EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Numbers 85013, HAP48, PAL41, and PSD-TX-1138

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***
CFB1 and 2	CFB Boiler 1	NO_X (4)	308	944
	3,080 MMBtu/hr	SO_2 (4)	714	2,024
	(Normal operations	SO_2 (start-up) (4)	4,910	--
	including planned	CO (4)	339	1,484
	start-ups/shutdowns)	VOC	15.4	67.5
		PM/PM_{10} (filterable)	33.9	148
		PM/PM_{10} (total)	102	405
		H_2SO_4	68	256
		H_2SO_4 (start-up)	316	--
		NH_3 (4)	16	35
		Hg (4)	0.0062	0.027
		HCl	13.7	12
		HCl (start-up)	136	--
		HF	1.2	1.1
		HF (start-up)	12	--
		Pb	0.020	0.013

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		AIR CONTAMINANTS DATA		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates ** lb/hr**	**TPY***
CFB1 and 2	CFB Boiler 2 3,080 MMBtu/hr (Normal operations including planned start-ups/shutdowns)	NO_X (4)	308	944
		SO_2 (4)	714	2,024
		SO_2 (start-up) (4)	4,910	--
		CO (4)	339	1,484
		VOC	15.4	67.5
		PM/PM_{10} (filterable)	33.9	148
		PM/PM_{10} (total)	102	405
		H_2SO_4	68	256
		H_2SO_4 (start-up)	316	--
		NH_3 (4)	16	35
		Hg (4)	0.0062	0.027
		HCl	13.7	12
		HCl (start-up)	136	--
		HF	1.2	1.1
		HF (start-up)	12	--
		Pb	0.020	0.013
CFB3 and 4	CFB Boiler 3 3,080 MMBtu/hr (Normal operations including planned start-ups/shutdowns)	NO_X (4)	308	944
		SO_2 (4)	714	2,024
		SO_2 (start-up) (4)	4,910	--
		CO (4)	339	1,484
		VOC	15.4	67.5
		PM/PM_{10} (filterable)	33.9	148
		PM/PM_{10} (total)	102	405
		H_2SO_4	68	256
		H_2SO_4 (start-up)	316	--
		NH_3 (4)	16	35
		Hg (4)	0.0062	0.027
		HCl	13.7	12
		HCl (start-up)	136	--
		HF	1.2	1.1
		HF (start-up)	12	--
		Pb	0.020	0.013

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

		AIR CONTAMINANTS DATA		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates ** lb/hr**	**TPY***
CFB3 and 4	CFB Boiler 4	NO_X (4)	308	944
	3,080 MMBtu/hr	SO_2 (4)	714	2,024
	(Normal operations	SO_2 (start-up) (4)	4,910	--
	including planned	CO (4)	339	1,484
	start-ups/shutdowns)	VOC	15.4	67.5
		PM/PM_{10} (filterable)	33.9	148
		PM/PM_{10} (total)	102	405
		H_2SO_4	68	256
		H_2SO_4 (start-up)	316	--
		NH_3 (4)	16	35
		Hg (4)	0.0062	0.027
		HCl	13.7	12
		HCl (start-up)	136	--
		HF	1.2	1.1
		HF (start-up)	12	--
		Pb	0.020	0.013
AUX-BOIL1	Auxiliary Boiler	NO_X (5)	6.3	7.9
	for Units 1 and 2	NO_X (start-up) (6)	18	--
	180 MMBtu/hr	CO (5)	7.5	9.4
	(Normal operations	CO (start-up) (6)	75	--
	including planned	PM_{10}	1.4	1.7
	start-ups/shutdowns)	VOC	1.0	1.3
		SO_2	0.12	0.15
AUX-BOIL2	Auxiliary Boiler	NO_X (5)	6.3	7.9
	for Units 3 and 4	NO_X (start-up) (6)	18	--
	180 MMBtu/hr	CO (5)	7.5	9.4
	(Normal operations	CO (start-up) (6)	75	--
	including planned	PM_{10}	1.4	1.7
	start-ups/shutdowns)	VOC	1.0	1.3
		SO_2	0.12	0.15

