

2. The actual exit velocity of a flare shall be determined by the method specified in CFR 60.18(f)(4).

B. Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas

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being combusted shall be determined by the methods specified in 40 CFR 60.18(f)(3).

iv. A. Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in 40 CFR 60.18(c)(4)(ii) and (iii).

B. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

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C. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), less than the velocity, V_{max}, as determined by the method specified in 40 CFR 60.18 (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.

v. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in 40 CFR 60.18 (f)(6).

vi. Flares used to comply with 40 CFR 60.18 shall be steam-assisted, air-assisted, or nonassisted.

vii. Flares used to comply with provisions of 40 CFR 60.18 shall be operated at all times when emissions may be vented to them.

viii. For other specific testing and monitoring requirements for flares, see appropriate subsections of Section 7.3 of this permit.

7.3.7 Production and Emission Limitations

Production and emission limitations are not set for the affected coke by-product recovery plant.

7.3.8 Testing Requirements

a. Each owner or operator subject to the provisions of 40 CFR Part 61 Subpart L shall comply with the requirements in 40 CFR 61.245 of 40 CFR Part 61, Subpart V.

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b. To determine whether or not a piece of equipment is in benzene service, the methods in 40 CFR 61.245(d) shall be used, except that, for exhausters, the percent benzene shall be 1 percent by weight, rather than the 10 percent by weight as described in 40 CFR 61.245(d).

c. Flare [40 CFR 60.18(f)]:

i. Method 22 of Appendix A to 40 CFR Part 60 shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

ii. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

iii. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$\cancel{H_T = K \sum_{i=1}^{n} C_i H_i} H_T = K \sum_{i=1}^{n} C_i H_i$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C;

$$K = \text{Constant, } 1.740 \times 10^{-7} \left(\frac{1}{\text{ppm}}\right) \left(\frac{\text{g mole}}{\text{scm}}\right) \left(\frac{\text{MJ}}{\text{kcal}}\right)$$

where the standard temperature for $\left(\frac{\text{g mole}}{\text{scm}}\right)$ is 20^0C;

$$K = \text{Constant, } 1.740 \times 10^{-7} \left(\frac{1}{\text{ppm}}\right) \left(\frac{\text{g mole}}{\text{scm}}\right) \left(\frac{\text{MJ}}{\text{kcal}}\right)$$

where the standard temperature for $\left(\frac{\text{g mole}}{\text{scm}}\right)$ is 20^0C;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 or 90 (Reapproved 1994) (Incorporated by reference as specified in 40 CFR 60.17); and

H_i = Net heat of combustion of sample component i, kcal/g mole at 25°C and 760 mm Hg. The heats of

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combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in 40 CFR 60.17) if published values are not available or cannot be calculated.

iv. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

v. The maximum permitted velocity, V_{max}, for flares complying with 40 CFR 60.18(c)(4)(iii) shall be determined by the following equation.

$$\text{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

V_{max} = Maximum permitted velocity, M/sec
28.8 = Constant
31.7 = Constant
H_T = The net heating value as determined in 40 CFR 60.18 (f)(3).

vi. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation.

$$V_{max} = 8.706 + 0.7084\,(H_T)$$

V_{max} = Maximum permitted velocity, m/sec
8.706 = Constant
0.7084 = Constant
H_T = The net heating value as determined in 40 CFR 60.18 (f)(3).

vi. Opacity readings discussed above shall be contacted annually to assure compliance with no visible emissions from the flare. This condition is established pursuant to 39.5(7)(d) and (p) of the Act.

d. Test methods and procedures for the total annual benzene quantity waste determination (40 CFR 61.355(a),(b) and (c)):

i. The Permittee shall determine the total annual benzene quantity from facility waste by the ~~procedures established in 40 CFR 61.355(a)(1) and (a)(2) and the~~ following ~~of 40 CFR 61.355(b)(40 CFR Part 61, Subpart FF):~~procedure:

A. For each waste stream subject to 40 CFR Part 61, Subpart FF, having a flow-weighted annual average

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water content greater than 10 percent water, on a volume basis as total water, or is mixed with water or other wastes at any time and the resulting mixture has an annual average water content greater than 10 percent as specified in 40 CFR 61.342(a), the Permittee shall:

1. Determine the annual waste quantity for each waste stream using the procedures specified in 40 CFR 61.355(b).

2. Determine the flow-weighted annual average benzene concentration for each waste stream using the procedures specified in paragraph 40 CFR 61.355(c).

3. Calculate the annual benzene quantity for each waste stream by multiplying the annual waste quantity of the waste stream times the flow-weighted annual average benzene concentration.

B. Total annual benzene quantity from facility waste is calculated by adding together the annual benzene quantity for each waste stream generated during the year and the annual benzene quantity for each process unit turnaround waste annualized according to 40 CFR 61.355(b)(4).

C. If the total annual benzene quantity from the source waste is less than 10 Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr, (1.1 ton/yr) then the Permittee shall:

1. Comply with the recordkeeping requirements of 40 CFR 61.356 and reporting requirements of 40 CFR 61.357; and

2. Repeat the determination of total annual benzene quantity from facility waste at least once per year and whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more.

D. For instances when the total annual benzene quantity from the source waste is more than 10 Mg/yr (11 ton/yr) or less than 1 Mg/yr (1.1 ton/yr), the Permittee shall comply with the requirements established in 40 CFR 61.355(a)(3) or 40 CFR 61.355 (a)(5), respectively.

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ii. 40 CFR 61.355(b): For purposes of the calculation of the benzene waste rates required by 40 CFR 61.355(a), the Permittee shall determine the annual waste quantity at the point of waste generation, unless otherwise provided in 40 CFR 61.355(b)(1), (2), (3), and (4), by one of the following methods given in 40 CFR 61.355(b)(5) through (7):

A. Select the highest annual quantity of waste managed from historical records representing the most recent 5 years of operation;

B. Use the maximum design capacity of the waste management unit; or

C. Use measurements that are representative of maximum waste generation rates.

i iii. 40 CFR 61.355(c): For the purposes of the calculation required by 40 CFR 61.355(a), the Permittee shall determine the flow-weighted annual average benzene concentration in a manner that meets the requirements given in paragraph 40 CFR 61.355(c)(1) using either of the methods given in 40 CFR 61.355(c)(2) and (c)(3).

A. The determination of ~~annual waste quantity~~flow-weighted annual average benzene concentration shall meet all of the following criteria:

1. The determination shall be made at the point of waste generation except for the specific cases given in 40 CFR 61.355 (c)(1)(i)(A) through (D):

a. The determination for sour water streams that are processed in sour water strippers shall be made at the point that the water exits the sour water stripper.

b. The determination for wastes at coke by-product plants subject to and complying with the control requirements of 40 CFR 61.132, 61.133, 61.134, or 61.139 of Subpart L shall be made at the location that the waste stream exits the process unit component or waste management unit controlled by ~~that subpart~~Subpart L or at the exit of the ammonia still, provided that the following conditions are met ~~[40 CFR 61.355(b)(2)]:~~:

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~~A~~i. The transfer of wastes between units complying with the control requirements of Subpart L, process units, and the ammonia still is made through hard piping or other enclosed system.

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~~B~~ii. The ammonia still meets the definition of a sour water stripper in 40 CFR 61.341.

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c. The determination of flow-weighted annual average benzene concentration for process unit turnaround waste shall be made using either of the methods given in 40 CFR 61.355(c)(2) or (c)(3). The resulting flow-weighted annual average benzene concentration shall be included in the calculation of annual benzene quantity as provided in 40 CFR 61.355(a)(1)(iii) for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process unit turnaround.

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2. Volatilization of the benzene by exposure to air shall not be used in the determination to reduce the benzene concentration.

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3. Mixing or diluting the waste stream with other wastes or other materials shall not be used in the determination—to reduce the benzene concentration.

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4. The determination shall be made prior to any treatment of the waste that removes benzene, except as specified in 40 CFR 61.355 (c)(1)(i)(A) through (D).

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5. For wastes with multiple phases, the determination shall provide the weighted-average benzene concentration based on the benzene concentration in each phase of the waste and the relative proportion of the phases.

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B. *Knowledge of the waste*. The Permittee shall provide sufficient information to document the flow-weighted annual average benzene concentration of each waste stream. Examples of information that could constitute knowledge include material balances, records of chemicals purchases, or previous test results provided the results are

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still relevant to the current waste stream conditions. If test data are used, then the Permittee shall provide documentation describing the testing protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the flow-weighted annual average benzene concentration for the waste stream. When Permittee and the Administrator (Illinois EPA or USEPA) do not agree on determinations of the flow-weighted annual average benzene concentration based on knowledge of the waste, the procedures under 40 CFR 61.355(c)(3) shall be used to resolve the disagreement.

~~ii. The determination of annual waste quantity for each process unit turnaround waste generated only at 2 year or greater intervals, may be made by dividing the total quantity of waste generated during the most recent process unit turnaround by the time period (in the nearest tenth of a year) between the turnaround resulting in generation of the waste and the most recent preceding process turnaround for the unit. The resulting annual waste quantity shall be included in the calculation of the annual benzene quantity as provided in 40 CFR 61.355(a)(1)(iii) for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process turnaround. For estimates of total annual benzene quantity as specified in the 90-day report, required under 40 CFR 61.357(a)(1), the owner or operator shall estimate the waste quantity generated during the most recent turnaround, and the time period between turnarounds in accordance with good engineering practices. If the owner or operator chooses not to annualize process unit turnaround waste, as specified in this paragraph, then the process unit turnaround waste quantity shall be included in the calculation of the annual benzene quantity for the year in which the turnaround occurs [[40 CFR 61.355(b)(4)];~~

~~iii. Select the highest annual quantity of waste managed from historical records representing the most recent 5 years of operation or, if the facility has been in service for less than 5 years but at least 1 year, from historical records representing the total operating life of the facility [[40 CFR 61.355(b)(5)];~~

~~iv. Use the maximum design capacity of the waste management unit [[40 CFR 61.355(b)(6)]; or~~

~~v. Use measurements that are representative of maximum waste generation rates [[40 CFR 61.355(b)(7)].~~

C. Measurements of the benzene concentration in the waste stream shall be done in accordance with the procedures established in 40 CFR 61.355(c)(3).

7.3.9 Inspection Requirements

a. The Permittee shall perform inspections of the affected by-products recovery plant on at least a monthly basis, including associated control measures, while the affected operations are in use, to confirm compliance with the requirements of Section 7.3. These inspections shall be performed with personnel not directly involved in the day-to day operation of the affected operations and may be scheduled so that only a number of affected operations are reviewed during each inspection, provided however, that all affected operations that are in routine service shall be inspected at least once during each calendar month. [Sections 39.5(7)(a) and (d) of the Act]

b. The Permittee shall perform detailed inspections of the ~~flare~~flare's ignition system associated with coke oven gas handling operations ~~at least every 12 months while~~on the ~~processes are out of service~~monthly basis, with an initial inspection performed before any maintenance and repair activities are conducted during the period the process is out of service and a follow-up inspection performed after any such activities are completed. [Sections 39.5(7)(a) and (d) of the Act]

7.3.10 Monitoring Requirements

a. Flares [40 CFR 60.18].

i. Flares shall be designed for and operated with no visible emissions as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

ii. Flares shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18 (f).

iii. Owners or operators of flares used to comply with the provisions of 40 CFR 60.18 shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

iv. Flares used to comply with provisions of 40 CFR 60.18 shall be operated at all times when emissions may be vented to them.

b. Requirements of 40 CFR Part 61 Subpart FF (40 CFR 61.354):

i. Owners or operators using a closed-vent system that contains any bypass line that could divert a vent stream

from a control device used to comply with the provisions of Subpart FF shall do the following [40 CFR 61.354(f)]:

A. Visually inspect the bypass line valve at least once every month, checking the position of the valve and the condition of the car-seal or closure mechanism required under 40 CFR 61.349(a)(1)(ii) to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

B. Visually inspect the readings from each flow monitoring device required by 40 CFR 61.349(a)(1)(ii) at least once each operating day to check that vapors are being routed to the control device as required.

ii. Each owner or operator who uses a system for emission control that is maintained at a pressure less than atmospheric pressure with openings to provide dilution air shall install, calibrate, maintain, and operate according to the manufacturer's specifications a device equipped with a continuous recorder to monitor the pressure in the unit to ensure that it is less than atmospheric pressure [40 CFR 61.354(g)].

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7.3.11 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected coke by-product recovery plant, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. 40 CFR Part 61 Subpart L (40 CFR 61.138):

i. The following information pertaining to the design of control equipment installed to comply with 40 CFR 61.132 through 61.134 shall be recorded and kept in a readily accessible location:

A. Detailed schematics, design specifications, and piping and instrumentation diagrams.

B. The dates and descriptions of any changes in the design specifications.

ii. The following information pertaining to sources subject to 40 CFR 61.132 and sources subject to 40 CFR 61.133 shall be recorded and maintained for 2 years following each semiannual (and other) inspection and each annual maintenance inspection:

A. The date of the inspection and the name of the inspector.

B. A brief description of each visible defect in the source or control equipment and the method and date of repair of the defect.

C. The presence of a leak, as measured using the method described in 40 CFR 61.245(c). The record shall include the date of attempted and actual repair and method of repair of the leak.

D. A brief description of any system abnormalities found during the annual maintenance inspection, the repairs made, the date of attempted repair, and the date of actual repair.

b. 40 CFR Part 61 Subpart FF (40 CFR 61.356):

i. Each owner or operator of a facility subject to the provisions of Subpart FF shall comply with the recordkeeping requirements of 40 CFR 61.356. Each record shall be maintained in a readily accessible location at the facility site for a period not less than two years from the date the information is recorded unless otherwise specified [40 CFR 61.356(a)].

ii. Each owner or operator shall maintain records that identify each waste stream at the facility subject to Subpart FF, and indicate whether or not the waste stream is controlled for benzene emissions in accordance with this subpart. In addition the owner or operator shall maintain the following records [40 CFR 61.356(b)]:

A. For each waste stream not controlled for benzene emissions in accordance with Subpart FF, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information for the waste stream: waste stream identification, water content, whether or not the waste stream is a process wastewater stream, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

B. For each waste stream exempt from 40 CFR 61.342(c)(1) in accordance with 40 CFR 61.342(c)(3), the records shall include:

1. All measurements, calculations, and other documentation used to determine that the continuous flow of process wastewater is less than 0.02 liters (0.005 gallons) per minute or the annual waste quantity of process wastewater is less than 10 Mg/yr (11

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ton/yr) in accordance with 40 CFR 61.342(c)(3)(i), or

2. All measurements, calculations, and other documentation used to determine that the sum of the total annual benzene quantity in all exempt waste streams does not exceed 2.0 Mg/yr (2.2 ton/yr) in accordance with 40 CFR 61.342(c)(3)(ii).

C. For each facility where process wastewater streams are controlled for benzene emissions in accordance with 40 CFR 61.342(d), the records shall include for each treated process wastewater stream all measurements, calculations, and other documentation used to determine the annual benzene quantity in the process wastewater stream exiting the treatment process.

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D. For each facility where waste streams are controlled for benzene emissions in accordance with 40 CFR 61.342(e), the records shall include for each waste stream all measurements, including the locations of the measurements, calculations, and other documentation used to determine that the total benzene quantity does not exceed 6.0 Mg/yr (6.6 ton/yr).

E. For each facility where the annual waste quantity for process unit turnaround waste is determined in accordance with 40 CFR 61.355(b)(5), the records shall include all test results, measurements, calculations, and other documentation used to determine the following information: identification of each process unit at the facility that undergoes turnarounds, the date of the most recent turnaround for each process unit, identification of each process unit turnaround waste, the water content of each process unit turnaround waste, the annual waste quantity determined in accordance with 40 CFR 61.355(b)(5), the range of benzene concentrations in the waste, the annual average flow-weighted benzene concentration of the waste, and the annual benzene quantity calculated in accordance with 40 CFR 61.355(a)(1)(iii).

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F. For each facility where wastewater streams are controlled for benzene emissions in accordance with 40 CFR 61.348(b)(2), the records shall include all measurements, calculations, and other documentation used to determine the annual benzene content of the waste streams and the total annual benzene quantity contained in all waste streams

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managed or treated in exempt waste management units.

iii. An owner or operator shall maintain a record for each visual inspection required by 40 CFR 61.343 through 61.347 that identifies a problem (such as a broken seal, gap or other problem) which could result in benzene emissions. The record shall include the date of the inspection, waste management unit and control equipment location where the problem is identified, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed [40 CFR 61.356(g)].

~~iv. For each control device, the owner or operator shall maintain documentation that includes the following information regarding the control device operation:~~

~~A. Dates of startup and shutdown of the closed-vent system and control device [40 CFR 61.356(j)(1)].~~

~~B. A description of the operating parameter (or parameters) to be monitored to ensure that the control device will be operated in conformance with these standards and the control device's design specifications and an explanation of the criteria used for selection of that parameter (or parameters). This documentation shall be kept for the life of the control device [40 CFR 61.356(j)(2)].~~

~~C. Periods when the closed-vent system and control device are not operated as designed including all periods and the duration when [40 CFR 61.356(j)(3)]:~~

~~1. Any valve car-seal or closure mechanism required under 40 CFR 61.349(a)(1)(ii) is broken or the by-pass line valve position has changed.~~

~~2. The flow monitoring devices required under 40 CFR 61.349(a)(1)(ii) indicate that vapors are not routed to the control device as required.~~

~~D.` If a flare is used, then the owner or operator shall maintain continuous records of the flare pilot flame monitoring and records of all periods during which the pilot flame is absent [40 CFR 61.356(j)(7)].~~

~~E. If a system is used for emission control that is maintained at a pressure less than atmospheric~~

~~pressure with openings to provide dilution air, then the owner or operator shall maintain records of the monitoring device and records of all periods during which the pressure in the unit is operated at a pressure that is equal to or greater than atmospheric pressure [40 CFR 61.356(m)].~~

~~v. An owner or operator using a closed-vent system and control device in accordance with 40 CFR 61.349 shall maintain the following records. The documentation shall be retained for the life of the control device [40 CFR 61.356(f)].~~

~~A. A statement signed and dated by the owner or operator certifying that the closed-vent system and control device is designed to operate at the documented performance level when the waste management unit vented to the control device is or would be operating at the highest load or capacity expected to occur [40 CFR 61.356(f)(1)].~~

~~B. If engineering calculations are used to determine control device performance in accordance with 40 CFR 61.349(c), then a design analysis for the control device that includes for example [40 CFR 61.356(f)(2)]:~~

~~Specifications, drawings, schematics, and piping and instrumentation diagrams prepared by the owner or operator, or the control device manufacturer or vendor that describe the control device design based on acceptable engineering texts. The design analysis shall address the following vent stream characteristics and control device operating parameters:~~

~~For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in 40 CFR 60.18.~~

c. 40 CFR Part 61 Subpart V (40 CFR 61.246):

i. A. Each owner or operator subject to the provisions of Subpart V shall comply with the recordkeeping requirements of 40 CFR 61.246 [40 CFR 61.246(a)(1)].

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B. An owner or operator of more than one process unit subject to the provisions of Subpart V may comply with the recordkeeping requirements for these process units in one recordkeeping system if the

system identifies each record by each process unit [40 CFR 61.246(a)(2)].

ii. When each leak is detected as specified in 40 CFR 61.242-2, 61.242-3, 61.242-7, 61.242-8, and 61.135, the following requirements apply to the Permittee [40 CFR 61.246(b)]:

A. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

B. The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 61.242-7(c) and no leak has been detected during those 2 months.

C. The identification on equipment, except on a valve, may be removed after it has been repaired.

iii. When each leak is detected as specified in 40 CFR 61.242-2, 61.242-3, 61.242-7, 61.242-8, and 61.135, the following information shall be recorded by the Permittee in a log and shall be kept for 2 years in a readily accessible location [40 CFR 61.246(c)]:

A. The instrument and operator identification numbers and the equipment identification number.

B. The date the leak was detected and the dates of each attempt to repair the leak.

C. Repair methods applied in each attempt to repair the leak.

D. "Above 10,000" if the maximum instrument reading measured by the methods specified in 40 CFR 61.245(a) after each repair attempt is equal to or greater than 10,000 ppm.

E. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

F. The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

G. The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days ~~unrepaired~~.

H. Dates of process unit shutdowns that occur while the equipment is unrepaired.

I. The date of successful repair of the leak.

iv. The following information pertaining to the design requirements for closed-vent systems and control devices described in 40 CFR 61.242-11 shall be recorded and kept in a readily accessible location by the Permittee [40 CFR 61.246(d)]:

A. Detailed schematics, design specifications, and piping and instrumentation diagrams.

B. The dates and descriptions of any changes in the design specifications.

C. A description of the parameter or parameters monitored, as required in 40 CFR 61.242-11(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

D. Periods when the closed-vent systems and control devices required in 40 CFR 61.242-2, 61.242-3, 61.242-4, 61.242-5 and 61.242-9 are not operated as designed, including periods when a flare pilot light does not have a flame.

E. Dates of startups and shutdowns of the closed-vent systems and control devices required in 40 CFR 61.242-2, 61.242-3, 61.242-4, 61.242-5 and 61.242-9.

v. The following information pertaining to all equipment to which a standard applies shall be recorded in a log that is kept in a readily accessible location by the Permittee [40 CFR 61.246(e)]:

A. A list of identification numbers for equipment (except welded fittings) subject to the requirements of Subpart V.

B. 1. A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background.

2. The designation of this equipment for no detectable emissions shall be signed by the owner or operator.

C. A list of equipment identification numbers for pressure relief devices required to comply with 40 CFR 61.242-4(a).

D. 1. The dates of each compliance test required in 40 CFR 61.242-2(e), 61.242-3(i), 61.242-4, 61.242-7(f), and 61.135(g).

2. The background level measured during each compliance test.

3. The maximum instrument reading measured at the equipment during each compliance test.

E. A list of identification numbers for equipment in vacuum service.

vi. The following information pertaining to all valves subject to the requirements of 40 CFR 61.242-7(g) and (h) and to all pumps subject to the requirements of 40 CFR 61.242-2(g) shall be recorded by the Permittee in a log that is kept in a readily accessible location [40 CFR 61.246(f)]:

A. A list of identification numbers for valves and pumps that are designated as unsafe to monitor, an explanation for each valve or pump stating why the valve or pump is unsafe to monitor, and the plan for monitoring each valve or pump.

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B. A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

vii. The following information shall be recorded by the Permittee for valves complying with 40 CFR 61.243-2 [40 CFR 61.246(g)]:

A. A schedulee of monitoring.

B. The percent of valves found leaking during each monitoring period.

viii. The following information shall be recorded in a log by the Permittee that is kept in a readily accessible location [40 CFR 61.246(h)]:

A. Design criterion required in 40 CFR 61.242-2(d)(5), 61.242-3(e)(2), and 61.135(e)(4) and an explanation of the design criterion; and

B. Any changes to this criterion and the reasons for the changes.

ix. The following information shall be recorded in a log by the Permittee that is kept in a readily accessible location for use in determining exemptions as provided in the applicability section of this subpart and other specific Subparts [40 CFR 61.246(i)]:

A. An analysis demonstrating the design capacity of the process unit, and

B. An analysis demonstrating that equipment is not in VHAP service.

x. Information and data used to demonstrate that a piece of equipment is not in VHAP service shall be recorded in a log by the Permittee that is kept in a readily accessible location [40 CFR 61.246(j)].

d. Other Records

i. The Permittee shall maintain records of the raw coke oven gas being received from the coke ovens (scf/mo and acf/yr~~).~~) [39.5(7)(b) of the Act].

ii. The Permittee shall maintain records of the following by-products being produced~~:~~ [39.5(7)(b) of the Act]:

A. Clean coke oven gas (scf/mo and scf/yr);

B. Light oil (gal/mo and gal/yr); and

C. Tar (ton/mo and ton/yr).

iii. Pursuant to 35 IAC 201.263 and Sections 39.5(7)(a) and (e) of the Act, the Permittee shall maintain records, related to malfunction and breakdown for affected operations that at a minimum, shall include:

A. Maintenance and repair log(s) for the affected operations that, at a minimum, address aspects or components of such operations for which malfunction or breakdown has resulted in excess emissions, which shall list the activities performed on such aspects or components, with date, description and reason for the activity. In addition, in the maintenance and repair log(s) for control equipment, the Permittee shall also list the reason for the activities that are performed.

B. Records for each incident when operation of an affected process continued during malfunction or breakdown, including continued operation with

excess emissions as addressed by Condition 7.3.3, that include the following information:

1. Date and duration of malfunction or breakdown.

2. A description of the malfunction or breakdown.

3. The corrective actions used to reduce the quantity of emissions and the duration of the incident.

4. If excess emissions occurred for two or more hours:

   i. A detailed explanation why continued operation of the affected operation was necessary.

   ii. A detailed explanation of the preventative measures planned or taken to prevent similar malfunctions or breakdowns or to reduce their frequency and severity.

   iii. An estimate of the magnitude of excess emissions occurring during the incident.

iv. ~~iv.~~If the Permittee operates under manufacturer's specifications or manufacturer's instructions, such manufacturer's documentation shall be kept at the source as part of the required records.

v. Records of annual benzene waste generated on site (tons/yr).

vi. Annual emissions of regulated air pollutants (including HAP's) from the affected by-product recovery plant shall be kept on site and calculated based on the procedures described in Condition 5.12.1(b).

7.3.12 Reporting Requirements

The Permittee shall submit the following reports:

a. 40 CFR 61.138 (Subpart L):

i. A report shall be submitted to the Administrator semiannually starting 6 months after the initial reports required in 40 CFR 61.138(e) and 40 CFR 61.10, which includes the following information [40 CFR 61.138(f)]:

A. For sources subject to 40 CFR 61.132 and sources subject to 40 CFR 61.133:

1. A brief description of any visible defect in the source or ductwork;

2. The number of leaks detected and repaired; and

3. A brief description of any system abnormalities found during each annual maintenance inspection that occurred in the reporting period and the repairs made.

B. For equipment in benzene service subject to 40 CFR 61.135(a), information required by 40 CFR 61.247(b).

C. For each exhauster subject to 40 CFR 61.135 for each quarter during the semiannual reporting period:

1. The number of exhausters for which leaks were detected as described in 40 CFR 61.135(d) and (e)(5);

2. The number of exhausters for which leaks were repaired as required in 40 CFR 61.135(d) and (e)(6); and

3. The results of performance tests to determine compliance with 40 CFR 61.135(g) conducted within the semiannual reporting period.

D. A statement signed by the owner or operator stating whether all provisions of 40 CFR part 61, subpart L, have been fulfilled during the semiannual reporting period.

b. 40 CFR 61.247 (Subpart V):

i. An owner or operator of any piece of equipment to which Subpart V applies shall submit a statement in writing notifying the Administrator that the requirements of 40 CFR 61.242, 61.245, 61.246, and 61.247 are being implemented [40 CFR 61.247(a)(1)].

ii. A report shall be submitted to the Administrator semiannually starting 6 months after the initial report required in 40 CFR 61.247(a), that includes the following information [40 CFR 61.247(b)]:

A. Process unit identification.

B. For each month during the semiannual reporting period:

1. Number of valves for which leaks were detected as described in 40 CFR 61.242-7(b) of 61.243-2.

2. Number of valves for which leaks were not repaired as required in 40 CFR 61.242-7(d).

3. Number of pumps for which leaks were detected as described in 40 CFR 61.242-2(b) and (d)(6).

4. Number of pumps for which leaks were not repaired as required in 40 CFR 61.242-2(c) and (d)(6).

5. Number of compressors for which leaks were detected as described in 40 CFR 61.242-3(f).

6. Number of compressors for which leaks were not repaired as required in 40 CFR 61.242-3(g).

7. The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.

C. Dates of process unit shutdowns which occurred within the semiannual reporting period.

D. Revisions to items reported according to 40 CFR 61.247(a) if changes have occurred since the initial report or subsequent revisions to the initial report.

