EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Numbers 5920A and PSD-TX-103M2

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**
Unit 38 - Distillate Hydrotreaer					
38-0-0	DHT Fugitives (4)		VOC	3.83	16.77
		H_2S	0.03	0.14	
		NH_3	0.01	0.04	
38-36-251	Reactor Charge Heater		NO_x	2.67	5.32
		SO_2	3.24	6.44	
		VOC	0.53	1.06	
		CO	7.13	14.19	
		PM_{10}	0.74	1.47	
38-36-252	Stripper Reboiler		NO_x	2.67	11.71
		SO_2	3.24	14.18	
		VOC	0.53	2.34	
		CO	7.13	31.22	
		PM_{10}	0.74	3.23	
54-22-21	Cooling Tower (4)		VOC	0.32	1.38
Unit 9 - Crude Unit					
9-36-4	Crude Heater		PM_{10}	1.20	5.00
			SO_2	6.20	8.50
			NO_x	21.10	73.90
			CO	9.20	40.10
			VOC	0.30	1.40

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**
9-0-0	Fugitives (4)	Benzene	0.20	1.00
		VOC	7.04	30.88
54-22-2	Cooling Tower No. 2	VOC	1.20	5.00
Unit 25.1 Sour Crude Unit				
25.1-0-0	Sour Crude Unit Fugitives (4)	VOC	3.37	14.74
		H_2S	0.001	0.004
25.1-36-1	Crude Charge Heater	NO_x (8)	93.40	409.09
		PM_{10} (8)	2.34	10.23
		VOC (8)	0.16	0.71
		CO	18.68	81.82
		SO_2 (8)	15.25	66.81
54-22-14	Cooling Tower (4)	VOC	3.36	14.72
56-61-16	Expansion HP Flare	NO_x	0.11	0.49
		CO	0.96	4.20
		SO_2	0.07	0.33
Unit 25.2 - Distillate Hydrotreater Unit				
25.2-0-0	DHT Unit Fugitives (4)	VOC	2.47	10.81
		H_2S	0.01	0.03
		NH_3	0.01	0.01

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**
25.2-CS	Reactor Charge Heater	NO_x (8)	10.14	41.53
		PM_{10} (8)	0.87	3.60
		VOC (8)	0.07	0.31
		CO	2.17	8.91
		SO_2 (8)	2.07	8.50
	Combo Tower Reboiler	NO_x (8)	11.39	41.53
		PM_{10} (8)	0.98	3.60
		VOC (8)	0.08	0.31
		CO	2.44	8.91
		SO_2 (8)	2.33	8.50
Unit 26.1 Cat Feed Hydrotreater				
26.1-0-0	CFHT Fugitives (4)	VOC	6.87	30.06
		H_2S	0.04	0.15
		NH_3	0.01	0.02
26-CS	Charge Heater 1	NO_x (8)	16.08	54.23
		PM_{10} (8)	0.67	2.26
		VOC (8)	0.05	0.16
		CO	5.36	18.08
		SO_2 (8)	4.38	19.17
26-CS	Charge Heater 2	NO_x (8)	13.40	45.19
		PM_{10} (8)	0.67	2.26
		VOC (8)	0.05	0.16
		CO	5.36	18.08
		SO_2 (8)	4.38	19.17
26-CS	Recycle Heater 1	NO_x (8)	4.20	17.68
		PM_{10} (8)	0.59	2.47
		VOC (8)	0.05	0.21
		CO	2.56	10.78
		SO_2 (8)	1.37	6.01

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**
26-CS	Recycle Heater 2	NO_x (8)	4.20	17.68
		PM_{10} (8)	0.59	2.47
		VOC (8)	0.05	0.21
		CO	2.56	10.78
		SO_2 (8)	1.37	6.01
Unit 26.2 Hydrogen Purification Unit				
26.2-0-0	HPU Fugitives (4)	VOC	2.90	12.70
		H_2S	0.02	0.07
Unit 27 - Fluid Catalytic Cracking Unit				
27.1-0-0	FCC Fugitives (4)	VOC	8.27	36.22
		H_2S	0.01	0.06
		Benzene	0.02	0.09
27.1-36-RE	FCC Regenerator Exhaust	NO_x (8)	402.0	730.51
		PM_{10} (8)	72.98	319.63
		VOC (8)	7.50	32.85
		CO	608.91	1282.49
		SO_2 (8)	833.27	3649.74
		H_2SO_4	26.44	115.80
27.2-0-0	FCC Gas Plant Fugitives (4)	VOC	0.94	4.12
		H_2S	0.001	0.01
56-61-17	Expansion LP Flare	NO_x	0.06	0.30
		VOC	0.61	2.70
		CO	0.12	0.50
		SO_2	21.25	46.50
		R-SH	0.33	0.70