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

		AIR CONTAMINANTS DATA		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates ** lb/hr**	**TPY***
PROP-VAP1	Propane Vaporizer for Units 1 and 2 16 MMBtu/hr	NO_X	1.6	2.0
		CO	1.3	1.6
		PM_{10}	0.12	0.15
		VOC	0.14	0.17
		SO_2	0.04	0.05
PROP-VAP2	Propane Vaporizer for Units 3 and 4 16 MMBtu/hr	NO_X	1.6	2.0
		CO	1.3	1.6
		PM_{10}	0.12	0.15
		VOC	0.14	0.17
		SO_2	0.04	0.05
SILO-FA1	Fly Ash Silo No. 1	PM/PM_{10}	0.31	1.4
SILO-FA2	Fly Ash Silo No. 2	PM/PM_{10}	0.31	1.4
SILO-FA3	Fly Ash Silo No. 3	PM/PM_{10}	0.31	1.4
SILO-FA4	Fly Ash Silo No. 4	PM/PM_{10}	0.31	1.4
SILO-BA1	Bed Ash Silo No. 1	PM/PM_{10}	0.24	1.0
SILO-BA2	Bed Ash Silo No. 2	PM/PM_{10}	0.24	1.0
SILO-BA3	Bed Ash Silo No. 3	PM/PM_{10}	0.24	1.0
SILO-BA4	Bed Ash Silo No. 4	PM/PM_{10}	0.24	1.0
SILO-COKE1	Coke Silo No. 1	PM/PM_{10}	1.4	--
SILO-COKE2	Coke Silo No. 2	PM/PM_{10}	1.4	--
SILO-COKE1, SILO-COKE2	Coke Silos Nos 1 and 2 (7)	PM/PM_{10}	--	6.2

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

		AIR CONTAMINANTS DATA		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates ** lb/hr**	**TPY***
SILO-COKE3	Coke Silo No. 3	PM/PM_{10}	1.4	--
SILO-COKE4	Coke Silo No. 4	PM/PM_{10}	1.4	--
SILO-COKE3, SILO-COKE4	Coke Silos Nos. 3 and 4 (7)	PM/PM_{10}	--	6.2
SILO-COKE5	Coke Silo No. 5	PM/PM_{10}	1.4	--
SILO-COKE6	Coke Silo No. 6	PM/PM_{10}	1.4	--
SILO-COKE5, SILO-COKE6	Coke Silos Nos. 5 and 6 (7)	PM/PM_{10}	--	6.2
SILO-COKE7	Coke Silo No. 7	PM/PM_{10}	1.4	--
SILO-COKE8	Coke Silo No. 8	PM/PM_{10}	1.4	--
SILO-COKE7, SILO-COKE8	Coke Silos Nos. 7 and 8 (7)	PM/PM_{10}	--	6.2
SILO-LMST1	Limestone Bunker No. 1	PM/PM_{10}	0.07	0.10
SILO-LMST2	Limestone Bunker No. 2	PM/PM_{10}	0.07	0.10
SILO-LMST3	Limestone Bunker No. 3	PM/PM_{10}	0.07	0.10
SILO-LMST4	Limestone Bunker No. 4	PM/PM_{10}	0.07	0.10
SILO-ACI1	Carbon Silo for ACI No. 1	PM/PM_{10}	0.14	0.21
SILO-ACI2	Carbon Silo for ACI No. 2	PM/PM_{10}	0.14	0.21
SILO-ACI3	Carbon Silo for ACI No. 3	PM/PM_{10}	0.14	0.21