E. The results of all performance tests and monitoring to determine compliance with no detectable emissions and with 40 CFR 61.243-1 and 61.243-2 conducted within the semiannual reporting period.

c. 40 CFR 61.357 (Subpart FF)

i. If the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall submit to the Administrator a report that updates the information listed in 40 CFR 61.357(a)(1) through (a)(3) whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more [40 CFR 61.357(b)].

ii. If the total annual benzene quantity from facility waste is less than 10 Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr (1.1 ton/yr) then the owner or operator shall submit to the Administrator a report that updates the information listed in 40 CFR 61.357 (a)(1) through (a)(3). The report shall be submitted annually and whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more. If the information in the annual report required by 40 CFR 61.357 (a)(1) through (a)(3) is not changed in the following year, the owner or operator may submit a statement to that effect [40 CFR 61.357(c)].

iii. If the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), then the owner or operator shall submit to the Administrator reports described in 40 CFR 61.357(d) [40 CFR 61.357(d)].

d. The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected by-product recovery plant with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

The Permittee shall notify the Illinois EPA, Air Compliance Section within 30 days of operations of the affected by-product recovery plant deviating from the requirements specified in this subsection.

e. Reporting on the malfunction and breakdown shall be performed in accordance with Condition 5.10.6.

f. All other deviations not specifically addressed by Section 7.3.12 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

7.3.13 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected by-product recovery plant.

7.3.14 Compliance Procedures

a. For the affected by-product recovery plant, compliance with state and federal regulations described in Conditions 7.3.3 shall be achieved by the work practices, testing, monitoring, recordkeeping and reporting requirements described above in Subsection 7.3 of this permit.

b. Emissions of regulated air pollutants (including (HAP's) shall be calculated in accordance with Condition 5.12.1(b).

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7.4 Blast Furnaces

7.4.1 Description

Blast Furnaces and Casthouse:

Iron ore is converted to molten iron in the “A” and “B” Blast Furnaces. Iron ore, coke and a variety of fluxes (collectively called the burden) are charged into the top of the furnace, while heated air is blown up through the burden at a high velocity. The now molten iron and slag accumulates in the bottom of the furnace, where a taphole is drilled. The molten iron and slag pours out of the furnace into a trough, where the slag is separated from the iron. The iron moves down runners until it pours into torpedo cars. From here, the iron is taken to the BOF, where it is converted into steel. The slag travels down a separate runner and dumps into the slag pits. The molten slag is quenched with a mixture of water and potassium permanganate solution.

The Blast Furnace charging generates particulate matter emissions. Each furnace has a double-bell system to minimize emissions during charging.

Emissions may also be discharged during startup, malfunctions and shutdowns for routine maintenance. Each furnace is equipped with bleeder valves which will relieve to the atmosphere if the furnace becomes overpressurized. Slips can cause overpressurization. In this condition, the stock in the furnace will bridge and cause a void to develop. The void will increase until the bridge collapses. Backdrafting of the blast furnaces is conducted in order to necessitate certain repairs, both routine and non-routine. Steam is utilized to draw furnace gases back through the tuyeres and out of backdraft stacks.

Casthouse emissions consisting of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, and organic materials are generated by the drilling of the taphole, the pouring of the iron into the torpedo cars, the pouring of the slag into the slag pits and the miscellaneous operations that take place within the casthouse structure. Emissions from this unit are controlled by the Casthouse Baghouse and the Iron Spout Baghouse.

Blast Air Stoves:

Emissions from this unit consist of particulate matter, sulfur dioxide, nitrogen oxides, and carbon monoxide generated as by-products of the combustion of Blast Furnace Gas (BFG) and Coke Oven Gas (COG). The gases collected from the blast furnaces are first cleaned in a dust collection system and are then combusted in these stoves. BFG is primarily made up of carbon monoxide. The heat generated by the combustion of these gases is used to heat the brick lining of the stoves. This stored heat is then allowed to transfer to the blast air that is then blown into the blast furnaces as part of the iron making process. There are currently

three stoves for each furnace at the facility. Each set of three stoves operates in parallel to maintain a continuous supply of blast air. Only two of the three stoves will burn at any given time. All three stoves are exhausted to a common stack.

Note: This narrative description is for informational purposes only and is not enforceable.

7.4.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Blast Furnaces	Blast Furnaces "A" and "B": • Blast Furnace Charging (A and B) • Blast Furnace Casthouse (Tapping, Iron and Slag Runner, Slag Pits and Torpedo Car Loading Emissions From A and B Furnaces) • (6) Blast Air Stoves (BFG and COG) (3 per each furnace) • (6) Blast Air Stoves (BFG only) • Excess Blast Furnace Gas • Highline transfer and stockpiles/material handling of iron ore pellets • Highline transfer and stockpiles/material handling of coke and fluxes (limestone, dolomite) • Iron ore pellet rail car unloader and conveyors • Transfer of reclaimed material from the beaching pit	Before 1972	Casthouse Baghouse; Iron Spout Baghouse; Blast Furnace Excess Gas Flare

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7.4.3 Applicable Provisions

a. The "affected blast furnace process" for the purpose of these unit-specific conditions, are the emission units and activities described in Conditions 7.4.1 and 7.4.2.

b. The affected blast furnace process is subject to 35 IAC 212.445. Certain provisions of this regulation are discussed further in this subsection.

c. Charging, backdrafting and beaching operations of the affected blast furnace process are subject ~~either~~ to 35 IAC 212.322(b)(1), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced prior to April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (See also Section 10.2.2, Attachment 2) [35 IAC 212.322(a~~)];~~)].

~~or~~

~~to 35 IAC 212.321(b)(1), which provides that:~~

~~No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (See also Section 10.2.1, Attachment 2) [35 IAC 212.321(a)].~~

d. The affected blast furnace process is subject to 40 CFR Part 63, Subpart FFFFF, Integrated Iron and Steel Manufacturing Facilities. Certain provisions of this regulation are discussed further in this subsection.

7.4.3-1 Applicable Standards

a. 35 IAC 212.445

i. Uncaptured Emissions

Emissions of uncaptured particulate matter from any opening in a blast furnace cast house shall not exceed 20 percent opacity on a six (6) minute rolling average basis beginning from initiation of the opening of the tap hole up to the point where the iron and slag stops flowing in the trough.

ii. Emissions from Control Equipment

A. Particulate matter emissions from control equipment used to collect any of the emissions

from the tap hole, trough, iron or slag runners or iron or slag spouts shall not exceed 0.023 g/dscm (0.010 gr/dscf). Compliance shall be based on procedures in 40 CFR 60, Appendix A, Methods 1-5, and based on the arithmetic average of three runs.

B. The opacity of emissions from control equipment used to collect any of the particulate matter emissions from the tap hole, trough, iron or slag runners or iron or slag spouts shall not exceed 10 percent on a six (6) minute rolling average basis.

b. 35 IAC 212.316(b)

Pellet screening operations are subject to the following:

Emission Limitation for Crushing and Screening Operations. No person shall cause or allow fugitive particulate matter emissions generated by the crushing or screening of slag, stone, coke or coal to exceed an opacity of 10 percent.

c. 35 IAC 212.316(f)

Other material handling operations are subject to the following:

Emission Limitation for All Other Emission Units. Unless an emission unit has been assigned a particulate matter, PM-10, or fugitive particulate matter emissions limitation elsewhere in this Section or in Subparts R or S of 35 IAC Part 212, no person shall cause or allow fugitive particulate matter emissions from any emission unit to exceed an opacity of 20 percent.

d. 40 CFR 63.7790(a)

Pursuant to paragraph 7 of Table 1 to Subpart FFFFF, the emissions from the affected blast furnace operations shall not exceed the following limits for each casthouse at an existing blast furnace:

i. Particulate matter emissions from a control device shall not exceed ~~of~~ 0.01 gr/dscf; and

ii. Any secondary emissions that exit any opening in the casthouse or structure housing the blast furnace shall not exceed opacity greater than 20 percent (6 minute average).

e. 40 CFR 63.7790(b)(1)

The Permittee must operate each capture system applied to blast furnace casthouse at or above the lowest value or

settings established for the operating limits in the Permittee's operation and maintenance plan.

7.4.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture, pursuant to 35 IAC 212.324 (a)(3).

b. Except where noted, 35 IAC 212.321 and 35 IAC 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452 [35 IAC 212.441].

c. The affected blast furnace operations are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because these operations are subject to a NESHAP proposed after November 15, 1990, pursuant to 40 CFR 64.2(b)(1)(i).

d. 35 IAC 212.308 shall not apply to highlines at steel mills pursuant to 35 IAC 212.455.

e. See also Condition 5.4(c).

7.4.5-1 Work Practices: Operation and Maintenance Plan (40 CFR 63.7800)

a. As required by 40 CFR 63.6(e)(1)(i), the Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices (supported by the recordkeeping of the maintenance activities performed) for minimizing emissions at least to the levels required by Subpart FFFFF.

b. The Permittee shall prepare and operate at all times according to a written operation and maintenance plan for each capture system or control device subject to an operating limit in 40 CFR 63.7790(b). Each written operation and maintenance plan shall address the following elements:

i. Monthly inspections of the equipment that is important to the performance of the total capture system (*e.g.*, pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (*e.g.*, presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection.

ii. Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

iii. Operating limits for each capture system applied to emissions from a blast furnace casthouse. The Permittee shall establish the operating limits according to the following requirements in 40 CFR 63.7800(b)(3)(i) through (iii):

A. Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. At a minimum, the Permittee shall use appropriate operating limit parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to, volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure.

B. For each operating limit parameter selected as described above, the Permittee shall designate the value or setting for the parameter at which the capture system operates during the process operation. If the operation allows for more than one process to be operating simultaneously, the Permittee shall designate the value or setting for the parameter at which the capture system operates during each possible configuration that the source may operate.

C. Include documentation in the plan to support selection of the operating limits established for the capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why the Permitte chose the parameter, a description of the method used to monitor the parameter according to the requirements of 40 CFR 63.7830(a), and the data used to set the value or

setting for the parameter for each process configurations.

~~iv~~iv. Currently the following operating parameters have been established and monitored by the Permittee:

A. Blast Furnaces A & B Casthouse Baghouse: fan motor amperage for fans #1 and #2;
B. Blast Furnaces A & B Iron Spout Baghouse: fan motor amperage for fans #1 and #2; Blast Furnace A iron spout damper positions; Blast Furnace B tilting runner damper position; and
C. One Furnace down (one fan operation and dampers on down furnace closed): fan motor amperage for fan #1 or #2; Blast Furnace A iron spout damper positions; Blast Furnace B tilting runner damper position.

v. Corrective action procedures for baghouses equipped with bag leak detection systems~~ or continuous opacity monitoring systems (COMS).~~. In the event a bag leak detection system alarm is triggered~~ or emissions from a baghouse equipped with a COMS exceed an hourly average opacity of 5 percent~~, the Permittee shall initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Corrective actions may include, but are not limited to:

A. Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

B. Sealing off defective bags or filter media.

C. Replacing defective bags or filter media or otherwise repairing the control device.

D. Sealing off a defective baghouse compartment.

E. Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system.

F. Shutting down the process producing the particulate emissions.

7.4.5-2 Work Practices: Startup, Shutdown and Malfunction Plans and associated procedures

a. Pursuant to 40 CFR 63.7810(c), the Permittee shall develop a written startup, shutdown, and malfunction plan for the affected blast furnace process according to the provisions established in 40 CFR 63.6(e)(3).

b. Malfunction and Breakdown

i. Subject to the following terms and conditions, the Permittee is authorized to continue operation of the affected blast furnace operations in violation of the applicable state standards in Conditions 7.4.3 and 7.4.3-1 in the event of a malfunction or breakdown of the affected units and applicable control practices. This shall include blast furnace overpressurization, slips, use of auxiliary tapholes, and backdrafting associated with periods of malfunction and breakdown. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent risk of injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns. This authorization supersedes the general prohibition in Condition 9.2.3 against continued operation in such circumstances.

ii. This authorization only allows such continued operation as necessary to provide essential service or to prevent risk of injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee [35 IAC 201.262].

iii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practical repair the affected emission/process units and/or applicable control practices.

iv. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.4.11 and 7.4.12. For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the affected emission unit(s) out of service.

v. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.

vi. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

c. Startup

Subject to the following terms and conditions, the Permittee is authorized to operate the affected blast furnace operations in violation of the applicable standards in Condition 7.4.3-1 during startup. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally describing the efforts that will be used "…to minimize startup emissions, duration of individual starts, and frequency of startups."

i. This authorization does not relieve the Permittee from the continuing obligation to demonstrate that all reasonable efforts are made to minimize startup emissions, duration of individual startups and frequency of startups.

ii. For the streamlining purposes of the startup provisions, the Permittee should follow a written startup, shutdown, and malfunction plan for the affected blast furnace process according to the provisions established in 40 CFR 63.6(e)(3) and Condition 7.4.5-2.

iii. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Condition 7.4.11 and 7.4.12.

iv. As provided by 35 IAC 201.265, an authorization in a permit for excess emissions during startup does not shield a Permittee from enforcement for any violation of applicable emission standard(s) that occurs during startup and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

~~v. In order to minimize amount of unusable iron during startups, Condition 7.4.5-3(a) for optimizing beaching shall be followed.~~

7.4.5-3 Other Work Practices incorporated from State Permits #72080034, #72080036 and #85030039

a. Beaching

i. Under the following circumstances beaching of iron may occur:

A. In the event that Blast Furnace A or Blast Furnace B must be shut down in order to cast the furnace dry.

B. In the event that an interruption in the BOF steelmaking and/or casting operations will result in a temporary surplus of iron, beyond the capacity of the system to hold, necessitating beaching in order to cast the furnace dry and provide the ability to safely shut down.

C. In the event that the blast furnace produces unusable iron such as high silica or low temperature iron. High silica iron shall be blended and used to the extent possible at the BOF in order to reduce beaching. Low temperature iron shall be used at the BOF to the extent possible until solidification in the car becomes imminent. In other cases of unusable iron, such iron shall be used when possible to minimize the quantity beached.

ii. In the event that the beaching of iron occurs the Permittee shall beach the iron as follows:

A. Beaching shall be allowed only in the event that alternate receptacles are not available;

B. Beaching shall be allowed only if all reasonable measures are taken to minimize the quantity of liquid metal beached, the frequency of a malfunction or breakdown that necessitates beaching, the duration beaching occurs, and the emissions resulting from beaching; and

C. Beaching shall be allowed at a controlled pour rate not to exceed 20 tons per minute.

b. i. The baghouse pressure drop continuous recording system shall be used on the 350,000 acfm casthouse baghouse.

The recorded data shall be retained for a period of six months shall be made available to the Illinois EPA personnel upon request.

ii. The Permittee shall maintain and operate a continuous pressure drop recording system on the iron spout baghouse.

c. Except during periods of runner maintenance, the hot metal runners and the short slag runner shall be covered with permanent type runner covers.

d. Water spraying of the slag for the purpose of cooling and minimizing slag load-out emissions will take place after completion of the slagging operation and prior to slag-loadout.

7.4.5-4 Other Work Practices

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The following requirements are established in accordance with 39.5(7)(a) of the Act:

a. The Permittee shall maintain the double-bell system of the blast furnaces in order to minimize emissions from furnace charging.

~~b.~~

b. i. The affected material handling operations shall be operated in accordance with the provisions of the operating program as described in 35 IAC 212.309 and 212.310 (see also Condition 5.3.3).

ii. The Permittee shall develop and implement operating practices plan for handling processing of slag pits for minimizing emissions and keeping them below the levels established in Condition 7.4.6(e).

c. Prior to material in the beaching pit being dug and transferred to vehicles for recycling to the blast furnaces, it shall be watered to minimize particulate matter emissions during such material handling~~.~~.[T1N]

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~~c~~d. Backdrafting the blast furnaces in order to conduct planned/routine maintenance (not associated with malfunction and breakdowns) shall follow procedures designed to minimize the release of emissions during such activities~~.~~.[T1N]

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~~d. The affected material handling operations shall be operated in accordance with the provisions of the operating program as described in 35 IAC 212.309 and 212.310 (see also Condition 5.3.3).~~

i. Flares shall operate without visible emissions.

f. Conditions 7.4.5-4(c) and (d) from above are being established in this permit pursuant to Title I of the CAA, specifically PSD for purposes of minimizing emissions released during operations [T1N].

7.4.6 Production and Emission Limitations

a. i. Total combined production of hot metal (a.k.a., iron) from blast furnaces A and B shall not exceed 9,849 net tons per day, averaged over any calendar month; and

ii. ~~Total combined~~See Condition 5.6.3(a) for iron production ~~of hot metal from blast furnaces A and B shall not exceed 3,165,000 net tons per year.~~limit.

b. Casthouse Baghouse (furnace tapping)- captured emissions ducted to baghouse, uncaptured emissions emitted through roof, other openings, etc., shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.0703	111.19
PM-10	0.0703	111.19
SO_2	0.2006	422.0
NO_x	0.0144	22.79
VOM	0.0946	149.68

c. Blast Furnace uncaptured fugitives emissions shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.031	49.06
PM-10	0.0155	24.53
SO_2	0.0104	21.94
NO_x	0.0007	1.14
VOM	0.0047	7.42

d. Blast Furnace Charging emissions (maximum pellets charged = 4,308,581 tons/yr) shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.0024	5.17
PM-10	0.0024	5.17

e. Slag Pits emissions shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.00417	6.60
PM-10	0.00417	6.60
SO_2	0.0100	15.83

f. Iron Spout Baghouse captured emissions controlled by iron spout baghouse shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.02548	40.32

PM-10	0.02548	40.32
SO_2	0.0073	13.89

g. Iron Pellet Screen emissions (maximum pellets charged = 4,308,581 tons/yr) shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.00279	6.01
PM-10	0.00279	6.01

h. Total emissions from blast furnace operations shall not exceed the following limits, tons/yr:

	PM	PM-10	SO_2	NO_x	VOM	CO	Lead
Blast Furnace Operations	218	194	474	24	157	--	--

i. Overlapping casting of "A" and "B" Blast Furnaces shall not exceed a casting rate of 6 tons per minute per furnace.

These production/emission limits (Condition 7.4.6(a) through (i)) have been established in state permits #72080034, #72080036 and #95010001 pursuant to 40 CFR 52.21, PSD. These limits ensure that the construction and/or modifications addressed in the aforementioned permits do not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD, 40 CFR 52.21 [T1].

j. Compliance with annual limits shall be determined on a monthly basis from the sum of the data available for the calendar year [T1].

k. See also Condition 5.6.3.

7.4.7-1 Inspection Requirements

a. The Permittee shall perform detailed inspections of the flare's ignition system associated with blast furnace operations on the monthly basis, with an initial inspection performed before any maintenance and repair activities are conducted during the period the process is out of service and a follow-up inspection performed after any such activities are completed. [Sections 39.5(7)(a) and (d) of the Act]

b. See Conditions 7.4.5-1 and 7.4.9 for more details on baghouse inspections.

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7.4.7-2 Testing Requirements

a. Testing requirements applicable to the Perrmittee established by 40 CFR Part 63 Subpart FFFFF:

i. Tests for initial compliance demonstration shall be performed in accordance with 40 CFR 63.7820(a) and (b).

ii. Pursuant to 40 CFR 63.7821(c), for each emissions unit equipped with a baghouse, the Permittee must conduct subsequent performance tests no less frequently than once during each term of the Title V operating permit.

iii. Test methods for compliance demonstration with the emission limits for particulate matter (40 CFR 63.7822(b)):

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A. Determine the concentration of particulate matter according to the following test methods in appendix A to 40 CFR part 60.

1. Method 1 to select sampling port locations and the number of traverse points. Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

2. Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

3. Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

4. Method 4 to determine the moisture content of the stack gas.

5. Method 5, 5D, or 17, as applicable, to determine the concentration of particulate matter (front half filterable catch only).

B. Collect a minimum sample volume of 60 dry standard cubic feet (dscf) of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

iv. Test methods for compliance demonstration with the opacity limits (40 CFR 63.7823(b) and (c)):

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A. The Permittee must conduct each visible emissions performance test such that the opacity observations overlap with the performance test for particulate matter.

B. To determine compliance with the applicable opacity limit for a blast furnace casthouse, the Permittee shall:

1. Use a certified observer to determine the opacity of emissions according to Method 9 in Appendix A to 40 CFR Part 60.

2. Obtain a minimum of 30 6-minute block averages. For a blast furnace casthouse, the Permittee shall make observations during tapping of the furnace. Tapping begins when the furnace is opened, usually by creating a hole near the bottom of the furnace, and ends when the hole is plugged.

b. Testing requirements ~~established by 35 IAC 212.445~~ for blast furnace ~~cast house~~casthouse.

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i. For uncaptured emissions (~~35 IAC 212.445(a)(2~~roof monitor):

~~Opacity readings shall be taken~~A. The Permittee shall have the opacity of the exhaust of the building housing the blast furnace casthouse determined by a qualified observer in accordance with ~~the observation procedures set out in 40 CFR part 60, Appendix A,~~USEPA Method 9~~, incorporated~~ while the affected blast furnace(s) is operating, as further specified below.

B. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless no visible emissions are observed as determined by ~~reference~~USEPA Method 22 or the average opacities for the first 12 minutes of observations (two six-minute averages) conducted for the point of release that displays the greatest opacity are both less than 20.0 percent.

C. 1. Observations of opacity shall be conducted on the following frequency unless absence of adequate daylight or weather conditions preclude scheduled observation, in which case, the next observations shall be conducted on the next operating day of the cast house during which observations of opacity can reasonably be conducted in ~~35 IAC 212.113~~accordance with USEPA Method 9:

i. On a weekly basis (at least once every 7 operating days of the casthouse) except as provided below.

ii. On a daily basis (at least 5 days out of 7 operating days of the casthouse) if any of the five previous observations measured opacity of 20 percent or more, continuing on a daily basis until the maximum opacities measured in five consecutive daily observations are all less than 20 percent, at which time observations on a weekly basis shall resume.

2. Upon written request by the Illinois EPA, additional opacity observations shall be conducted within 5 operating days by the casthouse from the date of the request by the Illinois EPA or on the date agreed upon by the Illinois EPA, whichever is later. For such observations conducted pursuant to a request from the Illinois EPA:

i. The Permittee shall notify the Illinois EPA at least 24 hours in advance of the date and time of these observations, in order to enable the Illinois EPA to witness the observations. This notification shall include the name and employer of the qualified observer(s).

ii. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for observations.

iii. The duration of these observations shall cover a complete heat or cycle of the affected blast furnace.

iv. The Permittee shall provide a copy of the current certification for the opacity observer and observer's readings to the Illinois EPA at the time of the observations, if the Illinois EPA personnel are present.

D. The Permittee shall keep records for all opacity measurements for the casthouse made in accordance with USEPA Method 9 for the affected operations that the Permittee conducts or that are conducted at its behest by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to Condition

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7.4.7-2(b)(i), or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the affected operations, the observed opacity, and copies of the raw data sheets for the measurements.

ii. Emissions from control equipment (35 IAC 212.445(b):

~~A. Compliance~~A. Upon the Illinois EPA request, compliance with emission limits of 35 IAC 212.445(b)(1)(see also Condition 7.4.3-1(a)(ii)(A)) shall be determined in accordance with the procedures set out in 40 CFR part 60, Appendix A, Methods 1 through 5, incorporated by reference in 35 IAC 212.113, and shall be based on the arithmetic average of three runs. Calculations shall be based on the duration of a cast defined in 35 IAC 212.445(a)(1).

~~B. Opacity~~B. Upon the Illinois EPA request, opacity readings, for verifying compliance with emission limit of 35 IAC 212.445(b)(2)(see also Condition 7.4.3-1(a)(ii)(B~~))~~)), shall be taken in accordance with the observation procedures set out in 40 CFR part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113.

c. ~~c. Frequencies for~~Flares:

Opacity readings shall be conducted annually to assure compliance with no visible emissions from the flare. USEPA Method 22 shall be used for the opacity reading and the Permittee may use the following testing ~~procedures described~~procedure as outlined in ~~7.4.7-~~40 CFR 60.18(f):

i. Method 22 of Appendix A to 40 CFR Part 60 shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2~~(b)~~ hours and shall be ~~performed~~used according to Method 22.

ii. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

iii. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on ~~the monthly~~combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C;

K = Constant, $1.740 \times 10^{-7} \left(\frac{1}{ppm}\right) \left(\frac{g\ mole}{scm}\right) \left(\frac{MJ}{kcal}\right)$

where the standard temperature for $\left(\frac{g\ mole}{scm}\right)$ is 20^0C;

C_i = Concentration of sample component i in ppm on a wet basis~~ for opacity readings and in 2.5 years intervals for the stack~~, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 or 90 (Reapproved 1994) (Incorporated by reference as specified in 40 CFR 60.17); and

H_i = Net heat of combustion of sample component i, kcal/g mole at 25°C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in 40 CFR 60.17) if published values are not available or cannot be calculated.

iv. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

v. The maximum permitted velocity, V_{max}, for flares complying with 40 CFR 60.18(c)(4)(iii) shall be determined by the following equation.

$$\text{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

V_{max} = Maximum permitted velocity, M/sec
28.8 = Constant
31.7 = Constant
H_T = The net heating value as determined in 40 CFR 60.18 (f)(3).

vi. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation.

$$V_{max} = 8.706 + 0.7084\ (H_T)$$

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V_{max} = Maximum permitted velocity, m/sec
8.706 = Constant
0.7084 = Constant
H_T = The net heating value as determined in 40 CFR 60.18 (f)(3).

d. Iron Spout Baghouse

i. One year before an expiration date of this permit, the Permittee shall conduct performance test(s) and furnish the Illinois EPA a written report of the results of such test(s).

ii. These tests shall be designed to measure the PM, and SO_2 emissions from the iron spout baghouse under conditions which are representative of maximum emissions.

iii. The following USEPA test methods shall be used for testing ~~required by Condition 7.4.7-2(b)(ii)(A). These reasonable frequencies~~of emissions, unless another method is approved by the Illinois EPA. Refer to 40 CFR 51, Appendix M, and 40 CFR 60, Appendix A, for test methods.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
PM	Method 5
SO_2	Method 6

iv. Test notification and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

Testing conditions are established pursuant to 39.5(7)(~~a~~d) and (p) of the Act.

e. ~~d. Testing to determine compliance with PM_{10} standards shall follow the methods specified in 35 IAC 212.108.~~

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7.4.8 Operating Limits

The Permittee shall operate the affected blast furnaces in accordance with the operating limits described in the operation and maintenance plan, pursuant to 40 CFR 63.7790(b)(1).

7.4.9 Monitoring Requirements

a. Monitoring (40 CFR 63.7830)

i. For each capture system subject to an operating limit in 40 CFR 63.7790(b)(1) established in the Permittee's

capture system operation and maintenance plan, the Permittee must install, operate, and maintain a CPMS according to the requirements in 40 CFR 63.7831(e) and the requirements in 40 CFR 63.7830(a)(1) through (3) [40 CFR 63.7830(a)].

ii. The Permittee shall install, operate, and maintain a bag leak detection system according to 40 CFR 63.7831(f) and monitor the relative change in particulate matter loadings according to the requirements in 40 CFR 63.7832.

Note: casthouse baghouse and iron spout baghouse are each equipped with a bag leak detection system and therefore subject to those requirements.

iii. The Permittee shall conduct inspections of each baghouse at the specified frequencies according to the following requirements [40 CFR 63.7830(b)(4)]:

A. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the operation and maintenance plan manual.

B. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.

C. Check the compressed air supply for pulse-jet baghouses each day.

D. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.

E. Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.

F. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. The Permittee does not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.

G. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.

H. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

b. Installation, operation, and maintenance requirements for the monitors [40 CFR 63.7831]

i. For each CPMS required in 40 CFR 63.7830, the Permittee shall develop and make available for inspection upon request by the permitting authority a site-specific monitoring plan that addresses the following requirements:

A. Installation of the CPMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.*, on or downstream of the last control device);

B. Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system;

C. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations);

D. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1), (c)(3), (c)(4)(ii), (c)(7), and (c)(8);

E. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d); and

F. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).

