EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Nos. 5682A 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
SOUR CRUDE UNIT 25.1				
25.1-0-0	Sour Crude Unit Fugitives (4)	VOC	3.07	13.46
		H_2S	0.001	0.004
25.1-36-1	Crude Charge Heater	NO_x (8)	93.40	409.09
		TSP/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	VOC	3.36	14.72
56-16-16	Expansion HP Flare (Emergency Only)	NO_x	0.11	0.49
		CO	0.96	4.20
		SO_2	0.07	0.33
DISTILLATE HYDRODESULFURIZATION UNIT 25.2				
25.2-0-0	DHDS Unit Fugitives (4)	VOC	2.24	9.81
		H_2S	<0.01	0.03
		NH_3	<0.01	<0.01

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AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
25.2-CS	DHDS Reactor Charge Heater	NO_x (8)	10.14	41.53
		TSP/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
25.2-CS	DHDS Combo Tower Reboiler	NO_x (8)	11.39	41.53
		TSP/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
	ATMOSPHERIC RESIDUUM DESULFURIZATION UNIT 26.1			
26-CS	Charge Heater 1	NO_x (8)	16.08	54.23
		TSP/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
		TSP/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 Gas Heater 1	NO_x (8)	4.20	17.68
		TSP/PM_{10} (8)	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
		VOC (8)	0.05	0.21
		CO	2.56	10.78
		SO_2 (8)	1.37	6.01
26-CS	Recycle Gas Heater 2	NO_x (8)	4.20	17.68
		TSP/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
26.1-0-0	ARDS Fugitives (4)	VOC	6.07	26.57
		H_2S	0.03	0.13
		NH_3	0.005	0.02
	HEAVY OIL CRACKING UNIT 27			
27.1-0-0	Heavy Oil Cracker Fugitives (4)	VOC	7.43	32.56
		H_2S	0.01	0.04
		Benzene	0.02	0.08
27.1-36-RE	HOC Regenerator Exhaust	NO_x (8)	402.0	730.51
		TSP/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	HOC Gas Plant Fugitives (4)	VOC	0.94	4.12
		H_2S	0.001	0.005
56-61-17	Expansion LP Flare	NO_x	0.06	0.30
		VOC	0.61	2.70

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
		CO	0.12	0.50
		SO_2	21.25	46.50
		R-SH	0.33	0.70
		SULFUR RECOVERY COMPLEX UNITS 28		
28.1-0-0	ARU/SWS Fugitives (4)	VOC	0.43	1.86
		H_2S	0.11	0.48
		NH_3	0.02	0.11
28.1-61-9	DEA Stripper Flare (Emergency Only)	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 (Emergency Only)	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	0.64	2.78
		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
		TSP/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

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
		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 and 28-95-305	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
28-95-316	Sour Water Maintenance Tank	Maintenance Use Only		
	VACUUM UNIT 29.1 (5)			
29-61-1	Flare (Emergency Use Only)	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
		TSP/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	VOC	1.60	6.99

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
DELAYED COKER UNIT 29.2 (5)				
29.2-0-0	Coker Fugitives (4)	VOC	2.51	10.98
		H_2S	0.03	0.13
29.2-0-1	Coke Handling Fugitives (4)	TSP	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
		VOC	0.04	0.14
		CO	9.84	34.49
		SO_2	5.85	20.49
STORAGE TANKS				

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
68-95-61	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 (6)	Sweet Gas Oil Storage Tank	VOC	1.69	7.40
68-95-99B (6)	Sweet Gas Oil Storage Tank	VOC	1.69	7.40
68-95-99C (6)	Sour Gas Oil Storage Tank	VOC	1.70	7.43
68-95-213	Alkylate Storage Tank	VOC	3.36	10.46
68-95-418 (6)	Vacuum Resid Storage Tank	VOC	4.31	18.90
68-95-419 (6)	Sweet Gas Oil Storage Tank	VOC	3.20	14.03

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source names. For fugitive sources use area name or fugitive source name.
(3) NO_x - total oxides of nitrogen
TSP - total suspended particles, not including PM_{10}.
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.
VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1
CO - carbon monoxide
SO_2 - sulfur dioxide
H_2S - hydrogen sulfide
NH_3 - ammonia
H_2SO_4 - sulfuric acid mist
Benzene - hazardous air pollutant

R-SH - mercaptan

(4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
(5) New unit incorporated into Permit No. 5682A.
(6) Heated for processing heavy liquids.
(7) Test method shall be method 201/201A, excluding sulfates.

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

(8) Emissions of NO_x, TSP/PM_{10}, VOC, and CO from the Crude Charge Heater (Emission Point No. [EPN] 25.1-36-1), Distillate Hydrodesulfurization Unit Heaters (EPN 25.2-CS), Atmospheric Residuum Desulfurization Unit Charge Heaters and Recycle Heaters (EPN 26-CS), HOC Regenerator Exhaust (EPN 27.1-36-RE), and TGI (EPN 28.2-36-2) are covered under PSD-TX-103M2.

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

_____Hrs/day ____Days/week ____Weeks/year or 8,760 Hrs/year

Dated May 18, 2001