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

		AIR CONTAMINANTS DATA		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates ** lb/hr**	**TPY***
SILO-ACI4	Carbon Silo for ACI No. 4	PM/PM_{10}	0.14	0.21
SILO-LIME1	Lime Silo No. 1	PM/PM_{10}	0.14	0.21
SILO-LIME2	Lime Silo No. 2	PM/PM_{10}	0.14	0.21
SILO-LIME3	Lime Silo No. 3	PM/PM_{10}	0.14	0.21
SILO-LIME4	Lime Silo No. 4	PM/PM_{10}	0.14	0.21
SILO-LIME5	Lime Silo No. 5	PM/PM_{10}	0.14	0.21
SILO-LIME6	Lime Silo No. 6	PM/PM_{10}	0.14	0.21
SILO-LIME7	Lime Silo No. 7	PM/PM_{10}	0.14	0.21
SILO-LIME8	Lime Silo No. 8	PM/PM_{10}	0.14	0.21
BIN-SAND1	Unit 1 Sand Day Bin	PM/PM_{10}	0.043	0.064
BIN-SAND2	Unit 2 Sand Day Bin	PM/PM_{10}	0.043	0.064
BIN-SAND3	Unit 3 Sand Day Bin	PM/PM_{10}	0.043	0.064
BIN-SAND4	Unit 4 Sand Day Bin	PM/PM_{10}	0.043	0.064
WT-LIME	Water Treatment Lime Silo	PM/PM_{10}	0.086	0.13
WT-SODA	Water Treatment Soda Ash Silo	PM/PM_{10}	0.086	0.13
CTWR1	Cooling Tower No. 1	PM	12.0	52.6
		PM_{10}	0.29	1.29

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

		AIR CONTAMINANTS DATA		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates ** lb/hr**	**TPY***
CTWR2	Cooling Tower No. 2	PM	12.0	52.6
		PM_{10}	0.29	1.29
ENG-EG1	Diesel Engine Emergency Generator 1 1,600 kW	NO_X	24.3	6.1
		CO	13.3	3.3
		PM_{10}	0.61	0.15
		VOC	1.5	0.37
		SO_2	0.93	0.23
		H_2SO_4	0.070	0.018
ENG-EG2	Diesel Engine Emergency Generator 2 1,600 kW	NO_X	24.30	6.10
		CO	13.30	3.30
		PM_{10}	0.61	0.15
		VOC	1.46	0.37
		SO_2	0.93	0.23
		H_2SO_4	0.070	0.018
ENG-FWMAIN	Main Fire Water Pump Diesel Engine 360-horsepower	NO_X	2.38	0.60
		CO	2.06	0.52
		PM_{10}	0.12	0.03
		VOC	0.89	0.22
		SO_2	0.14	0.04
		H_2SO_4	0.01	0.003
ENG-FWBP1	Fire Water Booster Pump 1 Diesel Engine 100-horsepower	NO_X	0.66	0.17
		CO	0.57	0.14
		PM_{10}	0.03	0.01
		VOC	0.25	0.06
		SO_2	0.04	0.01
		H_2SO_4	0.003	0.001

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA Emission Rates ** lb/hr	TPY*
ENG-FWBP2	Fire Water	NO_X	0.66	0.17
	Booster Pump 2	CO	0.57	0.14
	Diesel Engine	PM_{10}	0.03	0.01
	100-horsepower	VOC	0.25	0.06
		SO_2	0.04	0.01
		H_2SO_4	0.003	0.001
ENG-FWBP3	Fire Water	NO_X	0.66	0.17
	Booster Pump 3	CO	0.57	0.14
	Diesel Engine	PM_{10}	0.03	0.01
	100-horsepower	VOC	0.25	0.06
		SO_2	0.04	0.01
		H_2SO_4	0.003	0.001
ENG-FWBP4	Fire Water	NO_X	0.66	0.17
	Booster Pump 4	CO	0.57	0.14
	Diesel Engine	PM_{10}	0.03	0.01
	100 horsepower	VOC	0.25	0.06
		SO_2	0.04	0.01
		H_2SO_4	0.003	0.001
ENG-BFWP1	Boiler Feed Water (BFW)	NO_X	13.23	3.31
	Pump 1	CO	11.46	2.87
	Diesel Engine	PM_{10}	0.66	0.17
	2,000 horsepower	VOC	4.94	1.24
		SO_2	0.80	0.20
		H_2SO_4	0.06	0.016
ENG-BFWP2	BFW Pump 2	NO_X	13.23	3.31
	Diesel Engine	CO	11.46	2.87
	2,000 horsepower	PM_{10}	0.66	0.17
		VOC	4.94	1.24
		SO_2	0.80	0.20
		H_2SO_4	0.06	0.016