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ii. Unless otherwise specified, each CPMS must:

A. Complete a minimum of one cycle of operation for each successive 15-minute period and collect a minimum of three of the required four data points to constitute a valid hour of data;

B. Provide valid hourly data for at least 95 percent of every averaging period; and

C. Determine and record the hourly average of all recorded readings.

iii. The Permittee shall conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan developed by the source.

iv. The Permittee shall operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan developed by the source.

v. For each capture system subject to an operating limit in 40 CFR 63.7790(b)(1), the Permittee shall install, operate, and maintain each CPMS according to the requirements in 40 CFR 63.7831(a) through (d).

vi. For each baghouse equipped with a bag leak detection system according to 40 CFR 63.7830(b)(1), the Permittee shall install, operate, and maintain the bag leak detection system according to the following requirements:

A. The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

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B. The system must provide output of relative changes in particulate matter loadings.

C. The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over a preset level. The alarm must be located such that it can be heard by the appropriate plant personnel.

D. Each system that works based on the triboelectric effect must be installed, operated, and maintained in a manner consistent with the guidance document, "Fabric Filter Bag Leak Detection Guidance," EPA-454/R-98-015, September 1997. The Permittee may install, operate, and maintain other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations.

E. To make the initial adjustment of the system, the Permittee shall establish the baseline output by adjusting the sensitivity (range) and the averaging period of the device. Then, the

Permittee shall establish the alarm set points and the alarm delay time.

F. Following the initial adjustment, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the operation and maintenance plan. The Permittee shall not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition.

G. Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

f. Inspection of Flares

The Permittee shall perform detailed inspections of the flare's ignition system associated with blast furnace operations on the monthly basis, with an initial inspection performed before any maintenance and repair activities are conducted during the period the process is out of service and a follow-up inspection performed after any such activities are completed. [Sections 39.5(7)(a) and (d) of the Act]

7.4.10 Continuous Compliance Demonstration Requirements

a. Monitoring and Collecting Data [40 CFR 63.7832]:

i. Except for monitoring malfunctions, out-of-control periods as specified in 40 CFR 63.8(c)(7), associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times an affected source is operating.

ii. The Permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels or to fulfill a minimum data availability requirement, if applicable. The Permittee shall use all the data collected during all other periods in assessing compliance.

iii. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

b. Compliance Demonstration with Emission Limitations [40 CFR 63.7833]:

i. The Permittee shall demonstrate continuous compliance for each affected source subject to an emission or opacity limit in 40 CFR 63.7790(a) by meeting the following requirements for existing blast furnace casthouse as presented by paragraph #7 in Table 3 to Subpart FFFFF:

A. Maintaining emissions of particulate matter from control device at or below 0.01 gr/dscf;

B. Maintaining the opacity of secondary emissions that exit any opening in the casthouse or structure housing the casthouse at or below 20 percent (6-minute average); and

C. Conducting subsequent performance tests at the frequencies specified in 40 CFR 63.7821.

ii. The Permittee shall demonstrate continuous compliance for each capture system subject to an operating limit in 40 CFR 63.7790(b)(1) by meeting the following requirements:

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A. Operate the capture system at or above the lowest values or settings established for the operating limits in the operation and maintenance plan; and

B. Monitor the capture system according to the requirements in 40 CFR 63.7830(a) and collect, reduce, and record the monitoring data for each of the operating limit parameters according to the applicable requirements of Subpart FFFFF.

iii. For each baghouse applied to meet any particulate emission limit in Table 1 to Subpart FFFFF, the Permittee shall demonstrate continuous compliance by meeting the following requirements:

A. For a baghouse equipped with a bag leak detection system, the Permittee shall operate and maintain each bag leak detection system according to 40 CFR 63.7831(f) and shall record all information needed to document conformance with these requirements.

If the Permittee increases or decreases the sensitivity of the bag leak detection system beyond the limits specified in 40 CFR 63.7831(f)(6), the Permittee shall include a copy of the required written certification by a responsible official in the next semiannual compliance report.

B. Inspect each baghouse according to the requirements in 40 CFR 63.7830(b)(4) and maintain all records needed to document conformance with these requirements.

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C. Maintain records of the time the Permittee initiated corrective action in the event of a bag leak detection system alarm or when the hourly average opacity exceeded 5 percent, the corrective action(s) taken, and the date on which corrective action was completed.

c. Compliance Demonstration with the Operation and Maintenance Requirements [40 CFR 63.7834]:

i. For each capture system and control device subject to an operating limit in 40 CFR 63.7790(b), the Permittee shall demonstrate continuous compliance with the operation and maintenance requirements in 40 CFR 63.7800(b) by meeting the following requirements:

A. Making monthly inspections of capture systems and initiating corrective action according to 40 CFR 63.7800(b)(1) and recording all information needed to document conformance with these requirements;

B. Performing preventative maintenance according to 40 CFR 63.7800(b)(2) and recording all information needed to document conformance with these requirements; and

C. Initiating and completing corrective action for a baghouse equipped with a bag leak detection system and recording all information needed to document conformance with these requirements, including the time the Permittee initiated corrective action, the corrective action(s) taken, and date on which corrective action was completed.

ii. The Permittee shall maintain a current copy of the operation and maintenance plan required in 40 CFR 63.7800(b) onsite and available for inspection upon request. The Permittee shall keep the plans for the life

of the affected source or until the affected source is no longer subject to the requirements of Subpart FFFFF.

7.4.11 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected Blast Furnaces, pursuant to Sections 39.5(7)(a), (e) and (p) of the Act:

a. 40 CFR 63.7842 and 63.7843

i. The Permittee shall keep the following records specified in 40 CFR 63.7842 (a)(1) through (a)(3):

A. A copy of each notification and report that the Permittee submitted to comply with Subpart FFFFF, including all documentation supporting any initial notification or notification of compliance status that the Permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

B. The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

C. Records of performance tests, performance evaluations, and opacity observations as required in 40 CFR 63.10(b)(2)(viii).

ii. The Permittee shall keep the records in 40 CFR 63.6(h)(6) for visual observations.

iii. The Permittee shall keep the records required in 40 CFR 63.7833 and 63.7834 (including a current copy of the operation and maintenance plan) to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to the Permittee.

iv. The Permittee shall keep its records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1).

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v. As specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

vi. The Permittee shall keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The Permittee may keep the records offsite for the remaining 3 years.

b. Recordkeeping requirements carried over from permits #72080034, #72080036 and #95010001:

i. The Permittee shall maintain records of excess emissions during malfunctions and breakdowns. At a minimum, these records shall include:

A. A full and detailed explanation of why such excess emissions occurred;

B. The date and length of time during which operation continued under such conditions;

C. The measures used to reduce the quantity of emissions and length of time during which such operations occurred;

D. The steps the Permittee will take to prevent similar malfunctions or breakdowns; and

E. The pour rate if the malfunction or breakdown resulted in the beaching of liquid metal (tons/minute).

ii. Blast Furnace hot metal production (total combined daily, monthly and annual in tons), including documentation on iron and slag losses.

iii. Monthly and annual usage of natural gas, blast furnace gas and coke oven gas (million ft^3) used by the affected blast furnace stoves.

iv. The Permittee shall keep the monthly records of oil usage and the following analyses for each shipment of recycled oil (these analyses of each shipment shall be submitted to the Illinois EPA upon applying for a Title V permit renewal) used by the affected blast furnace stoves:

A. Gallons of recycled oil in a shipment;

B. Percent lead (by weight);

C. Percent ash (by weight);

D. Percent sulfur (by weight);

E. Parts per million (PPM) halogen content;

F. PPM chromium, arsenic, lead and cadmium;

G. Flash point in degrees Fahrenheit; and

H. Monthly usage.

v. The Permittee shall keep the monthly records of intermediate light oil usage and the following analyses (these analyses shall be submitted to the Illinois EPA upon applying for a Title V permit renewal) used by the affected blast furnace stoves:

A. Gallons of intermediate light oil;

B. Percent lead (by weight);

C. Percent ash (by weight);

D. Percent sulfur (by weight); and

E. Flash point in degrees Fahrenheit.

c. Records for Startup

The Permittee shall maintain the following records, pursuant to Section 39.5(7)(b) of the Act, for the affected blast furnace operations subject to Condition 7.4.3-1, which at a minimum shall include:

i. The following information for each startup of the affected blast furnace operations:

A. Date and duration of the startup, i.e., start time and time normal operation achieved.

B. If normal operation was not achieved within the time frame defined by the Operating and Maintenance Plan, an explanation why startup could not be achieved within this time.

C. A detailed description of the startup.

D. An explanation why the established startup procedures could not be performed, if not performed.

ii. A maintenance and repair log for the affected blast furnace operations, listing each activity performed with date, identical to the records required by Condition 7.4.11(a) and operation and maintenance plan requirements.

d. Pursuant to 35 IAC 201.263 and Sections 39.5(7)(a) and (e) of the Act, the Permittee shall maintain records, related to malfunction and breakdown for affected operations that at a minimum, shall include:

i. Maintenance and repair log(s) for the affected operations that, at a minimum, address aspects or components of such operations for which malfunction or breakdown has resulted in excess emissions, which shall list the activities performed on such aspects or components, with date, description and reason for the activity. In addition, in the maintenance and repair log(s) for control equipment, the Permittee shall also list the reason for the activities that are performed.

ii. Records for each incident when operation of an affected process continued during malfunction or breakdown, including continued operation with excess emissions as addressed by Condition 7.4.3-1, that include the following information:

A. Date and duration of malfunction or breakdown.

B. A description of the malfunction or breakdown.

C. The corrective actions used to reduce the quantity of emissions and the duration of the incident.

D. If excess emissions occurred for two or more hours:

1. A detailed explanation why continued operation of the affected operation was necessary.

2. A detailed explanation of the preventative measures planned or taken to prevent similar malfunctions or breakdowns or to reduce their frequency and severity.

3. An estimate of the magnitude of excess emissions occurring during the incident.

e. ~~e.~~ Records showing the dates and times the furnaces were backdrafted for planned shutdowns and/or routine maintenance. This shall include, at a minimum for each occurrence, the blast furnace identification, timeframe of backdraft, reason, and steps taken to minimize emissions during the backdraft period. This condition is established pursuant to Title I of the CAA, specifically PSD for purposes of minimizing emissions released during operations [T1N].

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f. ~~f~~Records of iron pellets charged (tons/month and tons/year).

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g. Records of slag processed (tons/month and tons/year).

h. Records of amount of iron pellets screened (tons/month and tons/year).

i. If the Permittee operates under manufacturer's specifications or manufacturer's instructions, such manufacturer's

documentation shall be kept at the source as part of the required records.

j. Annual emissions of regulated air pollutants (including HAP's) from the affected blast furnace operations shall be kept on site and calculated based on the procedures described in Condition 5.12.1(b).

7.4.12 Reporting Requirements

a. 40 CFR Part 63, Subpart FFFFF (40 CFR 63.7841)

i. Compliance report due dates. Unless the Administrator has approved a different schedule, the Permittee must submit a semiannual compliance report to the permitting authority according to the following requirements:

A. The first compliance report must cover the period beginning on the compliance date that is specified for the affected source in 40 CFR 63.7783 and ending on June 30 or December 31, whichever date comes first after the compliance date that is specified for the source in 40 CFR 63.7783.

B. The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the first compliance report is due.

C. Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

D. Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

E. For each affected source that is subject to permitting regulations pursuant to 40 CFR Part 70, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A), the Permittee may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates established above.

ii. Compliance report contents. Each compliance report must include the following information:

A. Company name and address.

B. Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

C. Date of report and beginning and ending dates of the reporting period.

D. If the Permittee had a startup, shutdown, or malfunction during the reporting period and the Perimittee took actions consistent with the source’s startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR 63.10(d)(5)(i).

E. If there were no deviations from the continuous compliance requirements in 40 CFR 63.7833 and 63.7834 that apply to the Permittee, a statement that there were no deviations from the emission limitations or operation and maintenance requirements during the reporting period.

F. If there were no periods during which a continuous monitoring system (including a CPMS, COMS, or continuous emission monitoring system (CEMS)) was out-of-control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

G. For each deviation from an emission limitation in 40 CFR 63.7790 that occurs at an affected source where the Permittee is not using a continuous monitoring system (including a CPMS, COMS, or CEMS) to comply with an emission limitation in Subpart FFFFF, the compliance report must contain the information described in Condition 7.4.12(a)(ii)(A) through (E) and the following information (this includes periods of startup, shutdown, and malfunction):

1. The total operating time of each affected source during the reporting period.

2. Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

H. For each deviation from an emission limitation occurring at an affected source where the Permittee is using a continuous monitoring system (including a CPMS or COMS) to comply with the emission limitation in Subpart FFFFF, the Permittee must include the information described in Condition 7.4.12(a)(ii)(A) through (F) and the following information (this includes periods of startup, shutdown, and malfunction):

1. The date and time that each malfunction started and stopped.

2. The date and time that each continuous monitoring was inoperative, except for zero (low-level) and high-level checks.

3. The date, time, and duration that each continuous monitoring system was out-of-control as specified in 40 CFR 63.8(c)(7), including the information in 40 CFR 63.8(c)(8).

4. The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

5. A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

6. A breakdown of the total duration of the deviations during the reporting period including those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

7. A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

8. A brief description of the process units.

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9. A brief description of the continuous monitoring system.

10. The date of the latest continuous monitoring system certification or audit.

11. A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

iii. Immediate startup, shutdown, and malfunction report. If the Permittee had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with the source's startup, shutdown, and malfunction plan, the Permittee shall submit an immediate startup, shutdown, and malfunction report according to the requirements in 40 CFR 63.10(d)(5)(ii).

~~iv. Part 70 monitoring report. The Permittee shall report all deviations as defined in Subpart FFFFF in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A). If the Permittee submits a compliance report for an affected source along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emission limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation to report deviations from permit requirements for an affected source to the permitting authority.~~

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b. Reporting requirements carried over from the permits #72080034, #72080036 and #95010001:

The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours upon the occurrence of excess emissions due to malfunctions or breakdowns. The Permittee shall comply with all reasonable and safe directives of the regional office regarding such malfunctions and breakdowns. The Permittee shall submit a quarterly report to the Illinois EPA's regional office in Collinsville providing an explanation of the occurrence of such events.

c. The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected blast furnace processes with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the

probable cause of such deviations, and any corrective actions or preventive measures taken.

i. The Permittee shall report whether operations of the affected blast furnace processes deviated from the requirements specified in this subsection within 30 days of such occurrence.

ii. The Permittee shall report whether an exceedance of the production/emission limits of Conditions 7.4.5 and 5.6.3 occurred within 30 days of such occurrence.

d. Reporting on the malfunction and breakdown shall be performed in accordance with Condition 5.10.6.

e. Reporting on startup shall be performed in accordance with Condition 5.10.7.

f. All other deviations not specifically addressed by Section 7.4.12 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

7.4.13 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected blast furnaces.

7.4.14 Compliance Procedures

a. For affected blast furnace processes, compliance with the applicable standards of Condition 7.4.3-1 shall be achieved by the work practices, testing, monitoring, recordkeeping and reporting requirements described in Subsection 7.4.

b. Compliance with the production/emission limits of Conditions 7.4.5 and 5.6.3 shall be achieved by keeping the appropriate operating records~~ and~~, records of emissions calculated in accordance with Condition 5.12.1(b~~).~~) and emission factors outlined in Condition 7.4.5.

c. Emissions of regulated air pollutants (including (HAP's) shall be calculated in accordance with Condition 5.12.1(b).

7.4.15 Compliance Schedule and Current Enforcement Status

The Permittee informed the Agency during diliberations of Consent Order 05-CH-750 of an alleged violation at the Blast Furnace shop. US Steel waived its rights to the 31(d) process and the Agency proceeded by referring the violation to the Office of the Illinois Attorney General. The violation alleged exceedances of the SO_2 limit in construction permit #95010001 issued on July 23, 1996. The violation- was resolved via consent order 05—CH-750, which was entered on December 18, 2007 in the Circuit Court for the Third Judicial Circuit, Madison County, Illinois. This consent order required U.S. Steel to submit a complete and accurate application including required SO_2 modelling to modify the above noted PSD Construction permit by January 31, 2008.That application was submitted on time by US Steel.

a. The Permittee shall comply with the following schedule of compliance applicable to BOF shop emissions:

Commitment	Timing
Use the correct emission factor for the Blast Furnace Gas SO_2 emissions when calculating, recording, and reporting SO_2 emissions and for any other purpose under the Act.	Immediately and at all times going forward.
Work with the Illinois EPA, including providing additional information to the Agency when requested.	Within 30 days of the request.
Obtain a revised PSD Construction Permit.	Subject to Agency final issuance.

b. Submittal of Progress Reports

Quarterly Progress Reports shall be submitted beginning with the fourth quarter of 2009 and ending upon the achievement of compliance. Each quarterly report shall be submitted no later than 30 days after the end of the corresponding calendar quarter. The Progress Report shall contain at least the following:

i. The required date for achieving commitments, and actual dates when such commitments were achieved.

ii. Any commitments accepted by the Permittee or otherwise established for the affected BOF as part of the resolution of the above referenced Consent Order, with the associated timing for each commitment.

iii. A discussion of progress in complying with commitments that are subject to future deadlines.

iv. If any commitment was not met, an explanation of why the required timeframe or commitment was not met, and any preventive or corrective measures adopted to achieve required commitment.

7.5 Basic Oxygen Furnaces

7.5.1 Description

BOF Reladling and Desulfurization Stations:

Molten iron from the blast furnaces is transported to the BOF by the torpedo cars. The iron is then transferred to the charging ladles at the reladling station. In the desulfurization stations a combination of lime and magnesium is injected into the molten iron to remove the sulfur. The sulfur reacts with the lime and

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magnesium and forms a layer of slag on the surface of the iron. A collection system with a positive pressure baghouse is used to control emissions of particulate matter from these stations.

BOF Slag Skimming:

After the molten iron is desulfurized it is moved to this station where a mechanical arm is used to scrape slag from the surface of the iron. This slag is scraped from the iron ladles and into slag pots. A collection system with a baghouse is used to control emissions from this process.

Basic Oxygen Furnaces:

A fresh BOF charge usually begins with scrap metal. The scrap is charged into the BOF vessel. Molten iron is then charged into the vessel. A secondary hood is utilized to capture emissions during the charge. During periods of reduced molten iron availability scrap may be preheated with a natural gas fired lance in order to increase the temperature and reduce the amount of molten iron required to produce a heat of steel. This preheating process typically lasts 15 minutes but could last longer. The BOF is then closed off and an oxygen lance is inserted to begin the melting and refining process. In this process, the injected oxygen reacts exothermically with the carbon in iron generating heat which melts the scrap and reducing the amount of carbon in the bath thus converting the iron to steel. When the refining process is completed, the molten steel is poured into a steel transfer ladle. Materials such as aluminum, silica, and manganese are added, as required, depending upon the particular steel alloy being produced. After the molten steel is tapped, the remaining slag is then dumped into a slag ladle. Emissions from these operations are captured and passed through ESPs prior to being emitted to the atmosphere. Steam is used to condition the gases prior to their introduction into the ESP. Water is also sprayed into the gases for cooling.

BOF Ladle Preheating and Drying:

In this unit lances combust either natural gas or coke oven gas to produce the heat needed to dry and preheat iron and steel handling ladles. The refractory linings of freshly re-bricked or repaired ladles must be completely dried and preheated before use. The drying process is necessary because any moisture left in the refractory would immediately vaporize and expand when the ladles are filled with molten iron or steel. This sudden expansion could cause the refractory lining to split which would allow the molten iron and steel to come into contact with, and damage the shell of the ladle. The same reasoning applies to the preheating of ladles in general. Potential emissions from this unit consist of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide and organic materials generated as by-products of fuel combustion.

Slag Dispensing:

Prior to the LMF station, synthetic slag is added to the molten steel. The slag is made up of lime and other mineral products and is used to remove impurities in the steel. The addition of these materials is controlled by Baghouse #2.

LMF Station:

At this station inductive heating elements are used, as necessary, to raise the temperature of the steel. This heating is necessary when the temperature of a ladle of steel has cooled below the range within which steel can be cast. Potential emissions from this unit consist of particulate matter generated by the material transfer process. Baghouse #2 is used to control emissions from this operation.

Argon Stirring:

Prior to casting, the chemical composition of each ladle of molten steel is tested. When deficiencies arise in the chemical composition of a batch, materials can be added at the argon stirring stations to alter the composition of the steel. Stirring lances are then inserted into the steel and argon is pumped through these lances and into the steel to thoroughly mix the added materials into the steel. There are two argon stirring stations at the Granite City facility. Baghouse #2 is used to control emissions from this mixing operation.

Note: This narrative description is for informational purposes only and is not enforceable.

7.5.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Basic Oxygen Furnaces & Auxiliary Operations	Flux Conveyor & Transfer Points	Prior to 1972	Binfloor Baghouse
	BOF Additive System-truck dump pit	Prior to 04/1980	Trackhopper Baghouse
	Reladling and Desulfurization Stations	Prior to 05/1983	Reladling and Desulfurization Station Baghouse
	Slag Skimming	Prior to 02/1972	Slag Skimming Baghouse
	Basic Oxygen Furnaces (BOF) #1 & #2	Prior to 08/1972	Electrostatic Precipitator
	Ladle Drying/Preheating (coke oven gas and natural gas modes)	Prior to 08/1972	None

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	BOF Roof Monitor (fugitive emissions)		None
	Slag Dispensing	Prior to 1986	Baghouse #2
	LMF Station	Prior to 1986	Baghouse #2
	Argon Stirring Stations	Around 1988	Baghouse #2
	Material Handling Tripper Conveyor	Around 1988	Baghouse #2

7.5.3 Applicable Provisions

a. The "affected basic oxygen furnace (BOF)" for the purpose of these unit-specific conditions, are the emission units and activities described in Conditions 7.5.1 and 7.5.2.

b. The affected BOF furnace is subject to 35 IAC 212.446. Certain provisions of this regulation are discussed further in this subsection.

c. The affected BOF furnace is subject to 35 IAC 212.458. Certain provisions of this regulation are discussed further in this subsection.

d. The affected BOF furnace is subject to 40 CFR Part 63, Subpart FFFFF, Integrated Iron and Steel Manufacturing Facilities. Certain provisions of this regulation are discussed further in this subsection.

7.5.3-1 Applicable Standards

a. 35 IAC 212.446

Emissions of particulate matter from basic oxygen processes shall be controlled as follows:

i. Charging, Refining and Tapping. Particulate matter emissions from all basic oxygen furnaces (BOF) shall be collected and ducted to pollution control equipment. ~~Unless 35 IAC 212.446(c) described below applies, emissions~~ Emissions from basic oxygen furnace operations during the entire cycle (operations from the beginning of the charging process through the end of the tapping process) shall not exceed the allowable emission rate specified by 35 IAC 212.~~321 or 212.322, whichever is applicable.~~322. For purposes of computing the process weight rate for this subsection, nongaseous material charged to the furnace and process oxygen shall be included. No material shall be included more than once.

ii. Hot Metal Transfer, Hot Metal Desulfurization and Ladle Lancing.

A. Particulate matter emissions from hot metal transfers to a mixer or ladle, hot metal desulfurization operations and ladle lancing shall be collected and ducted to pollution control equipment, and emissions from the pollution control equipment shall not exceed 69 mg/dscm (0.03 gr/dscf).

B. If the owner or operator can establish that the total particulate matter emissions from hot metal transfers, hot metal desulfurization operations and ladle lancing operations combined do not exceed the allowable emissions as specified by 35 IAC 212.~~321 or 212.322, whichever is applicable~~322, where the process weight rate (P) is the hot metal charged to the BOF vessel, then 35 IAC 212.446(b)(1)(Condition 7.5.3-1(a)(ii)(A) above) shall not apply.

iii. No person shall cause or allow uncaptured emissions from any opening in the building housing the BOF shop to exceed an opacity of 20 percent at integrated iron and steel plants in the vicinity of Granite City, as described in 35 IAC 212.324(a)(1)(C).

b. 35 IAC 212.458

Emission Limitation. No person shall cause or allow emissions of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed the following limits during any one hour period:

i. 32.25 ng/J (0.075 lbs/mmbtu) of heat input from the burning of coke oven gas ~~at all emission units,~~(e.g., ladle dryers/preheaters), other than coke oven combustion stacks, at steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C);

ii. 27.24 kg/hr (60 lbs/hr) and 0.1125 kg/Mg (0.225 lbs/T) of total steel in process whichever limit is more stringent for the total of all basic oxygen furnace processes described in 35 IAC 212.446(a) and measured at the BOF stack located at steel plant in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C).

iii. 22.9 mg/scm (0.01 gr/scf) from any process emissions unit located at integrated iron and steel plants in the vicinity of Granite City, as defined in 35 IAC

212.324(a)(1)(C), except as otherwise provided in 35 IAC 212.458 or in 212.443 and 212.446.

c. 40 CFR 63.7790(a)

Pursuant to Table 1 to Subpart FFFFF, the emissions from the affected BOF operations shall not exceed the following limits:

i. Basic oxygen process furnace (BOPF) at an existing shop (paragraph 9 of Table 1 to Subpart FFFFF):

A. The Permittee must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF with ~~a closed hood system at an existing BOPF shop that contain, on a flow-weighted basis, particulate matter in excess of 0.03 gr/dscf during the primary oxygen blow;~~

~~B. The Permittee must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF with~~ an open hood system at an existing BOPF shop that contain, on a flow-weighted basis, particulate matter in excess of 0.02 gr/dscf during the steel production cycle; and

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~~C~~B. The Permittee must not cause to be discharged to the atmosphere any gases that exit from a control device used solely for the collection of secondary emissions that contain particulate matter in excess of 0.01 gr/dscf.

ii. Each hot metal transfer, skimming, and desulfurization operation at an existing BOPF shop (paragraph 10 of Table 1 to Subpart FFFFF):

The Permittee must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.01 gr/dscf.

iii. Each ladle metallurgy operation at an existing BOPF shop (paragraph 11 of Table 1 to Subpart FFFFF):

The Permittee must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.01 gr/dscf.

iv. Each roof monitor at an existing BOPF shop (paragraph 12 of Table 1 to Subpart FFFFF):

The Permittee must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the BOPF shop or any other building housing the BOPF or BOPF shop operation that exhibit opacity greater than 20 percent (3-minute average).

d. 40 CFR 63.7790(b)(3)

For each electrostatic precipitator applied to emissions from a BOPF, the Permittee must maintain the hourly average opacity of emissions exiting the control device at or below 10 percent.

e. For control device(s) used for material handling operations, the following of 35 IAC 212.313 is applied:

If particulate collection equipment is operated pursuant 35 IAC 212.304 through 212.310 and 212.312, emissions from such equipment shall not exceed 68 mg/dscm (0.03gr/dscf).

f. 35 IAC 212.316(f)

Material handling operations (flux dump and conveyor transfer points) are subject to the following:

Emission Limitation for All Other Emission Units. Unless an emission unit has been assigned a particulate matter, PM_{10}, or fugitive particulate matter emissions limitation elsewhere in 35 IAC 212.316 or in Subparts R or S of 35 IAC Part 212, no person shall cause or allow fugitive particulate matter emissions from any emission unit to exceed an opacity of 20 percent.

g. See also Condition 5.3.2(b).

7.5.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture, pursuant to 35 IAC 212.324 (a)(3).

b. Except where noted, 35 IAC 212.321 and 35 IAC 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452 [35 IAC 212.441].

c. The affected BOF is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because each affected BOF is subject to a NESHAP proposed after November 15, 1990, pursuant to 40 CFR 64.2(b)(1)(i).

j. ~~d~~Binfloor, trackhopper baghouses and material handling tripper conveyor are not subject to 40 CFR Part 63, Subpart FFFFF, pursuant to 40 CFR 63.7782(c).

e. See also Condition 5.4(c).