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**
Unit 28- Sulfur Recovery Complex				
28.1-0-0	ARU/SWS Fugitives (4)	VOC	0.64	2.79
		H_2S	0.15	0.66
		NH_3	0.08	0.36
28.1-61-9	DEA Stripper Flare	NO_x	0.03	0.13
		VOC	0.01	0.01
		CO	0.25	1.10
		SO_2	0.85	3.74
		H_2S	0.01	0.01
28.1-61-10	Sour Water Stripper Flare	NO_x	0.03	0.13
		VOC	0.01	0.01
		CO	0.25	1.09
		SO_2	0.40	1.76
		H_2S	0.01	0.01
28.2-0-0	SRU Fugitives (4)	VOC	0.65	2.84
		H_2S	0.11	0.50
		NH_3 0.03	0.14	
28.2-36-2	Incinerator Stack	NO_x (8)	7.45	32.62
		PM_{10} (7)(8)	2.50	6.95
		VOC (8)	0.23	1.00
		CO	20.20	88.47
		SO_2 (8)	115.42	505.55
		H_2S	2.45	10.74
		H_2SO_4	0.45	1.95
28-95-300	DEA Tank	VOC	0.01	0.01
28-95-302, 28-95-305, and 68-95-97	Sour Water Surge Tanks	VOC	0.01	0.02
		H_2S	0.53	2.32
		NH_3	0.01	0.01
28-95-306	MDEA Tank	VOC	0.01	0.01

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**
Unit 29.1 - Vacuum Unit				
29-61-1	Flare	NO_x	0.11	0.50
		CO	0.83	3.64
		SO_2	0.06	0.25
29.1-0-0	Vacuum Fugitives (4)	VOC	1.31	5.72
		H_2S	0.02	0.07
29.1-36-001	Vacuum Unit Heater	NO_x	22.65	79.37
		PM_{10}	1.13	3.97
		VOC	0.21	0.74
		CO	15.10	52.92
		SO_2	7.65	26.79
54-22-20	Cooling Tower (4)	VOC	1.60	6.99
Unit 29.2 - Delayed Coker				
29.2-0-0	Coker Fugitives (4)	VOC	2.98	13.06
		H_2S	0.04	0.17
29.2-0-1	Coke Handling Fugitives (4)	PM	3.73	3.17
		PM_{10}	1.77	1.52
29.2-36-CS	Coker Heater A	NO_x	14.77	51.74
		TSP/PM_{10}	0.74	2.59
		VOC	0.04	0.14
		CO	9.84	34.49
		SO_2	5.85	20.49
29.2-36-CS	Coker Heater B	NO_x	14.77	51.74
		TSP/PM_{10}	0.74	2.59

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**
		VOC	0.04	0.14
		CO	9.84	34.49
		SO_2	5.85	20.49
Storage Tanks				
68-95-61	Storage Tank	VOC	1.35	3.59
68-95-62	Storage Tank	VOC	1.35	3.59
68-95-98	Cat. Gasoline Storage Tank	VOC	1.30	7.50
68-95-99A	Sweet Gas Oil Storage Tank	VOC	1.69	7.40
68-95-99B	Sweet Gas Oil Storage Tank	VOC	1.69	7.40
68-95-99C	Sour Gas Oil Storage Tank	VOC	1.70	7.43
68-95-213	Alkylate Storage Tank	VOC	3.36	10.46
68-95-418	Vacuum Resid Storage Tank	VOC	4.31	18.90
68-95-419	Sweet Gas Oil Storage Tank	VOC	3.20	14.03
68-95-246	Storage Tank	VOC	0.16	0.53
68-95-228	Gasoline Storage Tank	VOC	1.16	2.43
Miscellaneous Fugitive Areas				
3-0-0	Unit 3 Fugitives (4)	VOC	2.91	12.74
4-0-0	Unit 4 Fugitives (4)	VOC	2.55	11.19
5-0-0	Unit 5 Fugitives (4)	VOC	1.45	6.36

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

8-0-0	Unit 8 Fugitives (4)	VOC	0.85	3.73
15-0-0	Unit 15 Fugitives (4)	VOC	3.55	15.56
20-0-0	Unit 20 Fugitives (4)	VOC	2.28	9.98
68.1-0-0	Refinery Tank Farm Fugitives (4)	VOC	9.46	41.46
68.2-0-2	Refinery Tank Farm Fugitives (4)	VOC	1.55	6.75

(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, 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
NO_x - total oxides of nitrogen
CO - carbon monoxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
H_2S - hydrogen sulfide
NH_3 - ammonia
H_2SO_4 - sulfuric acid mist
R-SH - mercaptan
TSP - total suspended particulate
(4) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
(7) Test method shall be method 201/201A, excluding sulfates.
(8) Emissions are covered under PSD-TX-103M2.

* Emission rates are based on a continuous operating schedule.

** Compliance with annual emission limits is based on a rolling 12-month period.

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Dated December 1, 2004