

# EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 20345

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

## AIR CONTAMINANTS DATA

Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
CU/STK	Stack Serving Reactor Furnace Operation (During Holding Fire Operations Only)	PM	1.37	0.47
		PM <sub>10</sub>	1.37	0.47
		CO	3.42	1.72
		NO <sub>x</sub>	9.45	6.03
		SO <sub>2</sub>	100.00	52.60
		VOC	0.25	0.13
CU/STK/AN	Stack Annulus Serving Fluid 324.80	PM		76.30
	Bed Dryer and Converter Building Ventilation Baghouses, 7.30	PM <sub>10</sub>	76.30	324.80
		Pb		2.20
	Bin B2A, Bin B2B, Reactor 8.31	CO		2.90
	Feed Distribution System, and 27.60	NO <sub>x</sub>		11.50
DC-4	Baghouse Serving Lime Silo 0.01			
		PM		0.09
		PM <sub>10</sub>	0.09	0.01
C-1	No. 1 Acid Plant Preheater 3.96	PM		0.90
		PM <sub>10</sub>	0.90	3.96
		CO	2.31	10.12
		NO <sub>x</sub>	5.28	23.13

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
C-3	1st Marine Power Boiler	SO <sub>2</sub>	0.04	0.17
		VOC	0.18	0.80
		PM	0.27	0.44
		PM <sub>10</sub>	0.27	0.44
		CO	0.68	2.77
		NO <sub>x</sub>	2.74	11.09
		SO <sub>2</sub>	5.79	1.51
C-4	2nd Marine Power Boiler	VOC	0.05	0.22
		PM	0.42	0.68
		PM <sub>10</sub>	0.42	0.68
		CO	1.05	4.25
		NO <sub>x</sub>	4.20	17.01
		SO <sub>2</sub>	8.88	2.32
		VOC	0.08	0.34
C-5	Direct-Fired Boiler at Water		PM	0.10
	0.30			
	Treatment Plant	PM <sub>10</sub>	0.10	0.30
		CO	0.53	2.30
		NO <sub>x</sub>	1.60	6.90
		SO <sub>2</sub>	0.01	0.04
C-6	No. 2 Acid Plant Preheater 3.78	VOC	0.04	0.20
		PM		0.86
		PM <sub>10</sub>	0.86	3.78
		CO	2.21	9.66
		NO <sub>x</sub>	6.30	27.59
		SO <sub>2</sub>	0.04	0.17
C-7	Steam Superheater* * This Unit Qualifies	VOC	0.18	0.77
		PM	0.90	4.00
		PM <sub>10</sub>	0.90	4.00

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Emission *	Source	Air Contaminant	Emission Rates	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
	for Standard Exemption No. 7		CO	0.23
	1.00	NO <sub>x</sub>	1.20	5.30
		SO <sub>2</sub>	0.11	1.00
		VOC	0.54	2.40
F-RSS	Slag Skimming from Reactor		PM	0.09
	0.36			
	Smelting Furnace (4)	PM <sub>10</sub>	0.09	0.36
		SO <sub>2</sub>	0.25	0.96
F-CB(4)	Converter Building Fugitives (4)		PM	0.12
	0.54			
		PM <sub>10</sub>	0.12	0.54
		NO <sub>x</sub>	0.02	0.04
		SO <sub>2</sub>	0.70	3.07
		CO	<0.01	<0.01
		VOC	<0.01	<0.01
F/ <u>Slag</u> /P	Slag Pour at Dump (4)	PM	0.62	2.41
		PM <sub>10</sub>	0.62	2.41
S-1	Stack Serving Spray Dryer	PM	0.87	3.33
	Baghouse	PM <sub>10</sub>	0.87	3.33
		CO	0.22	0.85
		NO <sub>x</sub>	0.66	2.55
		SO <sub>2</sub>	<0.01	0.02
		VOC	0.02	0.07
PF-1	Loading Acid from Tanks	SO <sub>2</sub>	0.06	0.07
	into Rail Cars	H <sub>2</sub> SO <sub>4</sub>	0.01	0.01
AP/S	Stack Serving Acid Plants	CO	0.40	1.50
		NO <sub>x</sub>	1.42	6.10