7.5.5-1 Work Practices: Operation and Maintenance Plan (40 CFR 63.7800)

a. As required by 40 CFR 63.6(e)(1)(i), the Permittee must always operate and maintain the affected source, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by Subpart FFFFF.

b. The Permittee shall prepare and operate at all times according to a written operation and maintenance plan for each capture system or control device subject to an operating limit in 40 CFR 63.7790(b). Each plan shall address the following elements:

i. Monthly inspections of the equipment that is important to the performance of the total capture system (*e.g.*, pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (*e.g.*, presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection.

ii. Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

iii. Operating limits for each capture system applied to secondary emissions from a BOPF~~. The Permittee~~ shall ~~establish the operating limits according~~be established pursuant to the ~~following~~ requirements in 40 CFR 63.7800(b)(3)(i) through (iii).~~–~~ [Note: no secondary emissions are currently captured at BOPF].

~~A. Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. At a minimum, the Permittee must use appropriate operating limit parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions,~~

~~including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to, volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure.~~

~~B. For each operating limit parameter selected as described above, the Permittee shall designate the value or setting for the parameter at which the capture system operates during the process operation. If the operation allows for more than one process to be operating simultaneously, the Permittee shall designate the value or setting for the parameter at which the capture system operates during each possible configuration that the source may operate.~~

~~C. Include documentation in the plan to support selection of the operating limits established for the capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why the Permitte chose the parameter, a description of the method used to monitor the parameter according to the requirements of 40 CFR 63.7830(a), and the data used to set the value or setting for the parameter for each process configurations.~~

iv. Corrective action procedures for baghouses equipped with bag leak detection systems~~ or continuous opacity monitoring systems (COMS).~~. In the event a bag leak detection system alarm is triggered~~ or emissions from a baghouse equipped with a COMS exceed an hourly average opacity of 5 percent~~, the Permittee shall initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Corrective actions may include, but are not limited to:

A. Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

B. Sealing off defective bags or filter media.

C. Replacing defective bags or filter media or otherwise repairing the control device.

D. Sealing off a defective baghouse compartment.

E. Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system.

F. Shutting down the process producing the particulate emissions.

7.5.5-2 Work Practices: Startup, Shutdown and Malfunction Plans and associated procedures

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a. Pursuant to 40 CFR 63.7810(c), the Permittee shall develop a written startup, shutdown, and malfunction plan according to the provisions established in 40 CFR 63.6(e)(3).

b. Subject to the following terms and conditions, the Permittee is authorized to continue operation of the affected BOF furnaces in violation of the applicable state standards in Conditions 7.5.3 and 7.5.3-1 in the event of a malfunction or breakdown of the affected units and applicable control practices. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent risk of injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns. This authorization supersedes the general prohibition in Condition 9.2.3 against continued operation in such circumstances.

c. This authorization only allows such continued operation as necessary to provide essential service or to prevent risk of injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee [35 IAC 201.262].

d. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practical repair the affected emission/process units and/or applicable control practices.

e. The Permittee shall fulfill the applicable recordkeeping requirements of Conditions 7.5.10 and reporting requirements of Condition 5.10.6. For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such

circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the affected emission unit(s) out of service.

f. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.

g. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.5.5-3 Work Practices Incorporated from the previously issued state permits #72080043, #95010001 and #83050042

a. i. Overlapping operations of the BOF vessels is allowed under the following conditions:

A. The hot metal charge of the second vessel shall be initiated and completed during the time between completion of the blow and start of tap on the first vessel while sufficient draft at the ESP capture system is established and maintained for both vessels.

B. The charge and/or blow on one vessel shall not begin until sufficient draft has been established at the associated ESP capture system (a.k.a., doghouse) and the alloy addition at the vessel tapping has been completed for a least 1 minute.

C. Sufficient draft at the ESP capture system of the vessel being tapped shall be maintained for at least 1 minute after alloy addition has been completed. After such period, the capture system draft may be transferred over to the other vessel in order to satisfy condition (A) above.

D. Only overlapping of the hot metal charge of the second vessel after the end of blow and prior to onset of tap of the first vessel and overlapping of tapping of the first vessel, after alloy addition, and the hot metal charge and/or blow on the second vessel are allowed.

E. Condition B and C above shall be part of the Standard Operating Procedure (SOP) of the BOF vessels.

ii. Each BOF vessel shall be equipped with a Fume Suppression System which shall be in use at all times that tapping is occurring during overlapping operations.

iii. The BOF capture system shall be operated at the above minimum set points (see Condition 7.5.5-3 from above) until and unless the Agency approves a lower minimum set point based on a demonstration that a better level of particulate matter control will occur, except for purposes of emissions testing as related to the set point.

b. The Permittee shall calibrate, operate, and maintain a continuous strip chart recorder or disk storage of the ESP stack gas flow rate as measured by the stack gas flow meter during ESP use.

c. The stack gas flow meter shall be calibrated on at least a quarterly basis.

d. Vessels #1 and #2 may only be operated as top oxygen-injected vessels. However, for purposes of checkout and stack testing only, Vessels #1 and #2 may be operated during the time of this permit as peripheral and bottom oxygen injected vessels for a maximum of 120 days. Any further operation of the vessels as other than top oxygen-injected vessels shall be pursuant to a permit granted for such additional operation.

e. The Permittee shall use large covers or an alternative control method so as to reduce lance hole emissions to the lowest practicable level. Proof that an alternative control method is equivalent to lance hole covers is the responsibility of the Permittee.

f. i. The Permittee shall operate, maintain, and repair the BOF ESP in a manner that assures compliance with the conditions of this permit.

ii. The Permittee shall maintain an adequate inventory of spare parts for the BOF ESP at all times.

7.5.5-4 Other Work Practice Standards

The material handling operations shall be operated in accordance with the provisions of the operating program as described in 35 IAC 212.309 and 212.310 (see also Condition 5.3.3).

7.5.6 Production and Emission Limitations

a. i. Total combined production of liquid steel from the affected BOF's shall not exceed 11,000 net tons per day, averaged over any calendar month; and

ii. Total combined production of liquid steel from the BOF's shall not exceed 3,580,000 net tons per year.

b. BOF Shop Emissions (tons/yr total) shall not exceed the following limits:

PM	PM-10	SO_2	NO_x	VOM	CO	Lead
510	451	--	70	12	16,097	1.43

c. BOF ESP Stack (charge, refine, tap) emissions shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.16	262.80
PM-10	0.16	262.80
NO_x	0.0389	69.63
VOM	0.0060	10.74
CO	8.993	16,097.47
Lead	0.1934 lbs/hr	1.26

d. BOF Roof Monitor emissions shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.0987	176.71
PM-10	0.06614	118.40
Lead	0.0129 lbs/hr	0.08 tons/yr

e. Desulfurization and Reladling (Hot Metal Transfer) emissions shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.03721	58.88
PM-10	0.03721	58.88
VOM	0.0010	1.58
Lead	0.0133 lbs/hr	0.09 tons/yr

f. BOF Additive System (i.e., fluxes, with Baghouse, a.k.a., BOF hopper baghouse) emissions shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.00032	0.57
PM-10	0.00032	0.57

g. Flux conveyor & transfer pits, bin floor emissions shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.0016	2.86
PM-10	0.0016	2.86

h. Hot metal charging ladle slag skimmer emissions shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.0050	7.94
PM-10	0.0050	7.94

i. Emissions from Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy) shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)

PM	0.00715	12.80
PM-10	0.00715	12.80

j. The stack gas pulpit set point of the BOF ESP control system shall be set in accordance with the following, so as to establish sufficient particulate matter capture efficiency of the charging and primary hoods:

   i. Set point requirements while only a single BOF vessel is in operation:

      A. Minimum set point during charging process: 550,000 cfm;

      B. Minimum set point during refining process: 650,000 cfm; and

      C. Minimum set point during tapping process: 200,000 cfm (until one minute after completing alloy addition).

   ii. During dual operation of BOF vessels (a.k.a., overlapping BOF operation) the minimum set point shall be 700,000 cfm.

   These production/emission limits (Condition 7.5.6(a) through (j)) have been established in permit #95010001 pursuant to 40 CFR 52.21, PSD. These limits ensure that the construction and/or modifications addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD, 40 CFR 52.21 [T1].

k. Emissions of particulate matter from the metallurgical station and the existing argon stirring station shall not exceed 16.20 TPY. This limit is based on: 1) argon stirring, 2) ladle reheat, 3) alloy addition, 4) ladle slag skimming, and 5) finish desulfurization at a maximum process weight of 356.7 t/hr for 8,760 hours per year.

   These production/emission limits have been established in permit #83050042 pursuant to 40 CFR 52.21, PSD. These limits ensure that the construction and/or modifications addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD, 40 CFR 52.21 [T1].

l. Compliance with annual limits shall be determined on a monthly basis from the sum of the data available for the calendar year [T1].

m. See also Conditions 5.6.3(b) and (d) for other emission/production limitations.

7.5.7-1 Inspection Requirements

a. See Condition 7.5.9 for more details on baghouse inspections.

b. i. Pursuant to permit #95010001, the Permittee shall visually inspect at least monthly all visible BOF vessel enclosures, hooding and ducts used to capture and transport emissions for the BOF ESP control system.

ii. A log shall be maintained of these inspections which includes observations of the physical appearance of the capture system and any noted deficiencies (e.g., the presence of any holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion).

iii. Any leaks or areas otherwise noted to be in need of repair, shall be repaired as soon as practicable.

c. The following routine opacity determination shall be performed pursuant to permit #95010001:

i. The Permittee shall determine the opacity from the openings of BOF shop on at least a weekly basis. Observations shall be conducted for at least an hour or the entire BOF cycle, whichever is greater.

ii. The Permittee shall determine the opacity from the BOF ESP stack for at least one hour on any normal work day ~~(i.e., Monday through Friday)~~ that the continuous opacity monitor on the BOF ESP stack has an outage that exceeds two consecutive hours and is still down. The readings shall commence as soon as possible after the opacity monitor has been down for two consecutive hours. If meteorological conditions or lack of visibility preclude these observations from being conducted, then this shall be noted in the log book.

iii. The opacity shall be determined in accordance with the observation procedures set out in 40 CFR Part 60, Appendix A, Method 9 including the requirement that readings be taken by a certified observer.

iv. These determinations shall be recorded in a log book, which at a minimum shall include the date and time of observations, name and title of observer, individual opacity readings, calculated opacity so as to determine compliance with Section 212.123, and calculated opacity relative to 20% opacity on a three minute rolling average basis.

d. The Permittee shall perform monthly pressure drop readings and annual inspections of all baghouses bin vent filters operated with BOF.

7.5.7-2 Testing Requirements

a. Testing requirements established by 40 CFR Part 63 Subpart FFFFF:

i. Tests for initial compliance demonstration shall be performed by the Permittee in accordance with 40 CFR 63.7820(a) and (b).

ii. Pursuant to 40 CFR 63.7821(b), for each emissions unit equipped with a control device other than a baghouse, the Permittee shall conduct subsequent performance tests no less frequently than twice (at mid-term and renewal) during each term of the title V operating permit.

iii. Pursuant to 40 CFR 63.7821(c), for each emissions unit equipped with a baghouse, the Permittee shall conduct subsequent performance tests no less frequently than once during each term of the Title V operating permit.

iv. The Permittee shall use the following test methods for compliance demonstration with the emission limits for particulate matter (40 CFR 63.7822(b)):

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A. The Permittee shall determine the concentration of particulate matter according to the following test methods in appendix A to 40 CFR part 60.

1. Method 1 to select sampling port locations and the number of traverse points. Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

2. Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

3. Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

4. Method 4 to determine the moisture content of the stack gas.

5. Method 5, 5D, or 17, as applicable, to determine the concentration of particulate matter (front half filterable catch only).

B. The Permittee shall collect a minimum sample volume of 60 dry standard cubic feet (dscf) of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

v. 40 CFR 63.7822(g):

For a primary emission control system applied to emissions from a BOPF with an open hood system and for a control device applied solely to secondary emissions from a BOPF, the Permittee shall complete the following requirements:

A. Sample only during the steel production cycle. The Permittee shall conduct sampling under conditions that are representative of normal operation. The Permittee shall record the start and end time of each steel production cycle and each period of abnormal operation; and

B. Sample for an integral number of steel production cycles. The steel production cycle begins when the scrap is charged to the furnace and ends 3 minutes after the slag is emptied from the vessel into the slag pot.

vi. 40 CFR 63.7822(h):

For a control device applied to emissions from BOPF shop ancillary operations (hot metal transfer, skimming, desulfurization, or ladle metallurgy), the Permittee shall sample only when the operation(s) is being conducted.

vii. 40 CFR 63.7822(i):

Subject to approval by the permitting authority, the Permittee may conduct representative sampling of stacks when there are more than three stacks associated with a process.

viii. Test methods for compliance demonstration with the opacity limits (40 CFR 63.7823(b) and (d)):

A. The Permittee shall conduct each visible emissions performance test such that the opacity observations overlap with the performance test for particulate matter.

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B. The Permittee shall perform the following test methods for compliance demonstration with the opacity limits for existing BOPF shops [40 CFR 63.7823(d)]:

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Using a certified observer, the Permittee shall determine the opacity of emissions according to Method 9 in appendix A to part 60 as specified below:

1. Instead of procedures in section 2.4 of Method 9 in Appendix A to 40 CFR Part 60, the Permittee shall record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles.

2. Instead of procedures in section 2.5 of Method 9 in Appendix A to 40 CFR Part 60, the Permittee shall determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals.

b. Testing to determine compliance with emission standards for PM_{10} shall to follow the methods specified in 35 IAC 212.108.

c. Testing to determine compliance with 35 IAC 212.446 shall be performed in accordance with 40 CFR Part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113, except that compliance shall be determined by averaging any 12 consecutive observations taken at 15 second intervals.

d. For uncaptured emissions (roof monitor):

i. The Permittee shall have the opacity of the exhaust of the building housing the BOF determined by a qualified observer in accordance with USEPA Method 9 while the affected BOF(s) is operating, as further specified below.

ii. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless no visible emissions are observed as determined by USEPA Method 22 or the average opacities for the first 12 minutes of observations (two six-minute averages) conducted for the point of release that displays the greatest opacity are both less than 20.0 percent.

iii. A. Observations of opacity shall be conducted on the following frequency unless absence of adequate daylight or weather conditions preclude scheduled observation, in which case, the next observations shall be conducted on the next operating day of the BOF during which observations of opacity can

reasonably be conducted in accordance with USEPA Method 9:

1. On a weekly basis (at least once every 7 operating days of BOF) except as provided below.

2. On a daily basis (at least 5 days out of 7 operating days of BOF) if any of the five previous observations measured opacity of 20 percent or more, continuing on a daily basis until the maximum opacities measured in five consecutive daily observations are all less than 20 percent, at which time observations on a weekly basis shall resume.

B. Upon written request by the Illinois EPA, additional opacity observations shall be conducted within 5 operating days by the BOF from the date of the request by the Illinois EPA or on the date agreed upon by the Illinois EPA, whichever is later. For such observations conducted pursuant to a request from the Illinois EPA:

1. The Permittee shall notify the Illinois EPA at least 24 hours in advance of the date and time of these observations, in order to enable the Illinois EPA to witness the observations. This notification shall include the name and employer of the qualified observer(s).

2. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for observations.

3. The duration of these observations shall cover a complete heat or cycle of the affected BOF.

4. The Permittee shall provide a copy of the current certification for the opacity observer and observer's readings to the Illinois EPA at the time of the observations, if the Illinois EPA personnel are present.

iv. The Permittee shall keep records for all opacity measurements for the BOF made in accordance with USEPA Method 9 for the affected operations that the Permittee conducts or that are conducted at its behest by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the

formal report for the measurements if conducted pursuant to Condition 7.5.7-2(d), or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the affected operations, the observed opacity, and copies of the raw data sheets for the measurements.

k. Testing conditions are established pursuant to 39.5(7)(d) and (p) of the Act.

7.5.8 Monitoring Requirements

a. Monitoring (40 CFR 63.7830)

i. For each capture system subject to an operating limit in 40 CFR 63.7790(b)(1) established in Permittee's capture system operation and maintenance plan, the Permittee shall install, operate, and maintain a continuous parameter monitoring system (CPMS) according to the requirements in 40 CFR 63.7831(e) and the requirements in 40 CFR 63.7830(a)(1) through (3).

ii. The Permittee shall conduct inspections of each baghouse according to the requirements in 40 CFR 63.7830(b)(4).

iii. The Permittee shall install, operate, and maintain a bag leak detection system according to 40 CFR 63.7831(f) and monitor the relative change in particulate matter loadings according to the requirements in 40 CFR 63.7832~~.~~ on the Baghouse #2 [Note: reladling and desulfurization baghouse is not required to operate with a bag leak detection system and COMS, pursuant to 40 CFR 63.7830(b)(3) (a positive pressure baghouse and is not equipped with exhaust gas stack)].

iv. The Permittee shall conduct inspections of each baghouse at the specified frequencies according to the following requirements [40 CFR 63.7830(b)(4)]:

A. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the operation and maintenance manual.

B. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.

C. Check the compressed air supply for pulse-jet baghouses each day.

D. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.

E. Check bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means.

F. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. The Permittee does not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.

G. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.

H. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

v. For each electrostatic precipitator subject to the opacity operating limit in 40 CFR 63.7790(b)(3), the Permittee shall ~~install,~~ operate~~,~~ and maintain a continuous opacity monitoring system (COMS) according to the requirements in 40 CFR 63.7831(h) and monitor the hourly average opacity of emissions exiting each control device stack according to the requirements in 40 CFR 63.7832 [40 CFR 63.7830(d)].

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b. Installation, operation, and maintenance requirements for the monitors [40 CFR 63.7831]

i. For each baghouse (currently, only Baghouse #2 is subject to this provision) equipped with a bag leak detection system according to 40 CFR 63.7830(b)(1), the Permittee shall ~~install,~~ operate, and maintain the bag leak detection system according to the following requirements [40 CFR 63.7831(f)]:

A. The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

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B. The system must provide output of relative changes in particulate matter loadings.

C. The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over a preset level. The alarm must be located such that it can be heard by the appropriate plant personnel.

D. Each system that works based on the triboelectric effect must be installed, operated, and maintained in a manner consistent with the guidance document, "Fabric Filter Bag Leak Detection Guidance," EPA-454/R-98-015, September 1997. The Permittee may install, operate, and maintain other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations.

E. To make the initial adjustment of the system, the Permittee shall establish the baseline output by adjusting the sensitivity (range) and the averaging period of the device. Then, the Permittee shall establish the alarm set points and the alarm delay time.

F. Following the initial adjustment, the Permittee may not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the Permittee’s operation and maintenance plan. The Permittee may not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition.

G. Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

ii. For each electrostatic precipitator subject to the opacity operating limit in 40 CFR 63.7790(b)(3), the Permittee shall install, operate, and maintain each COMS according to the following requirements in 40 CFR 63.7831 (h)(1) through (4):

A. The Permittee shall install, operate, and maintain each COMS according to Performance Specification 1 in 40 CFR Part 60, appendix B.

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B. The Permittee shall conduct a performance evaluation of each COMS according to 40 CFR 63.8

and Performance Specification 1 in appendix B to 40 CFR Part 60.

C. Each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

D. COMS data must be reduced to 6-minute averages as specified in 40 CFR 63.8(g)(2) and to hourly averages where required by Subpart FFFFF.

c. Pursuant to permit #95010001, the Permittee shall operate and maintain the waste gas suction monitor system that continually measures and records each process (i.e., for each charge, each refine, each tap) of each steel production cycle the static pressure in the main downcommer duct of the ESP emissions capture and transport system.

i. The Permittee shall use the waste gas suction monitoring system as a mechanism to ensure sufficient draft is maintained in the emissions capture hoods and transport ducts so as to maximize emissions capture and transport and minimize uncaptured emissions and emission leaks.

ii. The Permittee shall operate and maintain the system to ensure that accurate and useful data is collected.

iii. The Permittee shall continuously record the static pressure in the main downcommer duct of the ESP emissions capture and transport system.

7.5.9 Continuous Compliance Demonstration Requirements

a. Monitoring and Collecting Data [40 CFR 63.7832]:

i. Except for monitoring malfunctions, out-of-control periods as specified in 40 CFR 63.8(c)(7), associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times an affected source is operating.

ii. The Permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels or to fulfill a minimum data availability requirement, if applicable. The Permittee

shall use all the data collected during all other periods in assessing compliance.

iii. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

b. Compliance Demonstration with Emission Limitations [40 CFR 63.7833]:

i. The Permittee must demonstrate continuous compliance for each affected source subject to an emission or opacity limit in 40 CFR 63.7790(a) by meeting the requirements in Table 3 to Subpart FFFFF, as presented in Condition 7.5.3-1(d) of this permit [40 CFR 63.7833(a)].

ii. For each baghouse applied to meet any particulate emission limit in Table 1 to Subpart FFFFF, the Permittee shall demonstrate continuous compliance by meeting the following requirements [40 CFR 63.7833(c)]:

A. For a baghouse equipped with a bag leak detection system, operating and maintaining each bag leak detection system according to 40 CFR 63.7831(f) and recording all information needed to document conformance with these requirements. If the Permittee increases or decreases the sensitivity of the bag leak detection system beyond the limits specified in 40 CFR 63.7831(f)(6), the Permittee shall include a copy of the required written certification by a responsible official in the next semiannual compliance report.

B. Inspecting each baghouse according to the requirements in 40 CFR 63.7830(b)(4) and maintaining all records needed to document conformance with these requirements.

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C. Maintaining records of the time the Permittee initiated corrective action in the event of a bag leak detection system alarm or when the hourly average opacity exceeded 5 percent, the corrective action(s) taken, and the date on which corrective action was completed.

iii. For an electrostatic precipitator subject to the opacity operating limit in 40 CFR 63.7790(b)(3), the Permittee shall demonstrate continuous compliance by meeting the

following requirements of 40 CFR 63.7833 (e)(1) through (3):

A. Maintaining the hourly average opacity of emissions at no higher than 10 percent;

B. Operating and maintaining each COMS and reducing the COMS data according to 40 CFR 63.7831(h); and

C. If the hourly average opacity of emissions exceeds 10 percent, the Permittee shall follow the corrective action procedures below, as described in 40 CFR 63.7833(g).

iv. If the hourly average opacity for an electrostatic precipitator exceeds the operating limit, the Permittee shall follow the following procedures [40 CFR 63.7833(g)]:

A. The Permittee shall initiate corrective action to determine the cause of the exceedance within 1 hour. During any period of corrective action, the Permittee must continue to monitor and record all required operating parameters for equipment that remains in operation. Within 24 hours of the exceedance, the Permittee shall measure and record the hourly average operating parameter value for the emission unit on which corrective action was taken. If the hourly average parameter value meets the applicable operating limit, then the corrective action was successful and the emission unit is in compliance with the applicable operating limit.

B. If the required initial corrective action was not successful, the Permittee shall complete additional corrective action within the next 24 hours (48 hours from the time of the exceedance). During any period of corrective action, the Permittee shall continue to monitor and record all required operating parameters for equipment that remains in operation. After this second 24-hour period, the Permittee shall again measure and record the hourly average operating parameter value for the emission unit on which corrective action was taken. If the hourly average parameter value meets the applicable operating limit, then the corrective action was successful and the emission unit is in compliance with the applicable operating limit.

C. For purposes of paragraphs 40 CFR 63.7833(g)(1) and (2), in the case of an exceedance of the hourly average opacity operating limit for an electrostatic precipitator, measurements of the hourly average opacity based on visible emission observations in accordance with Method 9 (40 CFR part 60, appendix A) may be taken to evaluate the effectiveness of corrective action.

D. If the second attempt at corrective action required in paragraph 40 CFR 63.7833 (g)(2) was not successful, the Permittee shall report the exceedance as a deviation in the next semiannual compliance report according to 40 CFR 63.7841(b).

c. Compliance Demonstration with the Operation and Maintenance Requirements [40 CFR 63.7834]:

i. For each capture system and control device subject to an operating limit in 40 CFR 63.7790(b), the Permittee shall demonstrate continuous compliance with the operation and maintenance requirements in 40 CFR 63.7800(b) by meeting the following requirements:

A. Making monthly inspections of capture systems and initiating corrective action according to 40 CFR 63.7800(b)(1) and recording all information needed to document conformance with these requirements;

B. Performing preventative maintenance according to 40 CFR 63.7800(b)(2) and recording all information needed to document conformance with these requirements; and

C. Initiating and completing corrective action for a baghouse equipped with a bag leak detection system and recording all information needed to document conformance with these requirements, including the time the Permittee initiated corrective action, the corrective action(s) taken, and date on which corrective action was completed.

ii. The Permittee shall maintain a current copy of the operation and maintenance plan required in 40 CFR 63.7800(b) onsite and available for inspection upon request. The Permittee shall keep the plans for the life of the affected source or until the affected source is no longer subject to the requirements of Subpart FFFFF.

7.5.10 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected BOF, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. 40 CFR 63.7842 and 63.7843

1. The Permittee shall keep the following records specified in 40 CFR 63.7842 (a)(1) through (a)(3):

A. A copy of each notification and report that the Permittee submitted to comply with Subpart FFFFF, including all documentation supporting any initial notification or notification of compliance status that the Permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

B. The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

C. Records of performance tests, performance evaluations, and opacity observations as required in 40 CFR 63.10(b)(2)(viii).

ii. For each COMS, the Permittee shall keep the following records specified in 40 CFR 63.7842 (b)(1) through (4):

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A. Records described in 40 CFR 63.10(b)(2)(vi) through (xi).

B. Monitoring data for a performance evaluation as required in 40 CFR 63.6(h)(7)(i) and (ii).

C. Previous (that is, superceded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3).

D. Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

iii. The Permittee shall keep the records in 40 CFR 63.6(h)(6) for visual observations.

iv. The Permittee shall keep the records required in 40 CFR 63.7833 and 63.7834 to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to the Permittee.

v. The Permittee shall keep the records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1).

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vi. As specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

vii. The Permittee shall keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The Permittee may keep the records offsite for the remaining 3 years.

b. Records carried over from the permits #72080043 and #95010001:

i. Operating time of the BOF;

ii. Operating time of the capture systems and performance parameters, including air flow and fan amperage through the fan motors, gas temperature at inlet to ESP, damper settings, and steam injection rate;

iii. Operating time of the ESP and performance parameters, including voltage and amperage of each transformer/rectifier set, number of sections in use;

iv. All routine and nonroutine maintenance performed, including dates and duration of outages, inspection schedule and findings, leaks detected, repair actions, and replacements;

v. Total production of molten steel at the BOFs (daily, monthly, and annual production in tons);

vi. A log of all malfunctions and breakdowns at the basic oxygen furnace (reported quarterly to the Collinsville regional office) by recording the following:

A. Date and time of malfunction or breakdown;

B. Length of time that operation is continued during malfunction and breakdown to the nearest quarter hour;

C. Quantity of emissions emitted during malfunction or breakdown, and the method by which the quantity was determined;

D. Cause of malfunction or breakdown;

E. Actions taken to correct malfunction or breakdown; and

F. Actions taken to mitigate emissions as far as practicable during malfunction or breakdown.

vii. The Permittee shall keep a continuous strip chart recorder or disk storage of the stack gas flow rate during ESP use; and

viii. The Permittee shall record for each steel production cycle the various stack gas flow rates for each process (i.e., for each charge, each refine, each tap) of each steel production cycle. That is, the Permittee shall be able to distinguish the measured flow rate of stack gas during each production cycle.

c. The Permittee shall maintain a current copy of the operation and maintenance plan required in 40 CFR 63.7800(b) onsite and available for inspection upon request.

d. The Permittee shall maintain the site-specific monitoring plan as required in 40 CFR 63.7830.

e. The Permittee shall maintain the start-up, shutdown, and malfunction plan.

~~f~~f. If the Permittee operates under manufacturer's specifications or manufacturer's instructions, such manufacturer's documentation shall be kept at the source as part of the required records.

f. For Material handling operations (flux dump and conveyor transfer points), see the recordkeeping requirements established in Conditions 5.9.3(c) and (d).

h. Annual emissions of regulated air pollutants (including HAP's) from the affected basic oxygen furnaces shall be kept by the Permittee on site and calculated based on the procedures described in Condition 5.12.1(b). Emissions for the individual emission unit or group of emission units operated as part of BOF plant and limited to certain emission levels by Section 7.5 or Section 5 of this permit shall be calculated by the Permittee based on the same procedures, by keeping individual records for such units.

i. Annual records (tons/year) of steel processed in each of the following departments/operations: slag skimming, argon stirring, ladle metallurgy.