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

		AIR CONTAMINANTS DATA		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates ** lb/hr**	**TPY***
ENG-BFWP3	BFW Pump 3 Diesel Engine 2,000 horsepower	NO_X	13.23	3.31
		CO	11.46	2.87
		PM_{10}	0.66	0.17
		VOC	4.94	1.24
		SO_2	0.80	0.20
		H_2SO_4	0.06	0.016
ENG-BFWP4	BFW Pump 4 Diesel Engine 2,000-horsepower	NO_X	13.23	3.31
		CO	11.46	2.87
		PM_{10}	0.66	0.17
		VOC	4.94	1.24
		SO_2	0.80	0.20
		H_2SO_4	0.06	0.016
TNK-FWMAIN	Diesel Fuel Tank for Main Fire Water Pump Engine	VOC	0.0104	0.0002
TNK-EG1	Diesel Fuel Tank for Emergency Generator 1	VOC	0.0104	0.0001
TNK-EG2	Diesel Fuel Tank for Emergency Generator 2	VOC	0.0104	0.0001
TNK-FWB1	Diesel Fuel Tank for Fire Water Booster Pump 1 Engine	VOC	0.0104	0.0003
TNK-FWB2	Diesel Fuel Tank for Fire Water Booster Pump 2 Engine	VOC	0.0104	0.0003
TNK-FWB3	Diesel Fuel Tank for Fire Water Booster Pump 3 Engine	VOC	0.0104	0.0003

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

		AIR CONTAMINANTS DATA		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates ** lb/hr**	**TPY***
TNK-FWB4	Diesel Fuel Tank for Fire Water Booster Pump 4 Engine	VOC	0.0104	0.0003
TNK-BFWP1	Diesel Fuel Tank for BFW Pump 1 Engine	VOC	0.0104	0.0004
TNK-BFWP2	Diesel Fuel Tank for BFW Pump 2 Engine	VOC	0.0104	0.0004
TNK-BFWP3	Diesel Fuel Tank for BFW Pump 3 Engine	VOC	0.0104	0.0004
TNK-BFWP4	Diesel Fuel Tank for BFW Pump 4 Engine	VOC	0.0104	0.0004
TNK-ACID	Acid Storage Tank	H_2SO_4	0.16	0.0032
TNK-BASE	Base Storage Tank	NaOH	0.069	0.0014
FUG-NH3A	Fugitives: Ammonia	NH_3 (8)	0.10	0.45
FUG-NH3B	Fugitives: Ammonia	NH_3 (8)	0.10	0.45
FUG-NG	Fugitives: Natural Gas	VOC (8)	0.19	0.84
FUG-PROP1	Fugitives: Propane	VOC (8)	0.41	1.80
FUG-PROP2	Fugitives: Propane	VOC (8)	0.41	1.80

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

(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) NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
PM - particulate matter, suspended in the atmosphere, including PM_{10}.
PM_{10} - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.
NH_3 - ammonia
CO - carbon monoxide
H_2SO_4 - sulfuric acid mist
Pb - lead
HCl - hydrogen chloride
HF - hydrogen fluoride
Hg - mercury
(4) Compliance with the hourly emission limit is based on a three-hour block average of the CEMS data.
(5) Hourly limit applies when auxiliary boiler is operating at or above 25 percent load.
(6) Hourly limit applies when auxiliary boiler is operating below 25 percent load, and during start-up and shutdown.
(7) Only one of the two paired coke silo fabric filters operates at the same time.
(8) Fugitives emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.

* For combustion sources and storage tanks, compliance with annual emission limits is based on a rolling 12-month period. For material handling sources, compliance with annual emission limits is based on applicable Special Conditions and permit application representations.

** Except as otherwise specified in special conditions, emission rates are based on and the facilities are limited by the following maximum operating schedule:

Hrs/day 24 Days/week 7 Weeks/year 52 or Hrs/yr 8,760