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
		SO <sub>2</sub>	964.90	2171.00
		VOC	0.03	0.11
		H <sub>2</sub> SO <sub>4</sub> (MIST)	3.74	16.20
T-1	5,000 Ton Sulfuric Acid Tank 0.08		SO <sub>2</sub>	0.06
T-2	5,000 Ton Sulfuric Acid Tank 0.08		SO <sub>2</sub>	0.06
T-3	5,000 Ton Sulfuric Acid Tank 0.08		SO <sub>2</sub>	0.06
T-4	5,000 Ton Sulfuric Acid Tank 0.08		SO <sub>2</sub>	0.06
T-5	6,000 Ton Sulfuric Acid Tank 0.10		SO <sub>2</sub>	0.06
T-6	6,000 Ton Sulfuric Acid Tank 0.10		SO <sub>2</sub>	0.06
T-7	6,000 Ton Sulfuric Acid Tank 0.10		SO <sub>2</sub>	0.06
T-8	6,000 Ton Sulfuric Acid Tank 0.10		SO <sub>2</sub>	0.06
T-20	Fuel Oil Storage Tank	VOC	1.46	0.51
T-22	Diesel Storage Tank	VOC	0.04	0.01
T-23	Diesel Storage Tank	VOC	0.05	0.03

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
T-24	Gasoline Storage Tank	VOC	6.80	0.02
T-25	Gasoline Storage Tank	VOC	6.99	0.55
T-26	750,000 Gallon Wastewater SO <sub>2</sub> Holding Tank		0.06	0.10
T-27	750,000 Gallon Wastewater SO <sub>2</sub> Holding Tank		0.06	0.10
T-28	100,000 Gallon Wastewater SO <sub>2</sub> Surge Tank		0.06	0.10
T-29	Clarate Tank	Any	<0.01	<0.01

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
HF-15	Loading of WHB Dust into Tote Boxes (4)	PM	<0.01	<0.01
		PM <sub>10</sub>	<0.01	<0.01
HF-17Mix	Transfer from No. 5 Conveyor 0.04 to No. 10 Belt or to Delumper 0.02 and Screens (4)	PM		0.02
		PM <sub>10</sub>		0.01
HF-17Si	Converter Silica Transfer from <0.01 No. 5 to No. 10 Belt (4) <0.01	PM		0.03
		PM <sub>10</sub>		0.01
HF-18AMix	10-13 Belt Transfer, Mix (4) 0.04	PM		0.02
		PM <sub>10</sub>	0.01	0.02
HF-18BMix	13-14 Belt Transfer, Mix (4) 0.04	PM		0.02
		PM <sub>10</sub>	0.01	0.02
HF-18ASi	10-13 Belt Transfer, Si (4) <0.01	PM		0.03
		PM <sub>10</sub>	0.01	<0.01
HF-18BSi	13-14 Belt Transfer, Si (4) <0.01	PM		0.03
		PM <sub>10</sub>	0.01	<0.01
HF-19Mix	14-15 Belt Transfer, Mix (4) 0.04	PM		0.02
		PM <sub>10</sub>	0.01	0.02