7.5.11 Reporting Requirements

a. 40 CFR Part 63, Subpart FFFFF (40 CFR 63.7841)

i. Compliance report due dates. Unless the Administrator has approved a different schedule, the Permittee shall

submit a semiannual compliance report to the permitting authority according to the following requirements:

A. The first compliance report must cover the period beginning on the compliance date that is specified for the affected source in 40 CFR 63.7783 and ending on June 30 or December 31, whichever date comes first after the compliance date that is specified for the source in 40 CFR 63.7783.

B. The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the first compliance report is due.

C. Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

D. Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

E. For each affected source that is subject to permitting regulations pursuant to 40 CFR Part 70, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A), the Permittee may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates established above.

ii. Compliance report contents. Each compliance report shall include the following information:

A. Company name and address.

B. Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

C. Date of report and beginning and ending dates of the reporting period.

D. If the Permittee had a startup, shutdown, or malfunction during the reporting period and the Perimittee took actions consistent with the

source's startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR 63.10(d)(5)(i).

E. If there were no deviations from the continuous compliance requirements in 40 CFR 63.7833 and 63.7834 that apply to the Permittee, a statement that there were no deviations from the emission limitations or operation and maintenance requirements during the reporting period.

F. If there were no periods during which a continuous monitoring system (including a CPMS, COMS, or continuous emission monitoring system (CEMS)) was out-of-control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

G. For each deviation from an emission limitation in 40 CFR 63.7790 that occurs at an affected source where the Permittee is not using a continuous monitoring system (including a CPMS, COMS, or CEMS) to comply with an emission limitation in Subpart FFFFF, the compliance report must contain the information described in Condition 7.4.12(a)(ii)(A) through (b) and the following information (this includes periods of startup, shutdown, and malfunction):

1. The total operating time of each affected source during the reporting period.

2. Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

H. For each deviation from an emission limitation occurring at an affected source where the Permittee is using a continuous monitoring system (including a CPMS or COMS) to comply with the emission limitation in Subpart FFFFF, the Permittee shall include the following information (this includes periods of startup, shutdown, and malfunction):

1. The date and time that each malfunction started and stopped.

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2. The date and time that each continuous monitoring was inoperative, except for zero (low-level) and high-level checks.

3. The date, time, and duration that each continuous monitoring system was out-of-control as specified in §63.8(c)(7), including the information in §63.8(c)(8).

4. The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

5. A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

6. A breakdown of the total duration of the deviations during the reporting period including those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

7. A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

8. A brief description of the process units.

9. A brief description of the continuous monitoring system.

10. The date of the latest continuous monitoring system certification or audit.

11. A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

iii. Immediate startup, shutdown, and malfunction report. If the Permittee had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with the source’s startup, shutdown, and

malfunction plan, the Permittee shall submit an immediate startup, shutdown, and malfunction report according to the requirements in 40 CFR 63.10(d)(5)(ii).

iv. Part 70 monitoring report. The Permittee shall report all deviations as defined in Subpart FFFFF in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A). If the Permittee submits a compliance report for an affected source along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emission limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the Permittee may have to report deviations from permit requirements for an affected source to the permitting authority.

b. A monthly opacity exceedance report of the BOF ESP shall be sent to the Illinois EPA Regional Office. These reports shall contain all opacity measurements which exceed 30 percent, averaged over a six minute period. These "excess opacity" reports shall provide, for each such incident, the percent opacity measured as well as the date and span of such incident. These reports shall state the reasons for the excess opacity. The report shall also specify the date of those periods during which the continuous monitoring system was not in operation. This condition is established pursuant to permit #72080043.

c. The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected BOF operations with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. The reports submitted by the Permittee shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

i. The Permittee shall report whether operations of the affected BOF deviated from the requirements specified in this subsection within 30 days of such occurrence.

ii. The Permittee shall report whether an exceedance of the production/emission limits of Conditions 7.5.6 and 5.6.3 occurred, within 30 days of such occurrence.

~~d~~

d. All other deviations not specifically addressed by Section 7.5.11 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

e. Reporting on the malfunction and breakdown shall be performed in accordance with Condition 5.10.6.

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7.5.12 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected BOF operations.

7.5.13 Compliance Procedures

a. For affected BOF, compliance with the applicable standards of Condition 7.5.3-1 shall be achieved by the work practices, testing, monitoring, recordkeeping and reporting requirements described in Subsection 7.5.

b. Compliance with the production/emission limits of Conditions 7.5.6 and 5.6.3 shall be achieved by keeping the appropriate operating records~~ and~~, records of emissions calculated in accordance with Condition 5.12.1(b~~).~~) and emission factors outlined in Condition 7.5.6.

c. Emissions of regulated air pollutants (including (HAP's) shall be calculated in accordance with Condition 5.12.1(b).

7.5.14 Compliance Schedule and Current Enforcement Status

The Permittee was sent Violation Notice A-2007-00009 by the Illinois EPA for violations related to the affected BOF shop. The violation notice alleged exceedances of the 20% opacity limit on uncaptured emissions from openings in the building housing the BOF shop.~~ (Sections 9(a) and 9(b) of the Illinois Environmental Protection Act, 35 Ill. Adm. Code 2121.446(c) and condition 8 of operating permit 9501001).~~ The violations were referred to the Office of the Illinois Attorney General by the Illinois EPA. The violations were resolved via consent order 05–CH-750, which was entered on December 18, 2007 in the Circuit Court for the Third Judicial Circuit, Madison County, Illinois. ~~This consent order~~By March 31, 2008, US Steel was required ~~U.S. Steel~~ to submit ~~a compliance schedule for incorporation into this permit. As of the date of issuance of this permit draft, an acceptable compliance~~acompliance schedule that would demonstrate compliance with the above referenced violations~~ has yet to be~~. That schedule was submitted~~.~~ on time by US Steel, however, the schedule was not approvable as required under Section 39.5(10)(a)(ii).

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a. The Permittee shall comply with the following schedule of compliance applicable to BOF shop emissions:

Commitment	Timing
Submit an approvable compliance schedule in	No later than July 30, 2009.

accordance with Consent Order 05-CH-750. 1. Schedule shall be submitted to the Agency. 2. Agency and IAGO shall review and approve schedule. 3. US Steel shall submit an appropriate modification to incorporate the approved schedule into this permit.	No later than August 30, 2009. No later than December 30, 2009.
Adherence to the compliance plan submitted and approved pursuant to Consent Order 05-CH-750~~.~~ including any demonstration and certification that the BOF Shop is in full compliance with all applicable requirements.	No later than any ~~schedule~~ dates established in ~~resolution of~~ the ~~Consent Order 05-CH-750.~~above compliance schedule that were approved.

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b. Submittal of Progress Reports

~~Quarterly~~Monthly Progress Reports shall be submitted beginning with ~~the first quarter of~~August 2009 and ending upon the achievement of compliance. ~~Each quarterly report shall be submitted no later than 30 days after the end of the corresponding calendar quarter. The Progress Report shall contain at least the following:~~

~~i. The required date for achieving commitments, and actual dates when such commitments were achieved.~~

~~ii. Any commitments accepted by the Permittee or otherwise established for the affected BOF as part of the resolution of the above referenced Consent Order, with the associated timing for each commitment.~~

~~iii. A discussion of progress in complying with commitments that are subject to future deadlines.~~

~~iv. If any commitment was not met, an explanation of why the required timeframe or commitment was not met, and any preventive or corrective measures adopted to achieve required commitment.~~

~~c. Upon achievement~~ Each monthly report shall be submitted no later than 5 days after the end of ~~an acceptable compliance schedule as~~ the corresponding calendar month. The Progress Report shall contain at least the following:

i. The required date for achieving commitments, and actual dates when such commitments were achieved.

ii. Any commitments accepted by the Permittee or otherwise established for the affected BOF as part of the resolution of the above referenced ~~consent order, an appropriate modification request shall be submitted~~ Consent Order, with the associated timing for each commitment.

iii. A discussion of progress in complying with commitments that are subject to ~~incorporate such schedule into this permit within 120 days of resolution date.~~ future deadlines.

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iv. If any commitment was not met, an explanation of why the required timeframe or commitment was not met, and any preventive or corrective measures adopted to achieve required commitment.

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7.6 Continuous Casting

7.6.1 Description

Deslagging Station:

Molten steel from the BOFs is transferred directly from the BOFs to the continuous casting building. The first operation carried out in this building is the skimming of slag from the surface of the molten steel. Slag removed by this operation is skimmed into slag pots for disposal.

Material Handling System:

LMF materials from the BOF bin floor are transferred to this unit on conveyor #5. This conveyor off-loads into storage bins that then loadout to conveyor #6. Baghouse #1 controls this operation. Potential emissions from this unit consist of particulate matter generated by material transfer from conveyor #5 to #6.

Caster Molds:

There are two continuous casting lines in operation at the Granite City facility. Ladles of molten steel are hoisted by crane and placed in revolving turrets located at the top of the casters. Each turret holds two ladles at a time. When one ladle of steel has been cast the turret is rotated and the second ladle is tapped. The empty ladle is then replaced with a full one. The tapping process involves opening the taphole located on the bottom of the ladle and allowing the molten steel to flow into an intermediate chamber called a “Tundish.” The Tundish has a taphole in the bottom through which the molten steel flows directly into the casters. The primary function of the Tundish is to maintain a steady stream of molten steel flowing into the caster while ladles are being changed. The casting operations take place inside one of the facility’s buildings. Potential emissions are generated by the transfer of molten steel from the ladles to the Tundish and from the Tundish to the caster molds. It is estimated that most of the particulate emissions generated by the material transfer processes settle out within the buildings and are not emitted to the atmosphere. Potential emissions from this unit consist of particulate matter and nitrogen oxides.

Continuous Casting – Spray Chambers:

Once the molten steel enters the casters, it continuously passes through a system of rollers and straighteners until it is finally formed into a steel slab. Water is sprayed onto the slab throughout this process to speed up the solidification process and reduce emissions. Potential emissions from this unit consist of particulate matter.

Note: This narrative description is for informational purposes only and is not enforceable.

7.6.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Continuous Casting	Deslagging Station	Pre-1986	None
	Material Handling System	Pre-1986	Baghouse #1
	Caster Molds 1 and 2	Pre-1990	None
	Casters #1 and #2: Spray Chambers	Pre-1981 (#1) Around 1988 (#2)	None
	Slab Cut-off	N/A	None
	Slab Ripping	N/A	None

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7.6.3 Applicable Provisions and Regulations

a. The "affected continuous casting operations" for the purpose of these unit-specific conditions, are the operations and emission units described in Conditions 7.6.1 and 7.6.2.

b. The affected continuous casting operations are subject to 35 IAC 212.450. Certain provisions of this regulation are discussed further in this subsection.

c. The affected continuous casting operations are subject to 35 IAC 212.458. Certain provisions of this regulation are discussed further in this subsection.

d. See also source-wide rule applicability in Condition 5.3.3

7.6.3-1 Applicable Standards

a. 35 IAC 212.450

Particulate matter emissions from liquid steel charging in continuous casting operations shall be controlled by the Permittee by chemical or mechanical shrouds or methods of comparable effectiveness.

b. 35 IAC 212.458

Emission Limitation. No person shall cause or allow emissions of PM-10, other than that of fugitive particulate matter, into the atmosphere to exceed the following limits during any one hour period:

i. 22.9 mg/scm (0.01 gr/scf) from any process emissions unit located at integrated iron and steel plants in the

vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C), except as otherwise provided in 35 IAC 212.458 or in 35 IAC 212.443 and 212.446 of 35 IAC Part 212 Subpart R [35 IAC 212.458(b)(7)]; and

ii. 5 percent opacity for continuous caster spray chambers or continuous casting operations at steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)C) of 35 IAC Part 212 Subpart R [35 IAC 212.458(b)(8)].

7.6.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture, pursuant to 35 IAC 212.324 (a)(3).

b. Except where noted, 35 IAC 212.321 and 35 IAC 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452 [35 IAC 212.441].

c. The affected continuous casting operations (all operations after LMF Station) are not subject to 40 CFR Part 63 Subpart FFFFF Integrated Iron and Steel Production, because continuous casting is not defined as part of BOPF and shop ancillary operations in 40 CFR 63.7782(c).

d. The affected continuous casting operations (with exception of material handling and associated baghouse #1) are not subject to 35 IAC 212.309 and 212.310 because those operations are not identified in 35 IAC 212.304 through 212.308.

e. The affected continuous casting operations are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the initial CAAPP application was submitted prior to April 1998.

7.6.5 Malfunction and Breakdown Provisions

a. Subject to the following terms and conditions, the Permittee is authorized to continue operation of the affected continuous casting operations in violation of the applicable state standards in Condition 7.6.3-1 in the event of a malfunction or breakdown of the affected units and applicable control practices. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent risk of injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns. This authorization supersedes the general

prohibition in Condition 9.2.3 against continued operation in such circumstances.

b. This authorization only allows such continued operation as necessary to provide essential service or to prevent risk of injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee [35 IAC 201.262].

c. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practical repair the affected emission/process units and/or applicable control practices.

d. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Condition 7.6.11 and Condition 5.10.6, respectively. For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the affected emission unit(s) out of service.

e. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.

f. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.6.6 Control Requirements and Work Practices

a. The material handling system and baghouse #1 shall be operated in accordance with the provisions of the operating program as described in 35 IAC 212.309 and 212.310 (See also Condition 5.3.3).

b. The affected continuous casting operations are part of the PM_{10} Contingency Plan as described in 35 IAC Part 212, Subpart U and Condition 5.3.4.

c. Baghouse #1 is subject to the maintenance and repair requirements established in 35 IAC 212.324(f) (See also Condition 5.5 for detailed description of these requirements).

7.6.7 Production and Emission Limitations

The following emission limits for continuous casting operations are based on the maximum liquid steel production equal to 3,580,000 net tons per year:

a. Emissions from Deslagging Station and Material HS shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.00355	6.35
PM-10	0.00355	6.35

b. Emissions from Caster Molds – Casting shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.006	10.74
PM-10	0.006	10.74
NO_x	0.050	89.50

c. Emissions from Casters Spray Chambers shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.00852	15.25
PM-10	0.00852	15.25

d. Emissions from Slab Cut-off shall not exceed the following limits:

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Emission Maximum

Pollutant	Factor (Lbs/Ton)	Emissions (Tons/Yr)
PM	0.0071	12.71
PM-10	0.0071	12.71

e. Emissions from Slab Ripping shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.00722	12.92
PM-10	0.00722	12.92

f. Total Emissions from Continuous Casting operations shall not exceed the following limits:

	PM	PM-10	SO_2	NO_x	VOM	CO	Lead
Continuous Casting Operations	71	71	--	90	--	--	--

The above limitations (Conditions 7.6.7(a) through (f)) were established in Permit 95010001, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

g. Compliance with annual limits shall be determined on a monthly basis from the sum of the data available for the calendar year [T1].

7.6.8 Testing Requirements

~~a. Upon the Illinois EPA or USEPA request, the~~The Permittee shall conduct testing of the continuous casting operation building for uncaptured emissions (roof monitor) in accordance with the test procedures outlined below~~:~~

~~i. Particulate matter emissions subject to the concentration limit established in Condition~~ [39.5(7~~.6.3-1(b)(i) shall be~~)(d) and (p) of the Act]:

a. The Permittee shall have the opacity of the exhaust of the building housing continuous casting operations determined by a qualified observer in accordance with ~~procedures of 40 CFR Part 60, Appendix A, Methods 1 through 5.~~

ii. Testing to determine PM_{10} emissions shall be conducted in accordance with 35 IAC 212.108.

iii. Opacity readings shall be conducted in accordance with the observation procedures established 40 CFR Part 60, Appendix A, USEPA Method 9 and including that while the readingsaffected continuous is taken by a certified observeroperating, as further specified below.

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b. Particulate matter emissions subject to the concentration limit established in Condition 7.6.3-1(b)(i) shall be determined in accordance with procedures published in 40 CFR Part 60, Appendix A, Methods 1 through 5.

b. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless no visible emissions are observed as determined by USEPA Method 22 or the average opacities for the first 12 minutes of observations (two six-minute averages) conducted for the point of release that displays the greatest opacity are both less than 5.0 percent.

c. i. Observations of opacity shall be conducted on the following frequency unless absence of adequate daylight or weather conditions preclude scheduled observation, in which case, the next observations shall be conducted on the next operating day of the cast house during which observations of opacity can reasonably be conducted in accordance with USEPA Method 9:

A. On a weekly basis (at least once every 7 operating days of the casthouse) except as provided below.

B. On a daily basis (at least 5 days out of 7 operating days of the continuous casting) if any of the five previous observations measured opacity of 5 percent or more, continuing on a daily basis until the maximum opacities measured in five consecutive daily observations are all less than 5.0 percent, at which time observations on a weekly basis shall resume.

ii. Upon written request by the Illinois EPA, additional opacity observations shall be conducted within 5 operating days by the continuous casting from the date of the request by the Illinois EPA or on the date agreed upon by the Illinois EPA, whichever is later. For such observations conducted pursuant to a request from the Illinois EPA:

A. The Permittee shall notify the Illinois EPA at least 24 hours in advance of the date and time of these observations, in order to enable the Illinois EPA to witness the observations. This

notification shall include the name and employer of the qualified observer(s).

B. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for observations.

C. The duration of these observations shall cover a complete cycle of the continuous casting.

D. The Permittee shall provide a copy of the current certification for the opacity observer and observer's readings to the Illinois EPA at the time of the observations, if the Illinois EPA personnel are present.

d. The Permittee shall keep records for all opacity measurements for the continuous casting made in accordance with USEPA Method 9 for the affected operations that the Permittee conducts or that are conducted at its behest by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to Condition 7.6.8, or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the affected operations, the observed opacity, and copies of the raw data sheets for the measurements.

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7.6.9 Inspection Requirements

a. The Permittee shall perform inspections of the material handling operations, including associated Baghouse #1, on at least the monthly basis while the affected operations are in use, to confirm compliance with the requirements of Condition 7.6.6. These inspections shall be performed with personnel not directly involved in the day-to day operation of the affected operations and may be scheduled so that only a number of affected operations are reviewed during each inspection, provided however, that all affected operations that are in routine service shall be inspected at least once during each calendar month. [Sections 39.5(7)(a) and (d) of the Act]

b. The Permittee shall perform detailed inspections of the Baghouse #1 at least every 12 months while the processes are out of service, with an initial inspection performed before any maintenance and repair activities are conducted during the period the process is out of service and a follow-up inspection performed after any such activities are completed. [Sections 39.5(7)(a) and (d) of the Act]

7.6.10 Monitoring Requirements

Monitoring requirements are not set for the affected continuous casting operations.

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7.6.11 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected continuous casting operations, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. Amount of steel cast (ton/mo and ton/yr).

b. Records required by 35 IAC 212.324(g) (See Condition 5.9.4).

c. The Permittee shall maintain records of the inspections required by Condition 7.6.9.

d. Pursuant to 35 IAC 201.263 and Sections 39.5(7)(a) and (e) of the Act, the Permittee shall maintain records, related to malfunction and breakdown for affected operations that at a minimum, shall include:

i. Maintenance and repair log(s) for the affected operations that, at a minimum, address aspects or components of such operations for which malfunction or breakdown has resulted in excess emissions, which shall list the activities performed on such aspects or components, with date, description and reason for the activity. In addition, in the maintenance and repair log(s) for control equipment, the Permittee shall also list the reason for the activities that are performed.

ii. Records for each incident when operation of an affected process continued during malfunction or breakdown, including continued operation with excess emissions specified in Section 7.6, that include the following information:

A. Date and duration of malfunction or breakdown.

B. A description of the malfunction or breakdown.

C. The corrective actions used to reduce the quantity of emissions and the duration of the incident.

D. If excess emissions occurred for two or more hours:

1. A detailed explanation why continued operation of the affected operation was necessary.

2. A detailed explanation of the preventative measures planned or taken to prevent similar

malfunctions or breakdowns or reduce their frequency and severity.

3. An estimate of the magnitude of excess emissions occurring during the incident.

e. The Permittee shall keep records for all test measurements and opacity readings for the affected operations ~~that are~~ conducted ~~for compliance purposes.~~in accordance with Condition 7.6.8.

f. Annual emissions of regulated air pollutants (including HAP's) from the affected continuous casting operations shall be kept on site and calculated based on the procedures described in Condition 5.12.1(b). Emissions for the individual emission unit or group of emission units operated as part of the continuous casting operations and limited to certain emission levels by Section 7.6 or Section 5 of this permit shall be calculated based on the same procedures, by keeping individual records for such units.

7.6.12 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected continuous casting operations with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. The reports submitted by the Permittee shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

i. The Permittee shall report whether emissions of PM/PM_{10} from the affected continuous casting operations were in excess of the limits specified in Condition 7.6.7 within 30 days of such occurrence.

ii. The Permittee shall report whether an operation of the affected continuous casting operations were in excess of the limits specified in Condition 7.6.3-1(b) within 30 days of such occurrence.

b. All other deviations not specifically addressed by Section 7.6.12 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

c. Reporting on the malfunction and breakdown shall be performed in accordance with Condition 5.10.6.

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7.6.13 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected continuous casting operations.

7.6.14 Compliance Procedures

a. For affected continuous casting, compliance with the applicable standards of Condition 7.6.3-1 shall be achieved by the work practices, testing, monitoring, recordkeeping and reporting requirements described in Subsection 7.6.

b. Compliance with the production/emission limits of Conditions 7.6.7 and 5.6.3 shall be achieved by keeping the appropriate operating records~~ and~~, records of emissions calculated in accordance with Condition 5.12.1(b~~).~~) and emission factors outlined in Condition 7.6.7.

c. Emissions of regulated air pollutants (including (HAP's) shall be calculated in accordance with Condition 5.12.1(b).

7.7 Hot Strip Mill

7.7.1 Description

The produced heat is used to raise the temperature of steel slabs while processing in the slab reheat furnaces, so they can be formed further in the facility's finishing processes. Some of the slabs are shipped to the source from outside suppliers.

The following fuels or combination of these fuels are burned by all the four furnaces: natural gas only; coke oven gas (COG) and natural gas; natural gas and fuel oil; natural gas, COG, and fuel oil.

Note: This narrative description is for informational purposes only and is not enforceable.

7.7.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment

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Hot Strip Mill	Slab Reheat Furnaces #1, #2 & #3 Firing rate: 322 mmBtu/hr each	Pre-1972	None
	Slab Reheat Furnace #4 Firing rate: 495 mmBtu/hr	Pre-1977	None

7.7.3 Applicable Provisions and Regulations

a. The "affected slab reheat furnace" for the purpose of these unit-specific conditions, is the emission/production unit as described in Conditions 7.7.1 and 7.7.2 above.

b. The affected slab reheat furnaces are subject to 35 IAC 212.458. Certain provisions of this regulation are discussed further in this subsection.

c. The affected slab reheat furnace #4 is subject to 35 IAC 212.321(a)(1), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (See also Attachment 2) [35 IAC 212.321(a)].

d. The affected slab reheat furnaces #1, #2 and #3 are subject to 35 IAC 212.322(a)(1), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced prior to April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (See also Attachment 2) [35 IAC 212.322(a)].

e. See also source-wide rule applicability in Condition 5.3.

7.7.3-1 Applicable Standards

The following standards are applicable to the Permittee:

35 IAC 212.458(b)(10)

Emission Limitation. No person shall cause or allow emissions of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed the following limits during any one hour period:

38.7 ng/J (0.09 lbs/mmbtu) of heat input from the slab furnaces at steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C).

7.7.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture, pursuant to 35 IAC 212.324 (a)(3).

b. Pursuant to 35 IAC 214.423, notwithstanding 35 IAC 214.304, the affected slab reheat furnaces in the St. Louis (Illinois) major metropolitan area with fuel burning capacities in excess of 650 mmbtu/hr and burning any residual fuel shall not be subject to the applicable 35 IAC Part 214, Subpart B through F (including 35 IAC 214.162) so long as the total sulfur dioxide emissions resulting from the burning of residual fuel oil in all such furnaces at any one steel mill do not exceed 730 lbs/hr.

c. The affected slab reheat furnaces are not subject to 40 CFR Part 63 Subpart FFFFF Integrated Iron and Steel Production, because reheat furnaces are not defined as part of BOPF and shop ancillary operations in 40 CFR 63.7782(c).

~~d~~d. The affected slab reheat furnaces are not the fuel combustion emission sources and therefore not subject to the emission standards for NO_x and CO established for fuel combustion.

e. The affected slab reheat furnaces are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the initial CAAPP application was submitted prior to April 1998.

7.7.5 Startup Provisions

Subject to the following terms and conditions, the Permittee is authorized to operate the affected slab reheat furnaces in violation of the applicable standards in Condition 7.7.3-1 during startup. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally describing the efforts that will be used "…to minimize startup emissions, duration of individual starts, and frequency of startups."

a. This authorization does not relieve the Permittee from the continuing obligation to demonstrate that all reasonable efforts are made to minimize startup emissions, duration of individual startups and frequency of startups [35 IAC 201.262].

b. The Permittee shall conduct startup of the affected slab reheat furnaces in accordance with written procedures prepared by the Permittee and maintained at the source for the affected slab reheat furnaces, that are specifically developed to minimize emissions from startups and that include, at a minimum, the following measures:

i. Review of the operational condition prior to initiating startup;

~~ii. Periodic review of the operating parameters during each startup accompanied by appropriate adjustments to the startup to reduce or eliminate excess emissions;~~

~~iii.~~ ii. Type of fuel used during startup procedures;

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~~iv~~iii. Time and duration of startup;

~~v~~iv. Temperature levels achieved during startup;

~~vi.~~v. Amount of fuel used; and

vi. Emissions of regulated air pollutants being released during startup.

c. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Condition 7.7.10 and Condition 5.10.7, respectively.

d. As provided by 35 IAC 201.265, an authorization in a permit for excess emissions during startup does not shield a Permittee from enforcement for any violation of applicable emission standard(s) that occurs during startup and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.7.6 Control Requirements and Work Practices

The affected slab reheat furnaces are subject to the maintenance and repair requirements established in 35 IAC 212.324(f). See Condition 5.5 for detailed description of these requirements.

7.7.7 Production and Emission Limitations

The following production and operating limits are established for the affected slab reheat furnaces:

a. The process weight rate of all slabs heated in the reheat furnaces shall not exceed 931 tons per hour.

b. The coke oven gas (COG) heat input fraction from firing COG in conjunction with natural gas (NG) shall not exceed 0.863 based on a maximum actual heat input per hour to the 4 slab heating furnaces~~ of 1915 million Btu per hour~~ and a calculated COG particulate emission rate of 0.044 pounds of particulate per million BTU per hour~~ per a stack test on A Battery stack on 3-28-89~~.

c. The residual oil heat input fraction from firing residual fuel oil in combination with NG shall not exceed 0.17.

d. The #6 oil used shall have a maximum sulfur content of 2.0 percent by weight, an average BTU value of 18,000 BTU per pound and an average density of 8.35 pounds per gallon.

e. When firing mixtures of #6 oil (2% sulfur), COG and NG the fraction of heat input from COG will be reduced by 0.04 from a maximum of 0.863 for each 0.01 fraction of heat input to a maximum of 0.17 from #6 oil with the balance of the heat input coming from NG.

f. The limits from above were established in Permit 72080038 [T1]. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.7.8 Testing Requirements

~~a. Upon the Illinois EPA or USEPA request, the~~ a. The Permittee shall conduct testing of the affected slab reheat furnaces in accordance with the test procedures outlined below.

b. Particulate matter emissions subject to the limit established in Condition 7.7.3-1 shall be determined in accordance with procedures published in 40 CFR Part 60, Appendix A, Methods 1 through 5~~.~~ (or Method 201A).

c. Testing to determine PM_{10} emissions shall be conducted in accordance with 35 IAC 212.108.

