EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Numbers 5920A and PSD-TX-103M3

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 Hydrotreater					
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		VOC	0.53	1.06
			NO_x	2.67	5.32
		CO	7.13	14.19	
		SO_2	3.24	6.44	
		PM_{10}	0.74	1.47	
38-36-252	Stripper Reboiler		VOC	0.53	2.34
		NO_x	2.67	11.71	
		CO	7.13	31.22	
		SO_2	3.24	14.18	
		PM_{10}	0.74	3.23	
54-22-21	Cooling Tower (4)		VOC	0.32	1.38

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 9 - Crude Unit				
9-0-0	Fugitives (4)	VOC	7.04	30.88
		Benzene	0.20	1.00
9-36-4	Crude Heater	VOC	0.30	1.40
		NO_x	21.10	73.90
		CO	9.20	40.10
		SO_2	6.20	8.50
		PM_{10}	1.20	5.00
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	VOC (7)	0.16	0.71
		NO_x (7)	93.40	409.09
		CO	18.68	81.82
		SO_2 (7)	15.25	66.81
		PM_{10} (7)	2.34	10.23
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				

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**
25.2-0-0	DHT Unit Fugitives (4)	VOC	2.47	10.81
		H_2S	0.01	0.03
		NH_3	0.01	0.01
25.2-CS	Reactor Charge Heater	VOC (7)	0.07	0.31
		NO_x (7)	10.14	41.53
		CO	2.17	8.91
		SO_2 (7)	2.07	8.50
		PM_{10} (7)	0.87	3.60
	Combo Tower Reboiler	VOC (7)	0.08	0.31
		NO_x (7)	11.39	41.53
		CO	2.44	8.91
		SO_2 (7)	2.33	8.50
		PM_{10} (7)	0.98	3.60
Unit 26.1 Cat Feed Hydrotreater				
26-CS	Charge Heater 1	VOC (7)	0.05	0.16
		NO_x (7)	16.08	54.23
		CO	5.36	18.08
		SO_2 (7)	4.38	19.17
		PM_{10} (7)	0.67	2.26
26-CS	Charge Heater 2	VOC (7)	0.05	0.16
		NO_x (7)	13.40	45.19
		CO	5.36	18.08
		SO_2 (7)	4.38	19.17
		PM_{10} (7)	0.67	2.26
26-CS	Recycle Heater 1	VOC (7)	0.05	0.21
		NO_x (7)	4.20	17.68
		CO	2.56	10.78
		SO_2 (7)	1.37	6.01
		PM_{10} (7)	0.59	2.47

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	VOC (7)	0.05	0.21
		NO_x (7)	4.20	17.68
		CO	2.56	10.78
		SO_2 (7)	1.37	6.01
		PM_{10} (7)	0.59	2.47
26.1-0-0	CFHT Fugitives (4)	VOC	6.87	30.06
		H_2S	0.04	0.15
		NH_3	0.01	0.02
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	VOC (7)	7.50	32.85
		NO_x (7)	402.0	730.51
		CO	608.91	1282.49
		SO_2 (7)	833.27	3649.74
		PM_{10} (7)	72.98	319.63
		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	VOC	0.61	2.70
		NO_x	0.06	0.30

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**
		CO	0.12	0.50
		SO_2	21.25	46.50
		R-SH	0.33	0.70
Unit 28 and Unit 39.1 - Sulfur Recovery Units				
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	VOC	0.01	0.01
		NO_x	0.03	0.13
		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	VOC	0.01	0.01
		NO_x	0.03	0.13
		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	Unit 28 Incinerator Stack	VOC (7)	0.93	4.09
		NO_x (7)	8.13	35.62
		CO	20.20	88.47
		SO_2 (7)	115.42	505.55
		PM_{10} (7)	2.50	6.95
		H_2S	2.45	10.74
39.1-95-118	Unit 39.1 Incinerator Stack	VOC (7)	0.24	1.04
		NO_x (7)	2.37	10.37
		CO	8.95	39.22

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	Emission Rates * TPY**
		SO_2 (7)	51.17	224.12
		PM_{10} (7)	0.29	1.29
		H_2S	1.09	4.76
28.2-36-2 and 39.1-95-118	Unit 28 and Unit 39.1 Incinerator Stacks Combined Emissions	VOC (7)		4.09
		NO_x (7)		35.62
		CO		88.47
		SO_2 (7)		505.55
		PM_{10} (7)		6.95
		H_2S		10.74
28-95-300	DEA Tank	VOC	0.01	0.01
28-95-302, 28-95-305, 28-95-316, 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
39.1-0-0	Piping Fugitives (4)	VOC	0.14	0.36
		CO	0.01	0.01
		SO_2	0.01	0.01
		H_2S	0.12	0.52
		NH_3	0.01	0.05
		Ethylene (8)	0.01	0.01
		Propylene (8)	0.01	0.01
39.1-95-114	MDEA Tank	VOC	0.03	0.01
39.1-95-121	Process Sewer Sump	VOC	0.01	0.01
39.1-X-X	Cooling Tower	VOC	0.11	0.43

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	VOC	0.21	0.74
		NO_x	22.65	79.37
		CO	15.10	52.92
		SO_2	7.65	26.79
		PM_{10}	1.13	3.97
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	VOC	0.04	0.14
		NO_x	14.77	51.74

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**
		CO	9.84	34.49
		SO_2	5.85	20.49
		PM/PM_{10}	0.74	2.59
29.2-36-CS	Coker Heater B	VOC	0.04	0.14
		NO_x	14.77	51.74
		CO	9.84	34.49
		SO_2	5.85	20.49
		PM/PM_{10}	0.74	2.59
Storage Tanks				
68-95-61	Storage Tank	VOC	1.35	3.59
68-95-62	Storage Tank	VOC	1.35	3.59
68-95-91	Sour Water Tank	VOC	1.11	4.78
		H_2S	0.01	0.01
		NH_3	0.01	0.01
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
68-95-228	Gasoline Storage Tank	VOC	1.16	2.43
68-95-246	Storage Tank	VOC	0.16	0.53
68-95-418	Vacuum Resid Storage Tank	VOC	4.31	18.90

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**
68-95-419	Sweet Gas Oil Storage Tank	VOC	3.20	14.03
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
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
BASELINE EMISSIONS FOR EPNS LISTED IN TABLE 1				
		VOC (initial)(5)		850.20
		VOC (final)(6)		776.38

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

NO_x		1775.1	
CO		1417.6	
	PM_{10}		755.7

(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 Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
CO - carbon monoxide
SO_2 - sulfur dioxide
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.
H_2S - hydrogen sulfide
NH_3 - ammonia
H_2SO_4 - sulfuric acid mist
R-SH - mercaptan
(4) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(5) The sum of all normal operational emissions from all emission points in Table 1 shall not exceed the specified emission caps on a rolling 12-month average. The caps will become effective July 1, 2006.
(6) The VOC final emission cap will be applied after December 31, 2006.
(7) Emissions are covered under PSD-TX-103M3.
(8) Ethylene and propylene emissions are included in VOC emissions.

* Emission rates are based on a continuous operating schedule.

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

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

Dated August 31, 2007