EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 19566/PSD-TX-768M1

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.

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
AIR CONTAMINANTS DATA				
Pretreater No. 3				
F021	Fugitives (4)	VOC	0.20	0.80
Sulfur Recovery Unit				
056 S01	SRU Stack	PM_{10}	0.60	2.10
		SO_2	128.00	560.60
		NO_x	13.50	47.30
		CO	28.90	126.60
		VOC	0.30	1.20
		H_2S	0.75	3.28
056 V01	SRU No. 2 Vent (5)	CO	36.80	
		H_2S	1.05	
		COS	7.70	
		SO_2	0.10	
		PM_{10}	0.10	
		CS_2	0.80	
056 V02	SRU No. 3 Vent (5)	CO	36.80	
		H_2S	1.05	
		COS	7.70	
		SO_2	0.10	
		PM_{10}	0.10	
		CS_2	0.80	
056 V01 and 056 V02	SRU No. 2 Vent and SRU No. 3 Vent (5)	CO		10.68
		H_2S		0.38
		COS		1.79

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA Emission Rates * lb/hr	TPY
		SO_2		0.02
		PM		0.02
		CS_2		0.13
056 V03	Sulfur Pit Vent (5)	H_2S	0.04	0.01
		SO_2	1.67	0.28
056 V05	Sulfur Loading Vent (5)	H_2S	0.03	<0.01
		SO_2	1.29	0.11
F056	SRU 2/3 Fugitives (4)	SO_2	0.02	0.07
		VOC	0.92	4.04
		H_2S	0.24	1.05
		NH_3	0.02	0.10
0124-G1	SRU 1 Fugitives (4)	SO_2	1.79	7.82
		H_2S	1.71	7.51
Crude Unit B				
006 S01	Heater H-3101	PM_{10}	4.70	16.60
		SO_2	23.90	83.90
		NO_x	107.90	377.90
		CO	14.20	49.70
		VOC	1.30	4.60
006 S02	Heater H-3102	PM_{10}	0.80	2.70
		SO_2	4.00	13.90
		NO_x	17.90	62.50
		CO	2.30	8.20
		VOC	0.40	1.50
006 S04	Heater H-2001	PM_{10}	0.60	2.20
		SO_2	3.20	11.20
		NO_x	14.40	50.60
		CO	1.90	6.60
		VOC	0.40	1.20

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA Emission Rates * lb/hr	TPY
F006	Fugitives (4)	VOC	1.10	4.70
Hydrocracker				
035 S01	Heater H-3301	PM_{10}	0.20	0.80
		SO_2	1.10	4.00
		NO_x	5.10	17.90
		CO	0.70	2.40
		VOC	0.10	0.40
035 S02	Heater H-3302	PM_{10}	0.20	0.50
		SO_2	0.80	2.70
		NO_x	3.40	12.10
		CO	0.50	1.60
		VOC	0.10	0.30
035 S03	Heater H-3303	PM_{10}	0.20	0.50
		SO_2	0.80	2.70
		NO_x	3.40	12.10
		CO	0.50	1.60
		VOC	0.10	0.30
035 S04	Heater H-3304	PM_{10}	1.52	4.96
		SO_2	6.77	21.94
		NO_x	30.42	98.71
		CO	4.02	13.02
		VOC	0.70	2.32
035 S05	Heater H-3305	PM_{10}	0.43	1.98
		SO_2	1.97	8.15
		NO_x	8.70	36.76
		CO	1.16	4.89
		VOC	0.21	0.79
F035	Fugitives (4)	VOC	0.60	2.70

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA Emission Rates * lb/hr	TPY

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA Emission Rates * lb/hr	TPY
Pretreater No. 4				
054 S01 (6)	Heater B-7001	PM_{10}	0.60	2.20
		SO_2	3.20	11.20
		NO_x	14.40	50.50
		CO	1.90	6.60
		VOC	0.40	1.20
054 S01 (6)	Heater B-7002	PM_{10}	0.80	2.70
		SO_2	3.90	13.50
		NO_x	17.40	61.00
		CO	2.30	8.00
		VOC	0.40	1.50
Reformer No. 4				
055 S01 (7)(8)	Heater B-7101-4	PM_{10}	8.76	27.16
		SO_2	23.35	36.12
		NO_x	105.16	326.14
		CO	13.84	42.91
		VOC	1.25	4.07
055 S01 (7)	Heater B-7201	PM_{10}	0.20	0.80
		SO_2	1.10	3.80
		NO_x	4.90	17.30
		CO	0.70	2.30
		VOC	0.10	0.40
055 V01	Regenerator Vent	PM_{10}	0.01	0.04
		SO_2	0.10	0.40
		CO	0.96	4.20
		HCl	0.03	0.10
		Cl_2	0.40	1.90
F055	Fugitives (4)	VOC	1.00	4.30