~~d~~d. The testing shall be conducted once in five years at the time of renewal of this permit and may be done on one of reheat furnace representing each group of furnaces described in Condition 7.7.2.

e. These conditions are established in accordance with 39.5(7)(c),(d) and (p~~).~~) of the Act.

7.7.9 Monitoring Requirements

The Permittee shall monitor the composition of fuels used on the affected slab reheat furnaces for compliance demonstration with the requirements of Condition 7.7.7.

7.7.10 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected slab reheat furnaces, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. Amount of slab processed (ton/hr, ton/mo and ton/yr).

a. ~~b.~~ Monthly log of type of fuel used.

b. ~~c~~Total actual heat input from all fuels (mmBtu/hr) and heat input fraction for natural gas/coke oven gas, and natural gas/fuel oil.

d. Monthly log of amount for each type of fuel used (gal/mo or mmscf/mo).

~~d~~e. Analysis of COG for H_2S concentration in grains per thousand scf.

~~e~~f. Percent (%) sulfur in fuel oil #6.

~~f~~g. Records for all the tests performed at the affected slab reheat furnaces.

~~g~~h. Records for Startup

The Permittee shall maintain the following records, pursuant to Section 39.5(7)(b) of the Act, for each affected slab reheat furnace subject to Condition 7.7.5, which at a minimum shall include:

A. The following information for each startup of an affected slab reheat furnace:

1. Date and duration of the startup, i.e., start time and time when normal operation is achieved.

2. If normal operation was not achieved within 2 hours, an explanation why startup could not be achieved within this time.

3. A detailed description of the startup, including reason for operation and whether all prescribed written startup procedures were performed.

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4. An explanation why written prescribed procedures and other established startup procedures could not be performed, if not performed.

5. Whether exceedance of Condition 5.3.2 may have occurred during startup. If an exceedance may have occurred, an explanation of the nature of opacity, i.e., severity and duration, during the startup and the nature of opacity at the conclusion of startup.

B. A maintenance and repair log for each affected slab reheat furnace, listing each activity performed with date.

~~h~~i. Emissions of regulated air pollutants as calculated in accordance with Condition 7.7.13.

7.7.11 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA, Air Compliance Section, of deviations of the affected slab reheat furnaces with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

i. The Permittee shall report whether emissions of PM/PM_{10} had been released in excess of the limits specified in Condition 7.7.3-1 within 30 days of such occurrence.

ii. The Permittee shall report whether an exceedance of the production limits of Condition 7.7.7 occurred within 30 days of such occurrence.

b. All other deviations not specifically addressed by Section 7.7.11 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

c. Reporting on startup shall be performed in accordance with Condition 5.10.7.

7.7.12 Operational Flexibility/Anticipated Operating Scenarios

The affected slab reheat furnaces are allowed to use different fuels or combination of fuels as provided in Condition 7.7.1.

7.7.13 Compliance Procedures

a. For affected slab reheat furnaces, compliance with the applicable standards of Condition 7.7.3-1 shall be achieved by the work practices, testing, monitoring, recordkeeping and reporting requirements described in Subsection 7.7.

b. Compliance with the production and operating limits (requirements) of Condition 7.7.7 shall be achieved by keeping the appropriate operating records, as required by Condition 7.7.10.

c. Emissions of regulated air pollutants (including HAP’s) shall be calculated in accordance with Condition 5.12.1(b).

7.8 Finishing Operations

7.8.1 Description

Pickling Line:

Coils are processed in this unit to clean the steel and prepare it for other treatments such as cold rolling or galvanizing. At the start of the pickling line the coils are unwound and the leading edge of each coil is trimmed off square. The leading edge of each coil is then spot (resistance) welded to the trailing edge of the previous coil. By joining the coils in this manner the pickling line runs a continuous ribbon of steel and does not need to be taken out of production to reload. After the steel coils are joined the steel is passed through an acid bath. This acid bath consists of four dip tanks arranged in series and uses a solution of hydrochloric acid and water to clean the surfaces of the steel sheet. A scrubbing system with mist eliminator is used to control hydrogen chloride emissions from this process. When the steel comes out of the fourth acid dip tank it is passed through a cold rinse tank in which cool water is used to rinse the acid off of the steel. The next step is to pass the steel through a hot rinse tank. In this tank hot water is used to rinse any remaining acid away from the steel and to raise the temperature of the steel to speed the drying process. The steel is then passed through a hot air dryer to complete the drying process. The steel that is to be shipped is coated with oil immediately prior to recoiling to inhibit corrosion. In the final step of the pickling process the steel is recoiled.

Galvanizing Line Steel Preparation:

Steel coils that are to be galvanized in this unit are first joined end to end by spot (resistance) welding the leading edge of one coil to the trailing edge of another coil. The steel is then passed through a rinse station where it is rinsed with either a weak alkaline solution or a weak acid solution. The purpose of this rinse is to clean the steel and break down any oils that may be on the surfaces. The emissions from this unit are exhausted to a packed column wet scrubber. After cleaning and rinsing the steel is dried by a steam dryer.

Galvanizing Line Finishing Processes:

After the steel is coated with zinc, it is cooled and then dipped into a “Chem-treat” bath. This non-organic chemical puts a layer of rust-preventative on the steel. After this process is completed, ink is used to stencil a company logo onto the steel. Solvents (thinners) are added to the ink as necessary. After the logo is applied, the steel is coated with oil to protect the surfaces, recoiled, and sprayed with edge sealer (oil) to protect the edges of the steel. The oil applied to the steel is a light petroleum based oil used to inhibit corrosion. Edge sealers are oils used to protect the edges of the steel and inhibit corrosion.

Note: This narrative description is for informational purposes only and is not enforceable.

7.8.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Finishing Operations	HCL Pickling Line	Pre-1973	Two Fume Scrubbers
	Galvanizing ~~Lines ##6 and 7; each~~Line #7A; the line is comprised of the following significant components: • Welder • Cleaner section • Natural Gas furnace • Galvanizing pot • Miscellaneous heaters	Pre-1973; #8 was constructed in 1995	Fume Scrubber
	Galvanizing Line #8; the line is comprised of the following significant components: • Welder • Cleaner Section (with fume scrubber) • Natural gas fired Furnace • 2 Galvanizing Pots • Space Heaters • Miscellaneous Heaters • Melting Kettle • Building and Storage Areas Heaters		Fume Scrubber; NOx catalytical converter on #8
	Coating Operations	Pre-1973	None

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7.8.3 Applicable Provisions and Regulations

a. The “affected finishing operations” for the purpose of these unit-specific conditions, are the emission units described in Conditions 7.8.1 and 7.8.2.

b. No person shall cause or allow emissions of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed 0.01 gr/scf during any one hour period [35 IAC 212.458(b)(7)].

c. Each affected finishing operation constructed or modified prior to April 14, 1972 is subject to IAC 212.322(a), which provides that: No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

d. Each affected finishing operation constructed or modified on or after April 14, 1972 is subject to IAC 212.321(a), which provides that: No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced on or after April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 2) [35 IAC 212.321(a)].

e. Coating operations performed as part of the affected finishing operations are subject to 35 IAC 219.204 and should comply with the application of compliant coating as established by 35 IAC 219.204 (d) for coil coating:

   i. No owner or operator of an affected coating operations shall apply at any time any coating in which the VOM content exceeds the following emission limitations. The following emission limitation is expressed in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied at each coating applicator:

kg/l	lb/gal
0.20	1.7

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   ii. Compounds which are specifically exempted from the definition of VOM should be treated as water for the

purpose of calculating the “less water” part of the coating composites.

f. The HCL pickling line operates as a part of the affected finishing operations and is subject to 40 CFR Part 63 Subpart CCC “National Emission Standards for Hazardous Air Pollutants for Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants”. Specific requirements of Subpart CCC are outlined further of this subsection.

g. See also source-wide rule applicability in Condition 5.3.

7.8.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture, pursuant to 35 IAC 212.324 (a)(3).

b. Coating operations operated as a part of the affected finishing operations are not subject to 40 CFR 63 Subpart SSSS “National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil” pursuant to the definition of coating used by Subpart SSSS (Decorative, protective, or functional materials that consist only of solvents, protective oils, acids, bases, or any combination of these substances are not considered coatings for the purposes of Subpart SSSS).

c. Coating operations operated as a part of the affected finishing operations are not subject to 40 CFR 63 Subpart MMMM “National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products” pursuant to definition of coating used by Subpart MMMM (Decorative, protective, or functional materials that consist only of solvents, protective oils, acids, bases, or any combination of these substances are not considered coatings for the purposes of Subpart MMMM).

d. The pickling operations are not subject to process weight requirements under 35 IAC 212.321 and 212.322 pursuant to 35 IAC 266.190.

e. The affected finishing operations are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the initial CAAPP application was submitted prior to April 1998.

7.8.5 MACT Emission Standards ~~Established by 40 CFR Part 63 Subpart CCC~~

a. Pursuant to 40 CFR 63.1157(a), 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:

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~~a~~i. Any gases that contain HCl in a concentration in excess of 18 parts per million by volume (ppmv); or

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

b. Reserved for Case-by-Case MACT Determination for the Galvanizing Line Furnaces #7A and #8 under Significant Modification of this permit.

c. Reserved for Case-by-Case MACT Determination for miscellaneous process heaters under Significant Modification of this permit.

7.8.6 Control Requirements and Work Practices

a. 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 [40 CFR 63.1159(b)].

b. Maintenance requirements [40 CFR 63.1160(b)]

i. The owner or operator of an affected source shall comply with the operation and maintenance requirements prescribed under 40 CFR 63.6(e).

ii. In addition to the requirements specified in 40 CFR 63.6(e), the Permittee shall operate in accordance with a prepared operation and maintenance plan for each emission control device. This operation and maintenance plan is incorporated by reference into this CAAPP (Title V) permit. Such plan shall be consistent with good maintenance practices and, for a scrubber emission control device, shall at a minimum address the following:

A. 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;

B. Require the manufacturer's recommended maintenance at the recommended intervals on fresh solvent pumps, re-circulating pumps, discharge pumps, and other liquid pumps, in addition to exhaust system and scrubber fans and motors associated with those pumps and fans;

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C. Require cleaning of the scrubber internals and mist eliminators at intervals sufficient to prevent buildup of solids or other fouling;

D. Require an inspection of each scrubber at intervals of no less than 3 months with:

1. Cleaning or replacement of any plugged spray nozzles or other liquid delivery devices;

2. Repair or replacement of missing, misaligned, or damaged baffles, trays, or other internal components;

3. Repair or replacement of droplet eliminator elements as needed;

4. Repair or replacement of heat exchanger elements used to control the temperature of fluids entering or leaving the scrubber; and

5. Adjustment of damper settings for consistency with the required air flow.

E. 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.

F. 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 Subpart CCC.

G. The owner or operator shall maintain a record of each inspection, including each item identified in 40 CFR 63.1160(b) (2)(iv), 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.

c. Establishment of scrubber operating parameters [40 CFR 63.1161(b)]. 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 40 CFR 63.1161(a)(2). 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.

d. The affected finishing operations are subject to the maintenance and repair requirements established in 35 IAC 212.324(f). See Condition 5.5 for detailed description of these requirements.

7.8.7 Production and Emission Limitations

a. The operating/production limits for galvanizing line #8 shall not exceed the following:

i. The maximum firing rate of the furnace shall not exceed 54.6 million British thermal units (mmBtu) per hour.

ii. The maximum firing rate of each of the 5 space heaters shall not exceed 3.44 mmBtu/hour.

iii. The total combined maximum firing rate of the building and storage area heaters shall not exceed 9.84 mmBtu/hour.

iv. The total combined natural gas usage of the 11 miscellaneous heaters shall not exceed 21,895 ft^3/hour and 191.8 million ft^3/year.

v. The operation of the melting kettle shall not exceed 32,000 tons of product/month and 384,000 tons of product/year.

b. The emission for galvanizing line #8 shall not exceed the following:

i. Furnace

A. The nitrogen oxides (NO_x) emissions of the furnace shall not exceed 2.07 lbs/hour and 9.04 tons/year.

B. Emissions of other pollutants from the furnace shall not exceed the following limits:

Carbon Monoxide:	8.37 tons/year
Particulate Matter:	0.72 tons/year
PM_{10}:	0.72 tons/year
VOM:	0.67 tons/year
SO_2:	0.14 tons/year

ii. Five Space Heaters (total)

A. The total combined NOx emissions of the 5 space heaters shall not exceed 1.69 lbs/hour and 7.39 tons/year.

B. Total emissions of other pollutants from the 5 space heaters shall not exceed the following limits:

Carbon Monoxide:	1.48 tons/year
Particulate Matter:	0.22 tons/year
PM_{10}:	0.22 tons/year
VOM:	0.39 tons/year
SO_2:	0.04 tons/year

iii. Drying Oven and the Building and Storage Area Heaters (total)

A. The total combined NO_x emissions of the drying oven and the building and storage area heaters shall not exceed 0.97 lbs/hour and 4.29 tons/year.

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

Carbon Monoxide:	0.85 tons/year
Particulate Matter:	0.13 tons/year
PM_{10}:	0.13 tons/year
VOM:	0.22 tons/year
SO_2:	0.03 tons/year

iv. Miscellaneous Heaters (total)

A. Total combined NOx emissions of the 11 miscellaneous heaters shall not exceed 2.19 lbs/hour and 9.60 tons/year.

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

Carbon Monoxide:	1.92 tons/year
Particulate Matter:	0.29 tons/year

PM_{10}:	0.29 tons/year
VOM:	0.51 tons/year
SO_2:	0.06 tons/year

v. Cleaner Section

Emissions of particulate matter from the cleaner section, which is controlled with a fume scrubber, shall not exceed 0.24 lbs/hour and 1.06 tons/year.

vi. Melting Kettle

Particulate matter emissions from the melting kettle shall not exceed 0.16 tons/month and 1.92 tons/year.

c. The above limitations were established in Permit 95010005, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

d. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

7.8.8 Testing Requirements

a. The Permittee shall comply with the following test methods pursuant to 35 IAC 63.1161(d):

i. The following test methods in appendix A of 40 CFR Part 60 shall be used by the Permittee to determine compliance under 40 CFR 63.1157(a):

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A. 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;

B. Method 2, to determine gas velocity and volumetric flow rate;

C. Method 3, to determine the molecular weight of the stack gas;

D. Method 4, to determine the moisture content of the stack gas; and

E. 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_2 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_2 shall be calculated for each run as follows:

C_{HCl}(ppmv) = 0.659 C_{HCl}(mg/dscm),
and C_{Cl2}(ppmv) = 0.339 C_{Cl2}(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.

ii. The owner or operator may use equivalent alternative measurement methods approved by the Administrator.

iii. Pursuant to 40 CFR 63.1162(a)(1), performance tests to measure the HCl mass flows at the control device inlet and outlet or the concentration of HCl exiting the control shall be conducted by the Permittee either annually or according to an alternative schedule that is approved by the applicable permitting authority, but no less frequently than every 2½ 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.

b. During each term of the Title V permit, the Permittee shall conduct the required tests established above in accordance with the following frequencies:

i. The first test shall be conducted within 2½ years from the date of issuance of this permit.

ii. The second test shall be conducted no ~~less~~more than two months prior to the Permittee's submittal of a renewal Title V permit application to the Illinois EPA.

iii. The subsequent tests shall be conducted a minimum of once every 2 ½ years, if the renewal Title V permit is not issued within 2 ½ years after the last scheduled test was conducted.

7.8.9 Inspection Requirements

The owner or operator of an affected hydrochloric acid storage vessel shall inspect each vessel semiannually to determine that the

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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 [40 CFR 63.1162(c)].

7.8.10 Monitoring Requirements

The Permittee shall comply with the following requirements of 40 CFR 63.1162:

a. In addition to conducting performance tests, if a wet scrubber is used as the emission control device, the Permittee shall 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 shall be monitored continuously and recorded at least once per shift while the scrubber is operating. If operation of the wet scrubber results in excursions of scrubber makeup water flow rate and recirculation water flow rate less than the minimum values established during the performance test or tests, the Permittee shall initiate corrective action as specified by the maintenance requirements in 40 CFR 63.1160(b)(2).

b. Failure to record each of the operating parameters ~~listed in 40 CFR 63.1162(a)(2~~(scrubber makeup water flow rate, scrubber's pressure drop and recirculated water flow rate) is a violation of the monitoring requirements of Subpart CCC~~.~~ and the most recent testing procedures.

c. 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.

d. The owner or operator may develop and implement alternative monitoring requirements subject to approval by the USEPA.

7.8.11 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected finishing operations, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. Requirements established by 40 CFR 63.1165 (HCL pickling line):

i. General recordkeeping requirements shall be followed as required by 40 CFR 63.10(b)(2).

ii. In addition to the general records required by 40 CFR 63.10(b)(2), the owner or operator shall maintain records for 5 years from the date of each record of:

A. Scrubber makeup water flow rate and recirculation water flow rate if a wet scrubber is used;

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B. Calibration and manufacturer certification that monitoring devices are accurate to within 5 percent; and

C. Each maintenance inspection and repair, replacement, or other corrective action.

iii. 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.

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b. Galvanizing Line #8~~:~~ [permit 95010005]:

i. For the kettle melting operation, the Permittee shall keep records of the following items:

A. Production (tons of product per month and year).

B. PM emissions (lbs/month and tons/year, with supporting calculations.

ii. For the various emission units that combust fuel, the Permittee shall keep the following records:

A. A file containing the rated heat input capacity of each unit (mmBtu/hour) with supporting documentation.

B. A file containing engineering calculations for the maximum hourly emissions of NO_x (lbs/hour) from each unit or group of units.

C. A file containing engineering calculations for the maximum annual emissions of NO_x and other pollutants (tons/year) from each unit or group of units.

D. The range of ~~normal~~ operating parameters for the catalytic converter on the #8 galvanizing line furnace.

iii. For the cleaner section, the Permittee shall keep a file containing:

A. Engineering calculations for typical and maximum hourly emissions before and after control by the fume scrubber (lbs/hour), with supporting documentation for the controlled emission rate from the unit.

B. The range of ~~normal~~ operating parameters of the fume scrubber.

c. The Permittee shall maintain the following records required to verify compliance with emission limitations, standards and procedures established by Section 7.8 for the affected finishing operations:

i. Monthly and annual natural gas usage (mmscf/mo and mmscf/yr) for all heaters and furnaces associated with affected finishing operations.

ii. Coating:

A. The coating usage (gal/mo and gal/yr).

B. The VOM content of each coating applied, percent (%) by wt.

C. Density of each coating applied, lb/gal.

iii. Verification of compliance (test results, records of opacity reading or engineering calculations) with emission standards described in Condition 7.8.3(b),(c),(d) and (e).

iv. ~~iv.~~ For the HCL pickling line, copies of the most recent tests required by 40 CFR Part 63 Subpart CCC.

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d. If the Permittee operates under manufacturer's specifications or manufacturer's instructions, such manufacturer's documentation shall be kept at the source as part of the required records.

e. Emissions from the affected finishing operations shall be calculated in accordance with compliance procedures established in Condition 7.8.14

7.8.12 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA, Air Compliance Section, of deviations of the affected finishing operations with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

i. The Permittee shall report whether an exceedance of emission limits specified in Condition 7.8.3 occurred within 30 days of such occurrence.

ii. The Permittee shall report whether an exceedance of emission standards specified in Condition 7.8.5 occurred within 30 days of such occurrence.

b. The Permittee shall comply with the following Requirements of 40 CFR 63.1164:

i. Reporting results of performance tests. As required by 40 CFR 63.10(d)(2), 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 40 CFR 63.1163.

ii. Progress reports. The owner or operator of an affected source who is required to submit progress reports under 40 CFR 63.6(i) 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.

iii. Periodic startup, shutdown, and malfunction reports. Pursuant to 40 CFR 63.6(e), the owner or operator of an affected source shall 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.

A. Plan. As required by 40 CFR 63.6(e)(3), 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.

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B. Reports. As required by 40 CFR 63.10(d)(5)(i), 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

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or other responsible official, shall be submitted semiannually and delivered or postmarked by the 30th day following the end of each calendar half.

C. 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 40 CFR 63.10(d)(5)(ii).

c. Pursuant to 35 IAC 219.211(c)(3), the Permittee shall notify the Illinois EPA in the following instances:

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i. Any record showing violation of 35 IAC 219.204 shall be reported by sending a copy of such record to the Illinois EPA within 30 days following the occurrence of the violation.

ii. At least 30 calendar days before changing the method of compliance from 35 IAC 219.204 to 35 IAC 219.205 or 219.207, the Permittee shall comply with all requirements of 35 IAC 219.211(d)(1) or (e)(1), respectively. Upon changing the method of compliance from 35 IAC 219.204 to 35 IAC 219.205 or 219.207, the Permittee shall comply with all requirements of 35 IAC 219.204(d) or (e), respectively.

d. All other deviations not specifically addressed by Section 7.8.12 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

7.8.13 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected finishing operations.

7.8.14 Compliance Procedures

a. For affected finishing operations, compliance with the applicable standards of Conditions 7.8.3 and 7.8.5 shall be achieved by the work practices, testing, monitoring, recordkeeping and reporting requirements described in Subsection 7.8.

b. For affected finishing operations, emissions of regulated air pollutants (including HAP's) from the operations other than coating shall be calculated in accordance with Condition 5.12.1(b).

c. For coating operations, compliance with the VOM emission limit for coating in Condition 7.8.3(f) shall be based on the

recordkeeping requirements in Condition 7.8.11(c)(ii) and by use of the formula listed below:

VOM Coating Content = V x D/[1 - W x D],

Where:

V = Percent VOM in the coating (%)

D = Overall coating density (lb/gal)

$$W = \Sigma (w_i/d_i)$$

Where:

w_i = Percent exempt compound i in the coating,

d_i = Overall density of exempt compound i, lb/gal and the summation **Σ** is applied over water and all exempt compounds i in the coating.

d. VOM Emissions from applied coating (tons/mo and tons/yr) = Actual Coating Usage (gal/mo) x Coating Density (lb/gal) x VOM Content of the Coating (wt. %)

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7.9 Wastewater Treatment

7.9.1 Description

Primary Wastewater Treatment System:

The system is used to treat waste process water generated in both the iron and steelworks manufacturing areas in the facility. Emissions from this system are attributed to the blast furnace (BF) dust ponds, BF ditch, BF lagoon, steelworks ditch, steel works lagoon, and the wastewater treatment plant, itself. The ditches are used to transfer the BF and steelworks wastewater streams to the lagoons. The lagoons hold the wastewater prior to treatment in the treatment plant. The wastewater treatment plant, itself, is a simple sand filtration system used to remove suspended solids prior to water discharge.

By-Products Wastewater Treatment System:

The system is used to treat waste process water generated in the coke oven by-product plant. Waste process water from the by-products plant is piped to the by-products wastewater treatment plant. The water treated in this system is primarily made up of process wastewater used to cool the processes and equipment used in the by-products plant. The treatment process carried out consists of the use of biological activity “bugs” to breakdown the organic materials contained in the waste stream.

Note: This narrative description is for informational purposes only and is not enforceable.

7.9.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment

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Wastewater Treatment	Primary Wastewater Treatment System : • BF flue dust pond; • BF & steelworks ditches; • BF & steelworks lagoons; • Wastewater treatment plant	N/A	None
	By-Products Wastewater Treatment System: • Storage tanks; • Aeration basins • Clarifiers • Weir	N/A	None

7.9.3 Applicable Provisions and Regulations

a. The "affected wastewater treatment plant" for the purpose of these unit-specific conditions, is a unit described in Conditions 7.9.1 and 7.9.2.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 219.302, 219.303, and 219.304 and the following exception: If no odor nuisance exists this limitation shall apply only to photochemically reactive material [35 IAC 219.301].

c. The affected wastewater treatment plant is subject to certain provisions (annual benzene waste determination, recordkeeping and reporting) of 40 CFR Part 61, Subpart FF, National Emission Standards for Benzene Waste Operations. These requirements of Subpart FF are discussed further.

7.9.4 Non-Applicability of Regulations of Concern

a. The affected wastewater treatment plant is not subject to the operating and control requirements of Subpart FF in general and 40 CFR 61.344 or 40 CFR 61.343 in particular. This non-applicability is based on the amount of benzene generated on site from the by-products operations to be less than 10 Mg/yr (11 ton/yr), as was initially determined by the Permittee. If conditions at the facility change and the total annual benzene calculation shows increase to greater than 10 Mg/yr, the source will become subject to operating and control requirements of Subpart FF and must apply for a revision to this permit.

b. The affected wastewater treatment plant is not subject to 40 CFR Part 63, Subpart QQ, National Emission Standards for Surface Impoundments. This non-applicability is based on the

applicability criteria of 40 CFR 63.940 which clarifies that any applicable Subpart of Parts 40 CFR 60, 61 or 63 references the use of Subpart QQ for an air emission control triggers applicability of Subpart QQ. Applicable Subpart FF does not provide any reference to Subpart QQ, therefore no applicable requirements being established.

c. The affected wastewater treatment plant is not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the initial CAAPP application was submitted prior to April 1998.

7.9.5 Control Requirements and Work Practices

The control requirements and work practices are not set for the affected wastewater treatment plant.

7.9.6 Production and Emission Limitations

a. Total benzene waste stream generated by the coke oven gas by-product plants and processed (treated) by the affected wastewater treatment plant shall not exceed 10 Mg/yr (11 ton/yr). This limit is established to ensure that the applicability of control requirements of 40 CFR, Part 61, Subpart FF ~~are~~is not triggered.

b. If the annual benzene waste stream determination reveals an exceedance of the limit provided above, the source shall fully comply with Subpart FF and apply for revision of this permit accordingly.

c. This limit is established pursuant to 39.5(7)(a) of the Act.

7.9.7 Testing Requirements

See Condition 5.7(c) for the test/measurement procedures required by 40 CFR 61.355.

7.9.8 Monitoring Requirements

Monitoring requirements are not set for the affected wastewater treatment plant.

7.9.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected wastewater treatment plant, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. See Condition 5.9.5 for the records required by 40 CFR 61.356 (Subpart FF, Benzene Waste Operations).

b. Annual emissions of the regulated air pollutants calculated in accordance with compliance procedures established in Condition 7.9.12.

7.9.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA, Air Compliance Section, of deviations of the affected wastewater treatment plant with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

i. The Permittee shall report whether an exceedance of emission limits specified in Condition 7.9.3(b) and all other deviations occurred within 30 days of such occurrence.

ii. The Permittee shall report whether an exceedance of the production limit specified in Condition 7.9.6(a) and all other deviations occurred within 30 days of such occurrence.

b. See Condition 5.10.5 for the reports required by 40 CFR 61.357 (Subpart FF, Benzene Waste Operations).

d. All other deviations not specifically addressed by Section 7.9.10 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

7.9.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected wastewater treatment plant.

7.9.12 Compliance Procedures

a. For the affected wastewater treatment plant, compliance with the applicable regulations of Condition 7.9.3 shall be achieved by testing, recordkeeping and reporting requirements described in Subsection 7.9.

b. For the affected wastewater treatment plant, compliance with the benzene waste limit of Condition 7.9.6(a) shall be achieved by testing, recordkeeping and reporting requirements described in Subsection 7.9.

c. For the affected units in the wastewater treatment plant, emissions of the released regulated air pollutants (including HAP's) shall be calculated either in accordance with Condition 5.12.1(b) or USEPA approved Wastewater Treatment Models (WATERS). This shall also include calculations to determine the amount of photochemically reactive materials released in order to determine compliance with 35 IAC 219.301.

7.10 Boilers

7.10.1 Description

The source operates two Boiler Houses. Boilers 1 through 10 are located in Boiler House 1 and are each rated at 60 mmBtu/hour maximum heat input. Boilers 11 and 12 are located in Boiler House 2 and are rated at 225 mmBtu/hour each. Each of these boilers are physically capable of combusting various combinations of natural gas, coke oven gas, blast furnace gas, No. 6 residual fuel oil, and waste oils generated at the facility.

