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.

		AIR CONTAMINANTS DATA		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
Pretreater No. 3				
27FUG_001	PTR3 Fugitive Emissions (4)	VOC	0.20	0.80
Sulfur Recovery Unit				
32STK_001	SRU2/3 Thermal Oxidizer	CO	28.90	126.60
		H_2S 0.75	3.28	
		NO_x	13.50	47.30
		PM_{10}	0.60	2.10
		SO_2	128.00	560.60
		VOC	0.30	1.20
32VNT_002	SRU2/3 No. 2 Vent (5)	CO	36.80	
		COS	7.70	
		CS_2	0.80	
		H_2S	1.05	
		PM_{10}	0.10	
		SO_2	0.10	
32VNT_003	SRU2/3 No. 3 Vent (5)	CO	36.80	
		COS	7.70	
		CS_2	0.80	
		H_2S	1.05	
		PM_{10}	0.10	
		SO_2	0.10	
32VNT_002 and 32VNT_003	SRU2/3 No. 2 Vent and SRU2/3 No. 3 Vent (5)	CO		10.68
		COS		1.79
		CS_2		0.13
		H_2S		0.38
		PM		0.02
		SO_2		0.02

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AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
30VNT_003	SRU1 Sulfur Pit (5)	H_2S	0.04	0.01
		SO_2	1.67	0.28
32VNT_005	SRU2/3 Sulfur Truck Loading (5)	H_2S	0.03	<0.01
		SO_2	1.29	0.11
32FUG_001	SRU 2/3 Fugitive Emissions (4)	H_2S	0.31	1.086
		NH_3	0.02	0.10
		SO_2	0.028	0.106
		VOC	0.927	4.068
30FUG_001	SRU 1 Fugitive Emissions (4)	H_2S	1.71	7.51
		SO_2	1.79	7.82
Crude Unit B				
05STK_001	Crude B Atm. Heater H-3101 Stack	CO	14.20	49.70
		NO_x	107.90	377.90
		PM_{10}	4.70	16.60
		SO_2	23.90	83.90
		VOC	1.30	4.60
05STK_002	Crude B Vacuum Heater H-3102 Stack	CO	2.30	8.20
		NO_x	17.90	62.50
		PM_{10}	0.80	2.70
		SO_2	4.00	13.90
		VOC	0.40	1.50
05STK_004	Crude B Heater H-2001 Stack	CO	1.90	6.60
		NO_x	14.40	50.60
		PM_{10}	0.60	2.20
		SO_2	3.20	11.20
		VOC	0.40	1.20
05FUG_001	Crude B Fugitive Emissions (4)	VOC	2.44	10.57

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
Hydrocracker				
20STK_001	HDC 1st Stg. West Furnace H-3301 Stack	CO	0.11	0.36
		NO_x	1.36	4.38
		PM_{10}	0.18	0.59
		SO_2	0.99	1.53
		VOC	0.09	0.30
20STK_002	HDC 1st Stg. E. Furn. H-3302 Stack	CO	0.40	1.60
		NO_x	3.00	12.10
		PM_{10}	0.13	0.50
		SO_2	0.73	1.41
		VOC	0.08	0.30
20STK_003	HDC 2nd Stg. Furn. H-3303 Stack	CO	0.40	1.60
		NO_x	3.00	12.10
		PM_{10}	0.13	0.50
		SO_2	0.73	1.41
		VOC	0.08	0.30
20STK_004	HDC Stab. Reboiler Htr. H-3304 Stack	CO	4.61	19.56
		NO_x	11.76	49.93
		PM_{10}	1.18	4.99
		SO_2	5.68	11.65
		VOC	0.55	2.33
20STK_005	HDC Splitter Rblr. H-3305 Stack	CO	0.02	0.06
		NO_x	3.00	11.39
		PM_{10}	0.49	1.85
		SO_2	2.18	3.99
		VOC	0.20	0.74
20FUG_001	HDC Fugitive Emissions (4)	VOC	0.84	3.72

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
Pretreater No. 4				
28STK_001 (6)	PTR4 Rx Chg. Heater B-7001 Stack	CO	1.90	6.60
		NO_x	14.40	50.50
		PM_{10}	0.60	2.20
		SO_2	3.20	11.20
		VOC	0.40	1.20
28STK_002 (6)	PTR4 Depen. Reboiler Heater B-7002 Stack	CO	2.30	8.00
		NO_x	17.40	61.00
		PM_{10}	0.80	2.70
		SO_2	3.90	13.50
		VOC	0.40	1.50
Reformer No. 4				
28STK_003 (7)(8)	PTR4 Reformer Heater B-7101-4 Stack	CO	13.84	42.91
		NO_x	105.16	326.14
		PM_{10}	8.76	27.16
		SO_2	23.35	36.12
		VOC	1.25	4.07
28STK_004 (7)	PTR4 Debut Reboiler B-7201 Stack	CO	0.70	2.30
		NO_x	4.90	17.30
		PM_{10}	0.20	0.80
		SO_2	1.10	3.80
		VOC	0.10	0.40
28VNT_001	PTR4 Reactor Regen. Vent	Cl_2	0.40	1.90
		CO	0.96	4.20
		HCl	0.03	0.10
		PM_{10}	0.01	0.04
		SO_2	0.10	0.40