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA Emission Rates * lb/hr	TPY
		Cl_2	0.10	0.44
Coker				
009 S04	Heater BA-3000	PM_{10}	0.60	2.10
		SO_2	3.00	10.50
		NO_x	13.50	47.30
		CO	1.80	6.20
		VOC	0.30	1.20
F009	Fugitives (4)	VOC	1.50	6.70
Amine Regeneration Unit				
F057	Fugitives (4)	VOC	0.10	0.60
		H_2S	0.20	0.70
Sour Water Stripper Unit				
F038	Fugitives (4)	VOC	0.38	1.70
		NH_3	0.01	0.10
		H_2S	0.01	0.10
Storage Tanks				
T0781	Storage Tank (9)	VOC	6.10	26.70
T0781	Storage Tank (10)	VOC	5.09	22.30
T0782	Storage Tank	VOC	5.14	22.50
T1150	Storage Tank (10)	VOC	0.59	2.60
T1151	Storage Tank (10)	VOC	0.59	2.60

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA Emission Rates * lb/hr	TPY
T1158	Storage Tank	VOC	0.59	2.60
T1165	Storage Tank	VOC	0.73	3.20
T1212	Storage Tank	VOC	0.57	2.50
T1213	Storage Tank	VOC	0.68	3.00
T1215	Storage Tank (10)	VOC	0.84	3.70
T1300	Storage Tank (9)	VOC	23.68	103.70
T1300	Storage Tank (10)	VOC	0.62	2.70
T1314	Storage Tank (10)	VOC	0.48	2.10
T1320	Storage Tank (10)	VOC	0.46	2.00
T1324	Storage Tank	VOC	0.87	3.80
T1329	Storage Tank	VOC	0.41	1.80
T1332	Storage Tank	VOC	0.30	1.30
T1334	Storage Tank (10)	VOC	0.57	2.50
T1335	Storage Tank (10)	VOC	0.96	4.20
T1338	Storage Tank	VOC	0.57	2.50
T1361	Storage Tank	VOC	5.14	22.5
T1362	Storage Tank (9)	VOC	34.25	150.00
T1362	Storage Tank (10)	VOC	1.03	4.50

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA Emission Rates * lb/hr	TPY
T2119	Storage Tank	VOC	0.66	2.90
T2198	Storage Tank (9)	VOC	17.92	78.50
T2198	Storage Tank (10)	VOC	0.64	2.80
T2199	Storage Tank (9)	VOC	17.83	78.10
T2199	Storage Tank (10)	VOC	0.55	2.40
T2200	Storage Tank (9)	VOC	13.24	58.00
T2200	Storage Tank (10)	VOC	0.37	1.60
T2202	Storage Tank	VOC	0.48	2.10
T2209	Storage Tank (10)	VOC	0.78	3.40
T2210	Storage Tank (9)	VOC	26.71	117.00
T2210	Storage Tank (10)	VOC	0.78	3.40
T2212	Storage Tank (10)	VOC	0.78	3.40
T2213	Storage Tank	VOC	0.78	3.40
T2221	Storage Tank (10)	VOC	0.48	2.10
T2222	Storage Tank (9)	VOC	17.76	77.80
T2222	Storage Tank (10)	VOC	0.48	2.10
T2223	Storage Tank (9)	VOC	13.33	58.40

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA Emission Rates * lb/hr	TPY
T2223	Storage Tank (10)	VOC	0.48	2.10
T2225	Storage Tank (9)	VOC	34.11	149.40
T2225	Storage Tank (10)	VOC	0.89	3.90
T1377	SWS Storage Tank	VOC	5.31	22.90
T1378	SWS Storage Tank (9)	VOC	52.03	227.50
T1378	SWS Storage Tank (10)	VOC	5.31	22.90
Fluid Catalytic Cracking Unit				
010 S01	CO Boiler	PM_{10}	155.00	675.00
		SO_2	6588.00	13101.00
		NO_x	984.00	2650.00
		CO	457.00	2000.00
		VOC	1.74	7.60

(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_{10} - particulate matter (PM) equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.

VOC - volatile organic compounds as defined in General Rule 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
CO - carbon monoxide
H_2S - hydrogen sulfide
NH_3 - ammonia

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HCl - hydrogen chloride
Cl_2 - chlorine
COS - carbonyl sulfide
CS_2 - carbon disulfide

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

(5) TPY rate is based on operating 336 hours/year (rolling annual basis) with the stack burner/thermal oxidizer down.

(6) Heaters B-7001 and B-7002 share a common stack.

(7) Heaters B-7101-4 and B-7201 share a common stack.

(8) Fuel for Heater B-7101-4 shall be (1) sweet natural gas, or (2) refinery fuel gas which contains not more than 150 ppm(v) of H_2S averaged over any one-hour period, and not more than 75 ppm(v) of H_2S averaged over any 12 consecutive month period. Fuel for all other sources shall be (1) sweet natural gas, or (2) refinery fuel gas which contains not more than 150 ppm(v) of H_2S averaged over any one-hour period.

(9) Emission limit prior to equipping the tank with an internal floating roof (IFR) or equivalent.

(10) Emission limit after January 1, 1999, or after equipping the tank with an IFR or equivalent, whichever occurs first.

* 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

Dated ____