Note: This narrative description is for informational purposes only and is not enforceable.

7.10.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Boilers	Boiler House 1 Boiler 1 to 10 – 60 mmBtu/Hr each	Pre-1973	None
	Boiler House 2 Boiler 11 & 12 – 225 mmBtu/Hr each	Pre-1973	None

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7.10.3 Applicable Provisions and Regulations

a. The “affected boiler” for the purpose of these unit-specific conditions, is the fuel combustion emission unit described in Conditions 7.10.1 and 7.10.2.

b. The affected boilers shall not exceed the following PM_{10} limitations of 35 IAC 212.458(b)(9) and 212.458(b)(22):

i. 35 IAC 212.458(b)(9)

32.25ng/J (0.075 lbs/mmbtu) of heat input from the burning of coke oven gas at all emission units, other than coke oven combustion stacks, at steel plants in the vicinity of Granite City, as defined in 212.324(a)(1)(C).

ii. 2.15 ng/J (0.005 lb/mmbtu) of heat input from the steel works boilers located at the steel making facilities at steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C);

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c. No person, while simultaneously burning more than one type of fuel in a fuel combustion emission unit, shall cause or allow the emission of particulate matter into the atmosphere in any one hour period in excess of the following equation [35 IAC 212.207]:

$$E = AS + BL$$

Where:

E = Allowable emission rate;

A = Solid fuel particulate emission standard which is applicable;

B = Constant determined from the table in subsection (b);

S = Actual heat input from solid fuel;

L = Actual heat input from liquid fuel.

The metric and English units to be used in the equation of ~~subsection (a) of~~ this Section are as follows:

Parameter	Metric	English
E	kg/hr	lbs/hr
A	kg/MW-hr	lbs/mmBtu
B	0.155	0.10
S	MW	mmBtu/hr
L	MW	mmBtu/hr

d. Pursuant to 35 IAC 214.421, no person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any existing fuel combustion emission source at a steel mill located in the Chicago or St. Louis (Illinois) major metropolitan area burning any solid, liquid or gaseous

fuel, or any combination thereof, to exceed the allowable emission rate determined by the following equation:

$$E = S_S H_S + S_d H_d + S_R H_R + S_G H_G$$

i. Symbols in the equation mean the following:

E = allowable sulfur dioxide emission rate;
S_S = solid fuel sulfur dioxide emission standard which is applicable;
S_d = distillate oil sulfur dioxide emission standard determined from the table in subsection (d);
S_R = residual oil sulfur dioxide emission standard which is applicable;
S_G = maximum by-product gas sulfur dioxide emissions which would result if the applicable by-product gas which was burned had been burned alone at any time during the 12 months preceding the latest operation, on or before March 28, 1983, of an emission source using any by-product gas.
H_S = actual heat input from solid fuel;
H_d = actual heat input from distillate fuel oil;
H_R = actual heat input from residual fuel oil;
H_G = actual heat input from by-product gases, such as those produced from a blast furnace.

ii. That portion of the actual heat input that is derived:

A. From the burning of gaseous fuels produced by the gasification of solid fuels shall be included in H_S;

B. From the burning of gaseous fuels produced by the gasification of distillate fuel oil shall be included in H_d;

C. From the burning of gaseous fuels produced by the gasification of residual fuel oil shall be included in H_R; and

D. From the burning of gaseous fuels produced by the gasification of any other liquid fuel shall be included in H_G.

iii. Metric or English units may be used in the equation ~~of subsection (a)~~ as follows:

Parameter	Metric	English
E	kg/hr	lbs/hr
S_S, S_R, S_G	kg/MW-hr	lbs/mmbtu
S_d	0.46 kg/MW-hr	0.3 lbs/mmbtu
H_S, H_d, H_R, H_G	MW	mmbtu/hr

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e. No person shall cause or allow the emission of carbon monoxide into the atmosphere from the affected boilers to exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

f. See also source-wide rule applicability in Condition 5.3.

g. Startup Provisions

Subject to the following terms and conditions, the Permittee is authorized to operate the affected boilers in violation of the applicable standards in Condition 7.10.3 during startup. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally describing the efforts that will be used "…to minimize startup emissions, duration of individual starts, and frequency of startups."

i. This authorization does not relieve the Permittee from the continuing obligation to demonstrate that all reasonable efforts are made to minimize startup emissions, duration of individual startups and frequency of startups.

ii. The Permittee is authorized to operate the affected boilers in violation of the applicable limits of Condition 7.10.3 during startup pursuant to 35 IAC 201.262, as the Permittee has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual startups and frequency of startups.

iii. The Permittee shall conduct startup of the affected boilers in accordance with the manufacturer's written instructions or other written procedures prepared by the Permittee and maintained at the facility for the affected boilers, that are specifically developed to minimize emissions from startups and that include, at a minimum, the following measures:

A. Review of the operational condition of the affected boilers prior to initiating startup of the boiler;

~~B. Periodic review of the operating parameters of the affected boilers during each startup accompanied by appropriate adjustments to the startup to reduce or eliminate excess emissions;~~

~~C.~~ B. Type of fuel used during startup procedures;

~~D~~C. Time and duration of startup;

~~E~~D. Temperature levels achieved during startup;

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~~F~~E. Amount of fuel used; and

~~G.~~F. Emissions of regulated air pollutants being released during startup.

iv. This authorization only extends for a period of up to 4 hours following initial firing of fuel during each startup event. This limitation shall not apply when extended low temperature operation of the boiler is necessary for replacement refractory curing or other required maintenance activities.

v. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Condition 7.10.9 and Condition 5.10.7, respectively.

vi. As provided by 35 IAC 201.265, an authorization in a permit for excess emissions during startup does not shield a Permittee from enforcement for any violation of applicable emission standard(s) that occurs during startup and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

h. Malfunction and Breakdown Provisions

i. Subject to the following terms and conditions, the Permittee is authorized to continue operation of the affected boilers in violation of the applicable state standards in Condition 7.10.3 in the event of a malfunction or breakdown of the affected units and applicable control practices. This authorization is provided pursuant to 35 IAC 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent risk of injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns. This authorization supersedes the general prohibition in Condition 9.2.3 against continued operation in such circumstances.

ii. This authorization only allows such continued operation as necessary to provide essential service or to prevent risk of injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.

iii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practical

repair the affected emission/process units and/or applicable control practices.

iv. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Condition 7.10.9 and Condition 5.10.7. For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the affected emission unit(s) out of service.

v. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.

vi. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

i. Only natural gas, coke oven gas and blast furnace gases are allowed to use as the fuels on the affected boilers. The Permittee shall apply for revision of this permit if any other fuels are planned to use.

7.10.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture, pursuant to 35 IAC 212.324 (a)(3).

b. The affected boilers are not subject to NO_x control and trading requirements of 35 IAC Part 217 Subpart U because the heat input capacity of each affected boiler is below the threshold established by these regulations.

c. The affected boilers are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the initial CAAPP application was submitted prior to April 1998.

~~7.10.5 Control Requirements and Work Practices~~

~~The conditions below are established pursuant to the previously issued permits 73031119, 73031492, 73100166:~~

~~a. The Permittee shall not keep, store or utilize a residual fuel oil (grades No.4, 5 and 6) with a sulfur content greater than that given by the following formula:~~

~~Maximum wt. percent sulfur = (0.00005) X (Gross Heating Value of the oil in btu/lb)~~

~~b. Organic liquid by-products or waste materials shall not be used by the Permittee in the affected boilers without written approval from the Illinois EPA.~~

~~c. The Permittee may only burn used oils (intermediate light oil and recycled oil) generated from operations at this site.~~

~~d. The Permittee shall not use any oils constituted as hazardous waste.~~

~~e. The Illinois EPA shall be allowed to sample all fuels used by the affected boilers.~~

7.10.5 Emission Standards for Hazardous Air Pollutants

Reserved for Case-by-Case MACT Determination (Boilers #1-10) under Significant Modification of this permit.

7.10.6 Production and Emission Limitations

~~a. Total oil usage for affected boilers (1 through 10 and 11/12) shall not exceed 258,000 gallons/year for intermediate light oil and 365,000 gallons/year for recycled oil.~~

~~These limits were established in permit 73031119 and shall be calculated on the 12 months rolling average. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].~~

~~b.~~ See Condition 5.6.3 for ~~other~~ production and emission limitations.

7.10.7 Testing Requirements

a. ~~Initially and at least once every 12 months thereafter, if used or purchased during the year, the weight percent sulfur content and density of the fuel oil (stored in tanks 101, 102 and 5) shall be determined by the Permittee by testing a representative sample of the oil in each tank.~~The Permittee shall conduct testing of the affected boilers in accordance with the test procedures outlined below.

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~~b. Prior to taking the oil samples to be tested by the Permittee, the contents of tanks 101, 102 and 5 shall be mixed by utilizing the recirculation systems to ensure that the contents of the tanks are reasonably uniform, and hence representative of the entire contents of the tanks.~~

~~c. The Permittee shall use the American Society for Testing and Materials (ASTM) method D129-64 for sulfur content in weight percent and ASTM method D12-98 for density in pounds per gallon(lbs/gal).~~

~~d. i. Upon a reasonable request from the Illinois EPA, the Permittee shall conduct performance test of the affected boilers while burning blast furnace gases or other nontraditional fuels.~~

~~ii. The test(s) shall be performed by an approved independent testing service during conditions which are representative of maximum emissions and at the maximum production rates allowed.~~

~~iii. The USEPA approved methods and procedures shall be used for the testing, unless another alternative method is approved by USEPA.~~

b. Particulate matter emissions subject to the limit established in Condition 7.10.3(b) shall be determined in accordance with procedures published in 40 CFR Part 60, Appendix A, Methods 1 through 5 (or Method 201A).

c. Testing to determine PM_{10} emissions shall be conducted in accordance with 35 IAC 212.108.

d. The testing shall be conducted once in five years at the time of renewal of this permit and may be done on one of the boilers representing each group of boilers described in Condition 7.10.2.

e. ~~The testing~~These conditions ~~from above~~ are established in accordance with ~~requirements of~~ 39.5(7)(c),(d) and (p) of the Act.

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7.10.8 Monitoring Requirements

No direct instrumental monitoring procedures and/or requirements are established for the affected boilers.

7.10.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected boilers, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. The types of fuel (natural gas, COG~~, oils, etc.)~~) used on the monthly and annual basis.

b. The amount of each fuel being combusted. For gaseous fuels the amount of each fuel shall be measured and recorded in scf/mo and scf/yr~~; for each liquid fuel in gal/mo and gal/yr.~~.

~~c. The following data shall be recorded monthly for recycled oil pursuant to the previously issued permits 73031119, 73031492 and 73100166:~~

~~i. Percent lead (by weight) in each shipment;~~

~~ii. Percent ash (by weight) in each shipment;~~

~~iii. Percent sulfur (by weight) in each shipment;~~

~~iv. PPM (parts per million) of halogen content in each shipment;~~

~~v. PPM of chromium, arsenic, lead and cadmium in each shipment; and~~

~~vi. Flash point in degrees Fahrenheit.~~

~~d. The following data shall be recorded monthly for Intermediate Light Oil pursuant to the previously issued permits 73031119, 73031492 and 73100166::~~

~~i. Percent lead (by weight) in each shipment;~~

~~ii. Percent ash (by weight) in each shipment;~~

~~iii. Percent sulfur (by weight) in each shipment; and~~

~~iv. Flash point in degrees Fahrenheit.~~

~~e~~
c. i. The following information for each startup of the affected boilers:

A. Date and duration of the startup, i.e., start time and time normal operation achieved.

B. If normal operation was not achieved within 4 hours, an explanation why startup could not be achieved within this time.

C. A detailed description of the startup, including reason for operation and whether an operation was performed in accordance with written procedures established by the Permittee or manufacturer.

D. An explanation why startup could not be performed in accordance with written procedures established by the Permittee or manufacturer.

ii. A maintenance and repair log for each affected boiler, by listing each activity performed with date.

~~f~~d. Records for Malfunctions and Breakdowns

The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of the affected boilers subject to Condition 7.10.3(i) during malfunctions and breakdown, which at a minimum, shall include:

i. Date and duration of malfunction or breakdown.

ii. A detailed explanation of the malfunction or breakdown.

iii. An explanation why the affected boilers continued to operate in accordance with Condition 7.10.3(i).

iv. The measures used to reduce the quantity of emissions and the duration of the event.

v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity.

vi. The amount of released emissions during malfunction/breakdown.

~~g~~e. Records of the testing conducted on the affected boilers.

~~h~~f. If the Permittee operates under manufacturer's specifications or manufacturer's instructions, such manufacturer's documentation shall be kept at the source as part of the required records.

g. Annual emissions from the affected boilers shall be recorded and calculated in accordance with compliance procedures established in Condition 7.10.12

7.10.10 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA, Air Compliance Section, of deviations of the affected boilers with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

i. The Permittee shall report whether an exceedance the production/emission limits of Condition 5.6.3 occurred within 30 days of such occurrence.

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ii. The Permittee shall report whether an exceedance the production limits of Condition 7.10.6 occurred within 30 days of such occurrence.

b. Reporting on the malfunction and breakdown shall be performed in accordance with Condition 5.10.6.

c. Reporting on startups shall be performed in accordance with Condition 5.10.7.

d. All other deviations not specifically addressed by Section 7.10.10 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

7.10.11 Operational Flexibility/Anticipated Operating Scenarios

The affected boilers are allowed to use different gaseous fuels (as stated in Condition 7.10.1 and 7.10.5 of this permit) separately or simultaneously~~, except of any consumption of used oil shipped to the source from any outside facilities~~.

7.10.12 Compliance Procedures

a. For affected boilers, compliance with the applicable standards of Condition 7.10.3 shall be achieved by the work practices, testing, monitoring, recordkeeping and reporting requirements described in Subsection 7.10.

b. Compliance with the work practice requirements and production/operating limits of Conditions 7.10.5 and 7.10.6 shall be achieved by keeping the appropriate operating records, as required by Condition 7.10.9.

c. Emissions of regulated air pollutants (including (HAP's) shall be calculated in accordance with Condition 5.12.1(b).

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7.11 Internal Combustion Engines

7.11.1 Description

Natural gas-fired internal combustion engine and a fuel oil emergency generator are used for performing emergency or non-emergency essential duties at the source.

Note: This narrative description is for informational purposes only and is not enforceable.

7.11.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Engines	Engine for the existing #4 Coke Oven Gas (COG) booster pump (maximum power output 880 HP)	N/A	Non-Selective Catalytic Reduction (NSCR) system
	Emergency Generator (maximum power output 3,500 HP)	2001	None

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7.11.3 Applicable Provisions and Regulations

a. The "affected engine" for the purpose of these unit-specific conditions, is the emission unit described in Conditions 7.11.1 and 7.11.2.

b. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in Sections 219.302, 219.303, 219.304 of this Part and the following exception: If no odor nuisance exists the limitation of this Subpart shall apply only to photochemically reactive material [35 IAC ~~218~~219.301].

c. PM_{10} emissions shall not exceed 22.9 mg/scm (0.01 gr/scf) from any process emissions unit located at integrated iron and steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C), except as otherwise provided in 35 IAC 212.458 or in 35 IAC 212.443 and 212.446 [35 IAC 212.458(b)(7)].

d. The affected engine for a booster pump is subject to 40 CFR Part 63 Subpart ZZZZ "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines". Specific requirements and standards of Subpart ZZZZ are discussed further in this subsection.

~~e. See also source-wide rule applicability in Condition 5.3.~~

e. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

7.11.4 Non-Applicability of Regulations of Concern

a. The emergency generator is not subject to the emission limits of 40 CFR Part 63 Subpart ZZZZ pursuant to 40 CFR 63.6590(b)(3).

b. The affected engines are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the initial CAAPP application was submitted prior to April 1998.

7.11.5 Emission Standards (Subpart ZZZZ)

Pursuant to 40 CFR 63.6600(a) and Table 1a of Subpart ZZZZ, the following emission standards are applied to the affected engines:

a. Formaldehyde emissions shall be reduced by 76% or more; or

b. The concentration of formaldehyde in the stationary internal combustion engine exhaust shall be limited to 350 ppbvd (concentration, parts per billion) or less at 15 percent O_2.

7.11.6 Control Requirements and Work Practices

~~a. Pursuant to 40 CFR 63.6600(a) and Table 1b of Subpart ZZZZ, the following operating limitations shall be applied to the affected engine by the Permitee:~~

~~i. The catalyst shall be maintained so that the pressure drop across the catalyst does not change by more than two inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and~~

~~ii. The temperature of the engine's exhaust shall be maintained so that the catalyst inlet temperature is greater than or equal to 750° F and less than or equal to 1250° F.~~

~~b.~~a. Pursuant to 40 CFR 63.6605 the Permittee shall comply with the following:

i. The Permittee shall be in compliance with the emission limitations and operating limitations of Subpart ZZZZ that apply to the affected engines at all times, except during periods of startup, shutdown, and malfunction.

ii. The Permittee shall operate and maintain the affected stationary combustion engine, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

b. Pursuant to 40 CFR 63.6640(d),deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations if the Permitee demonstrate to the Illinois EPA's satisfaction that the Permittee operates in accordance with Startup, Shutdown and Malfunction plan, as identified in 40 CFR 63.6(e)(1).

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7.11.7 Production and Emission Limitations

Emissions and operation of the emergency generator shall not exceed the following limits:

a. The operation of the emergency generator is limited to 500 hours per year.

b. Emissions of the emergency generator shall not exceed the following limits:

Emergency Generator	Emissions (lb/hr)	Emissions (t/yr)
PM	2.48	0.62
CO	21.11	5.3
NO_x	79.49	19.9
SO_2	12.54	3.1

The above limitations were established in Permit 00060003, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit

does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

7.11.8 Testing Requirements

a. The Permittee shall conduct the initial performance test on the affected engine, as required by 40 CFR 63.6610(a) and Table 4 of Subpart ZZZZ.

b. After the initial performance test is conducted, the Permittee shall conduct subsequent semiannual (or annual) performance test on the affected engine, as required by 40 CFR 63.6615(a) and Table 3 of Subpart ZZZZ.

c. Each performance test shall be conducted according to the requirements in 40 CFR 63.7(e)(1) and under the specific conditions specified in Table 4 of Subpart ZZZZ. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

c. If the annual operation of the emergency generator exceeds 500 hr/yr, then the Permittee shall conduct testing of PM, CO, NO_x and SO_2 emissions to verify compliance with the emission limits in Condition 7.11.7(b). Notification and testing procedures shall be conducted in accordance with subsection 8.6 of this permit.

7.11.9 Monitoring Requirements

a. Pursuant to 40 CFR 63.6600(a) and Table 1b of Subpart ZZZZ, the following operating limitations shall be applied to the affected engine by the Permitee:

i. The catalyst shall be maintained so that the pressure drop across the catalyst does not change by more than two inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and

ii. The temperature of the engine's exhaust shall be maintained so that the catalyst inlet temperature is greater than or equal to 750^0 F and less than or equal to 1250^0 F.

b. The Permittee shall comply with the following monitoring requirements established by 40 CFR 63.6625(~~a) and (~~b):

~~a. If the Permittee elects to install a CEMS as specified in Table 5 of Subpart ZZZZ, the Permittee shall install, operate,~~

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~~and maintain a CEMS to monitor CO and either oxygen or CO_2 at both the inlet and the outlet of the control device according to the following requirements:~~

~~i. Each CEMS shall be installed, operated, and maintained according to the applicable performance specifications of 40 CFR Part 60, appendix B.~~

~~ii. The Permittee shall conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in 40 CFR 63.8 and according to the applicable performance specifications of 40 CFR Part 60, Appendix B as well as daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, procedure 1.~~

~~iii. As specified in 40 CFR 63.8(c)(4)(ii), each CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. The Permittee shall have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.~~

~~iv. The CEMS data shall be reduced as specified in 40 CFR 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 concentration.~~

~~b. If the Permittee is required to install~~ For a continuous parameter monitoring system (CPMS) as specified in Table 5 of ~~this subpart~~Subpart ZZZZ, the Permittee shall install, operate, and maintain each CPMS according to the requirements in 40 CFR 63.8.

7.11.10 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected engines, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. The types of fuel (natural gas or diesel oil) used and fuel consumption on a monthly and annual basis (scf/mo or gal/mo and scf/mo or gal/mo) for each affected engine.

b. Hours of operation for emergency generator (hr/yr).

c. Records required by 35 IAC 212.324(g) (See Condition 5.9.4(c) and (d)).

d. Emissions from the affected engines calculated in accordance with compliance procedures established in Condition 7.11.13

e. Records required by 40 CFR 63.6655:

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i. A copy of each notification and report being submitted to comply with Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status that was submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv).

ii. The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

iii. Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).

iv. For ~~each CEMS or~~ CPMS, the Permittee shall keep the following records:

A. Records described in 40 CFR 63.10(b)(2)(vi) through (xi).

B. Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3).

C. Requests for alternatives to the relative accuracy test for ~~CEMS or~~ CPMS as required in 40 CFR 63.8(f)(6)(i), if applicable.

7.11.11 Reporting Requirements

a. The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected engines with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

i. The Permittee shall report whether an exceedance of the emissions and operating limits of Condition 7.11.7 occurred within 30 days of such occurrence.

ii. The Permittee shall report whether an exceedance of the limits specified in Condition 7.11.3 occurred within 30 days of such occurrence.

~~iii. The Permittee shall report whether operations of the affected engines deviated from other requirements specified in Subsection 7.11 within 30 days of such occurrence.~~

b. The Permittee shall comply with the reporting required by 40 CFR 63.6650:

i. Applicable reports described in Table 7 of Subpart ZZZZ:

A. Compliance reports;

B. An immediate startup, shutdown, and malfunction report;

C. Reports on the fuel flow rate of each fuel; and

D. Reports on the deviations from the operating limits.

ii. Unless the Illinois EPA or USEPA has approved a different schedule for submission of reports under 40 CFR 63.10(a), the Permittee shall submit each report by the date in Table 7 of Subpart ZZZZ and according to the following requirements:

A. The first Compliance report shall cover the period beginning on the compliance date that is specified for the affected source in 40 CFR 63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for the source in 40 CFR 63.6595.

B. The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for the affected source in 40 CFR 63.6595.

C. Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

D. Each subsequent Compliance report shall be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

E. For each stationary engine that is subject to permitting regulations pursuant to 40 CFR Part 70 or 71, and if the permitting authority (Illinois EPA or USEPA) has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), the Permittee may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates provided above.

iii. The Compliance report shall contain the following information:

A. Company name and address.

B. Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

C. Date of report and beginning and ending dates of the reporting period.

D. If the Permittee had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in 40 CFR 63.10(d)(5)(i).

E. If there are no deviations from any emission or operating limitations that apply to the Permittee, a statement that there were no deviations from the emission or operating limitations during the reporting period.

F. If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

iv. For each deviation from an emission or operating limitation that occurs for a stationary engine where CMS is not used to comply with the emission or operating limitations in Subpart ZZZZ, the Compliance report must contain the information in Condition 7.11.11(b)(iii)(A) through (D) above and the following information:

A. The total operating time of the stationary engine at which the deviation occurred during the reporting period.

B. Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

v. For each deviation from an emission or operating limitation occurring for a stationary engine where the Permittee is using a CMS to comply with the emission and operating limitations of Subpart ZZZZ, the Permittee shall include the information established in 40 CFR 63.6650 (c)(1) through (4) and (e)(1) through (12):

A. The date and time that each malfunction started and stopped.

B. The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

C. The date, time, and duration that each CMS was out-of-control, including the information in 40 CFR 63.8(c)(8).

D. The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

E. A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

F. A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

G. A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary internal combustion engines at which the CMS downtime occurred during that reporting period.

H. An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary internal combustion engines.

I. A brief description of the stationary internal combustion engines.

J. A brief description of the CMS.

K. The date of the latest CMS certification or audit.

L. A description of any changes in CMS, processes, or controls since the last reporting period.

vi. The Permittee shall report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of Subpart ZZZZ along with, or as part of, the semiannual monitoring

report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in Subpart ZZZZ, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

c. All other deviations not specifically addressed by Section 7.11.11 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

7.11.12 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected engines.

7.11.13 Compliance Procedures

a. For affected engines, compliance with the applicable standards of Conditions 7.11.3 and 7.11.5 shall be achieved by the work practices, testing, monitoring, recordkeeping and reporting requirements described in Subsection 7.11.

b. Compliance with the control/work practice requirements and production/emission limits of Conditions 7.11.6 and 7.11.7 shall be achieved by fulfilling monitoring requirements of Condition 7.11.9 and by keeping the appropriate operating records, as required by Condition 7.11.10.

c. Emissions of regulated air pollutants (including (HAP’s) shall be calculated in accordance with Condition 5.12.1(b).

7.12 Gasoline Storage and Dispensing

7.12.1 Description

Gasoline storage and dispensing is used for servicing the facility's fleet.

Note: This narrative description is for informational purposes only and is not enforceable.

7.12.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Gasoline Storage	Five storage tanks located at: Storeroom (1,000 gallons capacity); Machine Shop (1,000 gallons capacity); Wastewater (250 gallons capacity); Blast Furnace (1,000 gallons capacity); and Hot Strip Mill (300 gallons capacity)	N/A	Control Practices: Submerged loading pipe (all tanks) and Stage I system (tanks with 1,000 gallons capacity)

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7.12.3 Applicable Provisions and Regulations

a. The "affected gasoline storage tank" for the purpose of these unit-specific conditions, is the emission unit and operations described in Conditions 7.12.1 and 7.12.2 above.

b. The affected gasoline storage tank is subject to the following:

i. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201, or unless such tank is a pressure tank as described in 35 IAC

219.121(a) or is fitted with a recovery system as described in 35 IAC 219.121(b)(2) [35 IAC 219.122(b)].

ii. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 219.302, 219.303, or 219.304 and the following exemption: If no odor nuisance exists the limitation of 35 IAC 219 Subpart G shall only apply to photochemically reactive material [35 IAC 219.301].

iii. Pursuant to 35 IAC 219.583(a), no person shall cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank at a gasoline dispensing operation unless:

A. The tank is equipped with a submerged loading pipe [35 IAC 219.583(a)(1)]; and

B. Pursuant to 35 IAC 219.583(a)(2), the vapors displaced from the storage tank during filling are processed by a vapor control system that includes one or more of the following:

1. A vapor collection system that meets the requirements of Condition 7.12.5(b) (see also 35 IAC 219.583(d)(4)) [35 IAC 219.583(a)(2)(A)]; or

2. A refrigeration-condensation system or any other system approved by the Illinois EPA that recovers at least 90 percent by weight of all vaporized organic material from the equipment being controlled [35 IAC 219.583(a)(2)(B)];

3. The delivery vessel displays the appropriate sticker pursuant to the requirements of 35 IAC 219.584(b) or (d) [35 IAC 219.583(a)(2)(C)]; and

C. Pursuant to 35 IAC 219.583(a)(3), all tank vent pipes are equipped with pressure/vacuum relief valves with the following design specifications:

1. The pressure/vacuum relief valve shall be set to resist a pressure of at least 3.5 inches water column and to resist a vacuum of no less than 6.0 inches water column; or

2. The pressure/vacuum relief valve shall meet the requirements of 35 Ill. Adm. Code 218.586(c)

7.12.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected gasoline storage tank not being subject to the New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels), 40 CFR Part 60, Subpart Kb, because each tank is less than 40 cubic meters (10,566 gallons).

b. This permit is issued based on the affected gasoline storage tank not being subject to 35 IAC 219.121, because each affected tank is less than 40,000 gallons.

c. This permit is issued based on the affected gasoline storage tank not being subject to 35 IAC 219.122(a), because each affected tank is less than 40,000 gallons.

d. The affected gasoline storage and dispensing operations are not part of bulk gasoline plant (35 IAC 219.581) and bulk gasoline terminals (35 IAC 219.582) pursuant to appropriate definitions placed in 35 IAC Part 211.

e. This permit is issued based on the gasoline storage and dispensing operations performed at Hot Strip Mill and at Wastewater are not subject to 35 IAC 219.583(a)(2) and (a)(3) pursuant to 35 IAC 219.583(b)(3).

f. This permit is issued based on the affected gasoline storage tank not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because each affected tank does not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.12.5 Control Requirements and Work Practices

The affected gasoline storage tank is subject to the following control requirements and work practices:

a. Pursuant to 35 IAC 219.583(c), each owner of a gasoline dispensing operation shall:

   i. Install all control systems and make all process modifications required by Condition 7.12.3(b) (see also 35 IAC 219.583(a)) [35 IAC 219.583(c)(1)];

   ii. Provide instructions to the operator of the gasoline dispensing operation describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of a vapor control system [35 IAC 219.583(c)(2)]; and

   iii. Repair, replace or modify any worn out or malfunctioning component or element of design [35 IAC 219.583(c)(3)].

b. Pursuant to 35 IAC 219.583(d), each operator of a gasoline dispensing operation shall:

i. Maintain and operate each vapor control system in accordance with the owner's instructions [35 IAC 219.583(d)(1)];

ii. Promptly notify the owner of any scheduled maintenance or malfunction requiring replacement or repair of a major component of a vapor control system [35 IAC 219.583(d)(2)];

iii. Maintain gauges, meters or other specified testing devices in proper working order [35 IAC 219.583(d)(3)]; and

iv. Pursuant to 35 IAC 219.583(d)(4), operate the vapor collection system and delivery vessel unloading points in a manner that prevents:

A. A reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when tested in accordance with the procedure described in EPA 450/2-78-051 Appendix B [35 IAC 219.583(d)(4)(A)]; and

B. Avoidable leaks of liquid during the filling of storage tanks [35 IAC 214.583(d)(4)(B)].

7.12.6 Production and Emission Limitations

Production and emission limitations are not set for the affected gasoline storage tank.