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
28FUG_001	PTR4 Fugitive Emissions (4)	Cl_2	0.10	0.44
		VOC	1.01	4.35
Coker				
04STK_004	Coker Far West Stack	CO	1.80	6.20
		NO_x	13.50	47.30
		PM_{10}	0.60	2.10
		SO_2	3.00	10.50
		VOC	0.30	1.20
04FUG_001	Coker Fugitive Emissions (4)	VOC	3.16	13.95
Amine Regeneration Unit				
18FUG_001	DEA3 Fugitive Emissions (4)	H_2S	0.20	0.70
		VOC	0.12	0.71
Sour Water Stripper Unit				
29FUG_001	SWS Fugitive Emissions (4)	H_2S	0.01	0.10
		NH_3	0.01	0.10
		VOC	0.38	1.70
Storage Tanks				
49TFX_0720	OMCC1 Fixed-Roof Tank 720	VOC	7.16	12.03
49TFX_0721	OMCC1 Fixed-Roof Tank 721	VOC	7.16	12.03
49TIF_0782	OMCC1 Int. Floating Roof Tank 782	VOC	2.68	10.61
48TEF_ 1150	Ethyl Ext. Floating Roof Tank 1150	VOC	4.09	15.14

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
48TEF_1151	Ethyl Ext. Floating Roof Tank 1151	VOC	4.09	15.11
48TEF_1158	Ethyl Ext. Floating Roof Tank 1158	VOC	2.42	7.86
48TEF_1165	Ethyl Ext. Floating Roof Tank 1165	VOC	2.20	9.16
48TEF_1212	Ethyl Ext. Floating Roof Tank 1212	VOC	2.52	8.56
48TEF_1213	Ethyl Ext. Floating Roof Tank 1213	VOC	2.44	8.24
49TEF_1215	OMCC1 Ext. Floating Roof Tank 1215	VOC	3.01	12.94
48TEF_1251	Ethyl Ext. Floating Roof Tank 1251	VOC	2.67	8.30
44TEF_1300	OMCC1 Ext. Floating Roof Tank 1300	VOC	2.67	8.48
49TEF_1314	OMCC1 Ext. Floating Roof Tank 1314	VOC	2.20	9.11
49TEF_1320	OMCC1 Ext. Floating Roof Tank 1320	VOC	2.93	9.38
48TEF_1324	Ethyl Ext. Floating Roof Tank 1324	VOC	2.86	10.78
48TEF_1325	Ethyl Ext. Floating Roof	VOC	1.76	7.37

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
48TEF_ 1329	Tank 1325 Ethyl Ext. Floating Roof Tank 1329	VOC	3.46	9.73
19TEF_ 1332	Dualayer Ext. Floating Roof Tank 1332	VOC	1.31	7.32
48TEF_ 1334	Ethyl Ext. Floating Roof Tank 1334	VOC	2.44	7.73
49TEF_ 1335	OMCC1 Ext. Floating Roof Tank 1335	VOC	2.37	9.07
48TEF_ 1338	Ethyl Ext. Floating Roof Tank 1338	VOC	2.43	7.73
48TEF_ 1350	Ethyl Ext. Floating Roof Tank 1350	VOC	2.50	7.65
48TEF_ 1361	Ethyl Ext. Floating Roof Tank 1361	VOC	1.09	4.78
48TEF_ 1362	Ethyl Ext. Floating Roof Tank 1362	VOC	3.45	13.93
48TEF_ 1389	Ethyl Ext. Floating Roof Tank 1389	VOC	3.24	11.72
48TEF_ 1390	Ethyl Ext. Floating Roof Tank 1390	VOC	3.14	11.28
50TEF_ 2119	OMCC2 Ext. Floating Roof Tank 2119	VOC	4.54	6.91
50TEF_ 2202	OMCC2 Ext. Floating Roof	VOC	1.65	5.03

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
	Tank 2202			
50TEF_ 2209	OMCC2 Ext. Floating Roof Tank 2209	VOC	3.60	5.49
50TEF_ 2210	OMCC2 Ext. Floating Roof Tank 2210	VOC	3.63	6.52
50TEF_ 2212	OMCC2 Ext. Floating Roof Tank 2212	VOC	3.63	5.61
50TEF_ 2213	OMCC2 Ext. Floating Roof Tank 2213	VOC	3.60	5.94
50TEF_ 2221	OMCC2 Ext. Floating Roof Tank 2221	VOC	2.20	8.61
50TEF_ 2223	OMCC2 Ext. Floating Roof Tank 2223	VOC	1.82	7.97
50TEF_ 2225	OMCC2 Ext. Floating Roof Tank 2225	VOC	3.17	5.00
49TEF_ 1377	OMCC1 Ext. Floating Roof Tank 1377	VOC	1.17	3.71
49TEF_ 1378	OMCC1 Ext. Floating Roof Tank 1378	VOC	1.15	3.63
Fluid Catalytic Cracking Unit				
06STK_001	FCC CO Boiler Stack	CO	457.00	2000.00
		NO_x	984.00	2650.00
		PM_{10}	155.00	675.00
		SO_2	6588.00	13101.00
		VOC	1.74	7.60
20CTL_005	Cooling Tower No. 5	VOC	1.51	6.62

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) VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1
CO - carbon monoxide
H_2S - hydrogen sulfide
NO_x - total oxides of nitrogen
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 particulate matter greater than 10 microns is emitted.
SO_2 - sulfur dioxide
COS - carbonyl sulfide
CS_2 - carbon disulfide
NH_3 - ammonia
HCl - hydrogen chloride
Cl_2 - chlorine

(4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
(5) The 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 the heaters 20STK_001, 20STK_002, 20STK_003, 20STK_004, 20STK_005, and 28STK_003, 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.

* 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 _____