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
HF-19Si	14-15 Belt Transfer, Si (4) <0.01		PM	0.03
		PM <sub>10</sub>	0.01	<0.01
HF-20Mix	15-32 Belt Transfer, Mix (4) 0.04		PM	0.02
		PM <sub>10</sub>	0.01	0.02
HF-20Si	15-32 Belt Transfer, Si (4) <0.01		PM	0.03
		PM <sub>10</sub>	0.01	<0.01
HF-21	32 Belt Transfer to Silica Silo, <0.01 Si (4)		All	<0.01
HF-22	Silica Silo Transfer to 33 Belt (4) <0.01		PM	0.01
		PM <sub>10</sub>	0.07	<0.01
HF-23	Transfer from 32 to 34 Belt, 0.04 Mix (4)		PM	0.02
		PM <sub>10</sub>	0.01	0.02
HF-24	Transfer from Belt 34 to Wet 0.02 Concentrate Storage Bin B1A (4) 0.01		PM	0.02
			PM <sub>10</sub>	0.01
HF-25	Transfer from Belt 34 to Wet 0.02 Concentrate Storage Bin B1B (4) 0.01		PM	0.02
			PM <sub>10</sub>	0.01

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
HF-26	Bin B1A Transfer to C1A Feeder Belt (4)	PM	0.01	0.02
		PM <sub>10</sub>	0.01	0.01
HF-27	Bin B1B Transfer to C1B Feeder Belt (4)	PM	0.01	0.02
		PM <sub>10</sub>	0.01	0.01
HF-28	Belt C1A Transfer to C2 Belt (4) 0.02	PM		0.01
		PM <sub>10</sub>	0.01	0.01
HF-29	Belt C1B Transfer to C2 Belt (4) 0.02	PM		0.01
		PM <sub>10</sub>	0.01	0.01
HF-30	C2 Belt Transfer to Fluid Bed 0.04 Dryer (4)	PM		0.01
		PM <sub>10</sub>	0.01	0.02
HF-31	Reactor Feed Distribution System (4)	PM	0.02	0.06
		PM <sub>10</sub>	0.01	0.03



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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
RF-1	Concentrate and Flux Delivery		PM	1.13
	0.36			
	Trucks (4)	PM <sub>10</sub>	0.51	0.16
		Pb	0.01	<0.01
RF-2	Scrap Handling Fork Lifts (4)		PM	0.01
	<0.01			
		PM <sub>10</sub>	0.01	<0.01
RF-3	General Plant Service Haul		PM	0.88
	0.79			
	Trucks (4)	PM <sub>10</sub>	0.40	0.36
		Pb	0.01	0.01
RF-4	Street Sweepers (4)	PM	0.29	0.56
		PM <sub>10</sub>	0.13	0.25
		Pb	<0.01	0.01
RF-5	Slag Haul Trucks (4)	PM	1.13	2.48
		PM <sub>10</sub>	0.51	1.12
		Pb	<0.01	0.01
RF-6	Storage Pile Front-End Loaders (4)		PM	0.21
	0.19			
		PM <sub>10</sub>	0.09	0.08
RF-7	Misc. Use Front-End Loaders (4)		PM	0.19
	0.13			
		PM <sub>10</sub>	0.09	0.06
RF-8	Water Trucks (4)	PM	0.10	0.08
		PM <sub>10</sub>	0.05	0.04
RF-9	Miscellaneous Use Fork Lifts (4)		PM	0.20

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
	0.13	PM <sub>10</sub>	0.09	0.06
RF-10	Acid Plant Fork Lifts (4)	PM	0.28	0.26
		PM <sub>10</sub>	0.13	0.12
RF-11	Wastewater Lime Delivery Trucks (4)	PM	0.10	0.01
		PM <sub>10</sub>	0.05	<0.01

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources use area name or fugitive source name.

(3) PM - particulate matter including PM<sub>10</sub> (including species)  
PM<sub>10</sub> - particulate matter less than 10 microns in diameter (including species)

VOC - volatile organic compounds as defined in General Rule 101.1

NO<sub>x</sub> - total oxides of nitrogen

SO<sub>2</sub> - sulfur dioxide

CO - carbon monoxide

H<sub>2</sub>SO<sub>4</sub> - sulfuric acid

Pb - lead

(4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.

\* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

Hrs/day \_\_\_\_\_ Days/week \_\_\_\_\_ Weeks/year \_\_\_\_\_ or Hrs/year 8,760

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Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>

Dated\_\_\_\_\_