7.12.7 Testing Requirements

Within 15 business days after discovery of the leak by the owner, operator, or the Illinois EPA, the Permittee shall repair and retest a vapor collection system which exceeds the limits of Condition 7.12.5(b)(iv)(A) (see also 35 IAC 219.583(d)(4)(A)) [35 IAC 219.583(d)(5)].

7.12.8 Monitoring Requirements

Monitoring requirements are not set for the affected gasoline storage tank.

7.12.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected gasoline storage tanks, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. Records of the testing and repair of the vapor collection system pursuant to Condition 7.12.7 [Section 39.5(7)(e) of the Act].

b. Records of gasoline throughput in gallons per month and gallons per year.

c. Records of emissions in pounds per month and tons per year using the methods in Condition 7.12.12.

7.12.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Section, of deviations of the affected gasoline storage tank with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

a. The Permittee shall report whether operations of the affected gasoline storage tank deviated from the requirements specified in Subsection 7.12.3 and 7.12.5 within 30 days of such occurrence.

b. All other deviations not specifically addressed by Section 7.12.10 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

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7.12.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected gasoline storage tank.

7.12.12 Compliance Procedures

a. Compliance with Conditions 7.12.3(b) is considered to be assured by the use of submerged loading pipe and vapor balance system as required in Condition 7.12.5 and by the recordkeeping requirement of Condition 7.12.9.

b. Emissions of regulated air pollutants (including (HAP's) shall be calculated in accordance with Condition 5.12.1(b) or the most current version of the TANKS program.

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7.13 Fugitive Emissions

7.13.1 Description

The facility emits fugitive dust from vehicle traffic, wind erosion of piles, roadways, parking lots and other open areas not associated with the processing operations addressed in the previous subsections of Section 7. The source operates a landfill for placement of furnace dusts and other industrial wastes.

Note: This narrative description is for informational purposes only and is not enforceable. Note that coal handling is included in Section 7.1.

7.13.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Fugitive Emissions	Landfill Vehicular Traffic on Roadways, Parking Lots and Other Open Areas Truck Unloading Storage Piles loaded on batch or continuous basis; wind erosion Batch material transfer from storage piles	N/A	N/A

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7.13.3 Applicable Provisions and Regulations

a. The “affected areas of fugitive emissions” for the purpose of these unit-specific conditions, is the emission unit and operation described in Conditions 7.13.1 and 7.13.2 above.

b. The affected areas of fugitive emissions are subject to 35 IAC 212.301 which provides that no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at

a point beyond the property line of the source [35 IAC 212.301].

c. The affected areas of fugitive emissions are subject to 35 IAC 212.306 which provides that all normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall ~~g~~have the treatment applied on a regular basis, as needed, in accordance with the operating program required by 35 IAC 212.309, 212.310 and 212.312.

d. Applicable emission limitations established by 35 IAC 212.316:

i. Emission Limitations for Storage Piles. No person shall cause or allow fugitive particulate matter emissions from any storage pile to exceed an opacity of 10 percent, to be measured four ft from the pile surface.

ii. Additional Emissions Limitations for the Granite City Vicinity as Defined in 35 IAC 212.316(e)(1):

Emissions Limitations for Roadways or Parking Areas Located at Slag Processing Facilities or Integrated Iron and Steel Manufacturing Plants. No person shall cause or allow fugitive particulate matter emissions from any roadway or parking area located at a slag processing facility or integrated iron and steel manufacturing plant to exceed an opacity of 5 percent.

iii. Emission Limitation for All Other Emission Units (35 IAC 212.316(f)). Unless an emission unit has been assigned a particulate matter, PM-10, or fugitive particulate matter emissions limitation elsewhere in 35 IAC 212.316 or in Subparts R or S of 35 IAC Part 212, no person shall cause or allow fugitive particulate matter emissions from any emission unit to exceed an opacity of 20 percent.

e. This stationary source meets the criteria in 35 IAC 212.700 and is required to prepare and submit a contingency measure plan reflecting the PM_{10} emission reductions as set forth in 35 IAC 212.701 and 212.703. The plan was submitted to the Illinois EPA and is incorporated by reference into this permit, This plan shall be implemented by the Permittee in accordance with 35 IAC 212.704.

f. i. The Permittee shall implement a fugitive dust operating program for affected areas of fugitive emissions in accordance with 35 IAC 212.304 through 212.310 and 212.312.

ii. The operating program shall be amended from time to time by the owner or operator so that the operating program is current. Such amendments shall be consistent with 35 IAC Part 212 Subpart K and shall be submitted to the Illinois EPA for its review [35 IAC 212.312].

g. Both PM_{10} contingency plan and the fugitive dust operating program are incorporated by reference into this permit and shall be amended accordingly to remain up to date.

7.13.4 Non-Applicability of Regulations of Concern

The landfill operated on the site is not subject to 35 IAC Part 220 for municipal waste landfills. The landfill serves only the needs for Permittee's operations in accepting industrial waste generated on-site and no municipal or any off-site waste is accepted by this landfill.

7.13.5 Control Requirements and Work Practices

a. Pursuant to permit #95010001, the Permittee shall be subject to the following on-site and off-site fugitive dust control requirements:

i. On-site fugitive dust control

A. The Permittee shall sweep or flush at least every day the paved access area below the BOF ESP where ESP dust collection bags are used, stored and transported.

B. The Permittee shall implement a housekeeping program for the non-roadway areas below and around the BOF ESP. This program shall, at a minimum, contain the following:

1. The ground and other accessible areas where dust may gather shall be swept or cleaned at least every day;

2. Cleaning shall be performed in such a manner as to minimize the escape of dust into the atmosphere;

3. Dust collection bags shall be inspected at least daily for rips, tears, or insecure connection to the discharge chutes of the ESP hoppers;

4. Dust collection bags shall be inspected after removal from, and connection to, the discharge chutes of the ESP hoppers;

5. Ripped or torn bags shall be taken out of service and transported as soon as practicable in a covered truck.

C. Unpaved Roads. On unpaved roads that are part of normal traffic patterns (including roads B, C, E, N, F-F, and CS(2)) the Permittee shall apply a chemical dust suppressant at least three times a month, with the following exceptions:

1. Road segment G-G, which shall be sprayed at least quarterly;

2. Road segments P, V, Z, D-D, E-E, and H, which shall be sprayed at least 4 times per month until paving is completed;

3. Road segment L, which shall be sprayed at least 4 times per month.

4. All other unpaved roads shall be treated as necessary.

5. Applications of suppressant may be less frequent than specified above if weather conditions, i.e., precipitation or temperature, interfere with the schedule for spraying, provided each such instance shall be recorded in accordance with the daily records for on-site fugitive dust control required by this permit.

D. Paved roadways and areas. Paved roadways and areas shall be maintained in good condition by the Permittee.

On paved roadways and other areas, the Permittee shall sweep or flush as follows:

1. Road segments D, K, M, F, G, J, R, and O shall be swept or flushed at least daily;

2. Road segments P, V, W, X, Z, D-D, E-E, and CS(1) shall be swept or flushed at least five days per week;

3. Road segments S and T shall be swept or flushed at least every other day;

4. Road segments A and H shall be swept or flushed at least once per month;

5. All gate areas leading from the steelworks area shall be swept or flushed at least daily;

6. All gate areas leading from the iron making area shall be swept or flushed at least five times per week.

7. The above on-site dust control measures shall be conducted to maximize their effectiveness by performing said measures when the roads or areas are not normally obstructed by parked vehicles and by preferentially using filter sweeping (e.g., Enviro-Whirl sweeper) for the gate areas, the roads and areas surrounding the BOF and BOF ESP, and other key areas.

ii. Off-site fugitive dust control

The Permittee or the Permittee's agent shall sweep or flush the following Granite City street road areas:

A. At least weekly, the quarter mile segment of Madison Avenue in front of the 16th street gate (i.e., 1/8 of a mile in either direction);

B. At least weekly, the segment of 20th street between Lee and Quincy roads; and

C. At least monthly, the segment of 20th street between Madison and Route 203 (a.k.a. Edwardsville Road).

b. The fugitive dust control measures outlined above do not relieve the Permittee from complying with the additional control measures (e.g., PM-10 contingency plan) required by 35 Ill Adm. Code Part 212 Subpart U and the fugitive dust plan [Permit 95010001].

c. The landfill operated by the Permittee shall not accept any off-site wastes, including municipal, hospital/medical or hazardous wastes.

7.13.6 Production and Emission Limitations

Total fugitive emission of PM_{10} from the roadways at the source shall not exceed 27 tons/year.

These limits are established in permit #95010001. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total)[T1].

7.13.7 Testing Requirements

a. Opacity emission evaluation shall be conducted in accordance with procedures published in 40 CFR Part 60, Appendix A, Method 9.

b. i. The Permittee shall have to measure the opacity of the emissions from the affected operations during representative weather and operating conditions determined by a qualified observer in accordance with USEPA Test Method 9, as further specified below, pursuant to Section 39.5(7)(d) of the Act.

A. For each affected operation, testing shall be conducted at least annually.

B. Upon written request by the Illinois EPA, such testing shall be conducted for specific affected operation(s) within 45 calendar days of the request or on the date agreed upon by the Illinois EPA, whichever is later.

ii. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless the average opacities for the first 12 minutes of observations (two six-minute averages) are both less than 10.0 percent.

c. The testing conditions from above are established in accordance with requirements of 39.5(7)(p) of the Act.

7.13.8 Inspection Requirements

The Permittee shall perform inspections of the affected areas of fugitive emissions on at least a quarterly basis, including associated control measures, while the affected operations are in use, to confirm compliance with the requirements of Condition 7.13.5. These inspections shall be performed with personnel not directly involved in the day-to-day operation of the affected operations and may be scheduled so that only a number of affected operations are reviewed during each inspection, provided however, that all affected operations that are in routine service shall be inspected at least once during each calendar month. [Sections 39.5(7)(a) and (d) of the Act]

7.13.9 Monitoring Requirements

Monitoring requirements are not set for the affected areas of fugitive emissions.

7.13.10 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected areas of fugitive emissions, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. Records required by 35 IAC 212.316(g):

i. The owner or operator of any fugitive particulate matter emission unit subject to 35 IAC 212.316 shall keep written records of the application of control measures as may be needed for compliance with the opacity limitations of 212.316 and shall submit to the Illinois EPA an annual report containing a summary of such information.

ii. The records shall include at least the following:

A. The name and address of the source;

B. The name and address of the owner and/or operator of the source;

C. A map or diagram showing the location of all emission units controlled, including the location, identification, length, and width of roadways;

D. For each application of water or chemical solution to roadways by truck: the name and location of the roadway controlled, application rate of each truck, frequency of each application, width of each application, identification of each truck used, total quantity of water or chemical used for each application and, for each application of chemical solution, the concentration and identity of the chemical;

E. For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent, and, if diluted, percent of concentration, used each day; and

F. A log recording incidents when control measures were not used and a statement of explanation.

iii. Copies of all records required by 35 IAC 212.316 shall be submitted to the Illinois EPA within ten (10) working days after a written request by the Illinois EPA and shall be transmitted to the Illinois EPA by a company-designated person with authority to release such records.

iv. The records required under 35 IAC 212.316 shall be kept at the source and be available for inspection and

copying by Illinois EPA representatives during working hours.

b. The Permittee shall maintain daily records relative to the on-site fugitive dust control program which includes the following information at a minimum, pursuant to the permit 95010001:

i. The date (and time for the gate areas) each road or area was treated;

ii. The manner in which the road or area was treated (i.e., filter sweep, conventional sweep, suppressant spray or flush);

iii. Detailed information for use of dust suppressant, including but not limited to the application rate, dilution ratio, type of suppressant used, and the number of gallons of suppressant applied;

iv. Observations, if any, concerning the condition of the roadway, e.g., presence of parked vehicles, detection of potholes;

v. The amount of precipitation and temperature recorded for each day, and if determination was made to suspend application of suppressant, include name and title of person who made determination to suspend application and explanation; and

vi. Any and all suspensions or deviations from the designated control procedures, with date, description, and explanation for suspension of application.

c. The Permittee shall maintain the most current versions of the PM_{10} contingency plan and the fugitive dust control program.

7.13.11 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Section, of deviations of the affected area of fugitive emissions with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports submitted by the Permittee shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

a. Pursuant 35 IAC 212.316(g)(5), the Permittee shall submit a quarterly report to the Illinois EPA stating the following: the dates any necessary control measures were not implemented, a listing of those control measures, the reasons that the control measures were not implemented, and any corrective actions taken. This information includes, but is not limited to, those dates when controls were not applied based on a belief that application of such control measures would have

been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to the requirements of 35 IAC 212.316. This report shall be submitted to the Agency thirty (30) calendar days from the end of a quarter. Quarters end March 31, June 30, September 30, and December 31.

b. i. The Permittee shall report whether emissions were in excess of the limits specified in Conditions 7.13.3 and 7.13.6 and all other deviations within 30 days of such occurrence.

ii. The Permittee shall report whether an operation of the affected areas of fugitive emissions were not complying with the operating requirements specified in Condition 7.13.5 and all other deviations within 30 days of such occurrence.

c. All other deviations not specifically addressed by Section 7.13.11 shall be reported in the semi-annual reports [39.5(7)(b) and (f) of the Act].

7.13.12 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected area of fugitive emissions.

7.13.13 Compliance Procedures

a. For affected area of fugitive emissions, compliance with the applicable standards of Condition 7.13.3 shall be achieved by the implementation of control requirements/work practices outlined in Condition 7.13.5 and testing requirements in Condition 7.13.7.

b. Compliance with the control/work practice requirements of Condition 7.13.5 shall be achieved by keeping the appropriate operating/maintenance records, as required by Condition 7.13.9.

c. Compliance with emission limits of Condition 7.13.6 shall be achieved by keeping the records of emissions calculated in accordance with Condition 5.12.1(b).

d. Total fugitive emissions of PM/PM_{10} shall be calculated in accordance with Condition 5.12.1(b).

8.0 GENERAL PERMIT CONDITIONS

8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after _____ (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12)(a)(i) of the Act]:

a. The changes do not violate applicable requirements;

b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements;

c. The changes do not constitute a modification under Title I of the CAA;

d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and

e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:

   i. Describe the physical or operational change;

   ii. Identify the schedule for implementing the physical or operational change;

   iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;

   iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and

   v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods if applicable test methods are not specified by the applicable regulations or otherwise identified in the conditions of this permit. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Conditions 8.6.3 and 8.6.4.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

Semiannual reports, including monitoring reports summarizing required monitoring as specified in the conditions of this permit shall be submitted to the Illinois EPA, unless more frequent submittal of such reports is required in Sections 5 or 7 of this permit [Section 39.5(7)(f) of the Act]:

Monitoring Period	Report Due Date

Monitoring Period	Report Due Date
January - June	July 31
July - December	January 31

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

a. The name and identification of the affected unit(s);

b. The person(s) who will be performing sampling and analysis and their experience with similar tests;

c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the specified operating parameters, as defined in Section 7 for ~~the source~~each emission unit and any control equipment, will be determined;

d. The specific determinations of emissions and operation that are intended to be made, including sampling and monitoring locations;

e. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods;

f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and

g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7)(e)(i) of the Act]:

a. The name and identification of the affected unit(s);
b. The date and time of the sampling or measurements;

c. The date any analyses were performed;

d. The name of the company that performed the tests and/or analyses;

e. The test and analytical methodologies used;

f. The results of the tests including raw data, and/or analyses including sample calculations;

g. The operating conditions at the time of the sampling or measurements; and

h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

a. Unless otherwise specified in the particular provision of this permit or in the written instructions distributed by the Illinois EPA for particular reports, reports and notifications shall be sent to the Illinois EPA - Air Compliance Unit with a copy sent to the Illinois EPA - Air Regional Field Office.

b. As of the date of issuance of this permit, the addresses of the offices that should generally be utilized for the submittal of reports and notifications are as follows:

i. Illinois EPA - Air Compliance Unit

Illinois Environmental Protection Agency
Bureau of Air
Compliance & Enforcement Section (MC 40)
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

ii. Illinois EPA - Air Quality Planning Section

Illinois Environmental Protection Agency
Bureau of Air
Air Quality Planning Section (MC 39)
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

iii. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency
Division of Air Pollution Control
2009 Mall Street
Collinsville, Illinois 62234

iv. USEPA Region 5 - Air Branch

USEPA (AR - 17J)
Air & Radiation Division

77 West Jackson Boulevard
Chicago, Illinois 60604

c. Permit applications should be addressed to the Air Permit Section. As of the date of issuance of this permit, the address of the Air Permit Section is as follows:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section (MC 11)
1021 North Grand Avenue East
P.O. Box 19506
Springfield, Illinois 62794-9506

8.7 Title I Conditions

Notwithstanding the expiration date on the first page of this CAAPP permit, Title I conditions in this permit, which are identified by a T1, T1N, or T1R designation, remain in effect until such time as the Illinois EPA takes action to revise or terminate them in accordance with applicable procedures for action on Title I conditions. This is because these conditions either: (a) incorporate conditions of earlier permits that were issued by the Illinois EPA pursuant to authority that includes authority found in Title I of the CAA (T1 conditions), (b) were newly established in this CAAPP permit pursuant to authority that includes such Title I authority (T1N conditions), or (c) reflect a revision or combination of conditions established in this CAAPP permit (T1R conditions). (See also Condition 1.5.)

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule.

9.1.2 In particular, this permit does not alter or affect the following [Section 39.5(7)(j)(iv) of the Act]:

a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and

d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, pursuant to Section 39.5(7)(j) and (p) of the Act, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless this permit provides for such continued operation consistent with the Act and applicable Illinois Pollution Control Board regulations [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated there under.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois, 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents as may be required by law and in accordance with constitutional limitations, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Sections 4 and 39.5(7)(a) and (p)(ii) of the Act]:

a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

d. Sample or monitor any substances or parameters at any location:

   i. At reasonable times, for the purposes of assuring permit compliance or applicable requirements; or

ii. As otherwise authorized by the CAA, or the Act.

e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and

f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply with Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

9.5 Liability

9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7)(o)(iv) of the Act].

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. At a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12)(b)(iv) of the Act].

9.6.3 Retention of Records

a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].

b. Other records required by this permit including any logs, plans, procedures, or instructions required to be kept by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Air Quality Planning Section no later than May 1 of the following year, as required by 35 IAC Part 254. The regulated air pollutants (including HAP's) from the entire source and individual emission units or group of emission units have to be addressed in the Annual Emission Report and calculated as recommended in Condition 5.12.1(b).

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Unit, Air Regional Field Office, and USEPA Region 5 – Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.

b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.

c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act and applicable regulations [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as Attachment 1 to this permit.

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

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 [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence [Section 39.5(7)(k) of the Act]:

i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency.

Note: For this purpose, emergency means a situation arising from sudden and reasonably unforeseeable events beyond the control of the source, as further defined by Section 39.5(7)(k)(iv) of the Act.

ii. The permitted source was at the time being properly operated;

iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.

b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This

provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations [Section 39.5(7)(k)(iv) of the Act].

9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

This permit may be modified, revoked, reopened and reissued, or terminated for cause in accordance with applicable provisions of Section 39.5 of the Act. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7)(o)(iii) of the Act].

9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15)(a) of the Act]:

a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit.

b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program.

c. The Illinois EPA or USEPA determines that this permit contains a material mistake or that inaccurate statement were made in establishing the emission standards or limitations, or other terms or conditions of this permit.

d. The Illinois EPA or USEPA determines that this permit must be revised or revoked to ensure compliance with the applicable requirements.

9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation and reissuance under

Section 39.5(15) of the Act, pursuant to Sections 39.5(5)(e) and (i) of the Act.

9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

9.13 Severability Clause

The provisions of this permit are severable. In the event of a challenge to any portion of the permit, other portions of the permit may continue to be in effect. Should any portion of this permit be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected and the rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

9.14 Permit Expiration and Renewal

Upon the expiration of this permit, if the source is operated, it shall be deemed to be operating without a permit unless a timely and complete CAAPP application has been submitted for renewal of this permit. However, if a timely and complete application to renew this CAAPP permit has been submitted, the terms and all conditions of this CAAPP permit will remain in effect until the issuance of a renewal permit [Section 39.5(5)(l) and (o) of the Act].

Note: Pursuant to Sections 39.5(5)(h) and (n) of the Act, upon submittal of a timely and complete renewal application, the permitted source may continue to operate until final action is taken by the Illinois EPA on the renewal application, provided, however, that this protection shall cease if the applicant fails to submit any additional information necessary to evaluate or take final action on the renewal application as requested by the Illinois EPA in writing. For a renewal application to be timely, it must be submitted no later than 9 months prior to the date of permit expiration.

9.15 General Authority for the Terms and Conditions of this Permit

The authority for terms and conditions of this permit that do not include a citation for their authority is Section 39.5(7)(a) of the Act, which provides that the Illinois EPA shall include such provisions in a CAAPP permit as are necessary to accomplish the purposes of the Act and to assure compliance with all applicable requirements. Section 39.5(7)(a) of

the Act is also another basis of authority for terms and conditions of this permit that do include a specific citation for their authority.

Note: This condition is included in this permit pursuant to Section 39.5(7)(n) of the Act.

10.0 ATTACHMENTS

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Attachment 1 Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Name: _____

Official Title: _____

Telephone No.: _____

Date Signed: _____

Attachment 2 Emissions of Particulate Matter from Process Emission Units

10.2.1. Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972

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a. New Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321].

b. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].

i. The emissions of particulate matter into the atmosphere in any one hour period from the affected coating lines shall not exceed the allowable emission rates specified in the following equation:

$$E = A\ (P)^B$$

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Where:

P = Process weight rate

E = Allowable emission rate

ii. For process weight rates of 408 Mg/hr (450 T/hr):

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	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

iii. For process weight rates in excess of 408 Mg/hr (450 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	11.42	24.8
B	0.16	0.16

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c. Limits for Process Emission Units for which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321(c)]:

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Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lb/hr
0.05	0.25	0.05	0.55
0.1	0.29	0.10	0.77
0.2	0.42	0.2	1.10
0.3	0.64	0.30	1.35
0.4	0.74	0.40	1.58
0.5	0.84	0.50	1.75
0.7	1.00	0.75	2.40
0.9	1.15	1.00	2.60
1.8	1.66	2.00	3.70
2.7	2.1	3.00	4.60
3.6	2.4	4.00	5.35
4.5	2.7	5.00	6.00
9.0	3.9	10.00	8.70
13.0	4.8	15.00	10.80
18.0	5.7	20.00	12.50
23.0	6.5	25.00	14.00
27.0	7.1	30.00	15.60
32.0	7.7	35.00	17.00
36.0	8.2	40.00	18.20
41.0	8.8	45.00	19.20
45.0	9.3	50.00	20.50
90.0	13.4	100.00	29.50
140.0	17.0	150.00	37.00
180.0	19.4	200.00	43.00
230.0	22.0	250.00	48.50
270.0	24.0	300.00	53.00
320.0	26.0	350.00	58.00
360.0	28.0	400.00	62.00
408.0	30.1	450.00	66.00
454.0	30.4	500.00	67.00

10.2.2 Process Emission Units for Which Construction or Modification Commenced Prior to April 14, 1972

a. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced prior to April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 [35 IAC 212.322(a)].

b. The emissions of particulate matter into the atmosphere in any one hour period from the affected unit shall not exceed the allowable emission rates specified in the following equation:

$$E = C + A\,(P)^{B10}$$

Where:

P = Process weight rate

E = Allowable emission rate

i. For process weight rates up to 27.2 Mg/hr (30 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.985	4.10
B	0.67	0.67
C	0	0

ii. For process weight rates in excess of 27.2 Mg/hr (30 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	25.21	55.0
B	0.11	0.11
C	-18.4	-40.0

c. Limits for Process Emission Units for which Construction or Modification Commenced Prior to April 14, 1972 [35 IAC 212.322(c)]:

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lb/hr
0.05	0.27	0.05	0.55
0.1	0.42	0.10	0.87
0.2	0.68	0.20	1.40
0.3	0.89	0.30	1.83
0.4	1.07	0.40	2.22
0.5	1.25	0.50	2.58
0.7	1.56	0.75	3.38
0.9	1.85	1.00	4.10
1.8	2.9	2.00	6.52
2.7	3.9	3.00	8.56
3.6	4.7	4.00	10.40
4.5	5.4	5.00	12.00
9.0	8.7	10.00	19.20
13.0	11.1	15.00	25.20
18.0	13.8	20.00	30.50
23.0	16.2	25.00	35.40
27.2	18.15	30.00	40.00
32.0	18.8	35.00	41.30
36.0	19.3	40.00	42.50

41.0	19.8	45.00	43.60
45.0	20.2	50.00	44.60
90.0	23.2	100.00	51.20
140.0	25.3	150.00	55.40
180.0	26.5	200.00	58.60
230.0	27.7	250.00	61.00
270.0	28.5	300.00	63.10
320.0	29.4	350.00	64.90
360.0	30.0	400.00	66.20
400.0	30.6	450.00	67.70
454.0	31.3	500.00	69.00

Attachment 3 Compliance Assurance Monitoring (CAM) Plan

There are no specific emission units that require a CAM plan as identified in the Monitoring Requirements of Subsection 8 for each Section 7, Unit Specific Conditions for Specific Emission Units.

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Attachment 4 Guidance

The Illinois has prepared guidance for sources on the Clean Air Act Permit Program (CAAPP) that is available on the Internet site maintained by the Illinois EPA, www.epa.state.il.us. This guidance includes instructions on applying for a revision or renewal of the CAAPP permit.

Guidance On Revising A CAAPP Permit:

www.epa.state.il.us/air/caapp/caapp-revising.pdf

Guidance On Renewing A CAAPP Permit:

www.epa.state.il.us/air/caapp/caapp-renewing.pdf

The application forms prepared by the Illinois EPA for the CAAPP are also available from the Illinois EPA's Internet site:

www.epa.state.il.us/air/caapp/index.html

These CAAPP application forms should also be used by a CAAPP source when it applies for a construction permit. For this purpose, the appropriate CAAPP application forms and other supporting information, should be accompanied by a completed Application For A Construction Permit form (199-CAAPP) and Fee Determination for Construction Permit Application form (197-FEE):

www.epa.state.il.us/air/caapp/199-caapp.pdf
www.epa.state.il.us/air/permits/197-fee.pdf

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