EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

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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				
F021	Fugitives (4)	VOC	0.20	0.80
Sulfur Recovery Unit				
056 S01	SRU Stack	PM10	0.60	2.10
		SO2	128.00	560.60
		NOx	13.50	47.30
		CO	28.90	126.60
		VOC	0.30	1.20
		H2S	1.90	0.16
056 V01	SRU No. 2 Vent (5)	CO	26.80	4.50
		H2S	0.80	0.20
		COS	2.90	0.50
056 V02	SRU No. 3 Vent (5)	CO	26.80	4.50
		H2S	0.80	0.20
		COS	2.90	0.50
056 V03	Sulfur Pit Vent	H2S	0.01	<0.01
		SO2	0.33	0.06
056 V04	Sulfur Pit Vent	H2S	0.01	<0.01
		SO2	0.33	0.06
056 V05	Sulfur Loading Vent	H2S	0.03	0.05
		SO2	1.29	2.35

F056	Fugitives (4)	SO2	0.01	0.06
		VOC	0.83	3.61
		H2S	0.21	0.94
		NH3	0.02	0.09

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
Crude Unit B				
006 S01	Heater H-3101	PM10	4.70	16.60
		SO2	23.90	83.90
		NOx	107.90	377.90
		CO	14.20	49.70
		VOC	1.30	4.60
006 S01	Heater H-3102	PM10	0.80	2.70
		SO2	4.00	13.90
		NOx	17.90	62.50
		CO	2.30	8.20
		VOC	0.40	1.50
006 S02	Heater H-2001	PM10	0.60	2.20
		SO2	3.20	11.20
		NOx	14.40	50.60
		CO	1.90	6.60
		VOC	0.40	1.20
F006	Fugitives (4)	VOC	1.10	4.70
Hydrocracker				
035 S01	Heater H-3301	PM10	0.20	0.80
		SO2	1.10	4.00
		NOx	5.10	17.90
		CO	0.70	2.40
		VOC	0.10	0.40
035 S02	Heater H-3302	PM10	0.20	0.50

		SO2	0.80	2.70
		NOx	3.40	12.10
		CO	0.50	1.60
		VOC	0.10	0.30
035 S03	Heater H-3303	PM10	0.20	0.50
		SO2	0.80	2.70
		NOx	3.40	12.10
		CO	0.50	1.60
		VOC	0.10	0.30

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
035 S04	Heater H-3304	PM10	1.50	5.10
		SO2	7.40	25.90
		NOx	33.30	116.70
		CO	4.40	15.40
		VOC	0.80	2.90
035 S05	Heater H-3305	PM10	0.30	1.20
		SO2	1.70	5.80
		NOx	7.50	26.30
		CO	1.00	3.50
		VOC	0.20	0.60
035 S06	Heater H-4001	PM10	0.40	1.30
		SO2	1.80	6.40
		NOx	8.20	28.90
		CO	1.10	3.80
		VOC	0.20	0.70
F035	Fugitives (4)	VOC	0.60	2.70
Pretreater No. 4				
054 S01 (6)	Heater B-7001	PM10	0.60	2.20
		SO2	3.20	11.20
		NOx	14.40	50.50

		CO	1.90	6.60
		VOC	0.40	1.20
054 S01 (6)	Heater B-7002	PM10	0.80	2.70
		SO2	3.90	13.50
		NOx	17.40	61.00
		CO	2.30	8.00
		VOC	0.40	1.50
F054	Fugitives (4)	VOC	1.00	4.50

Reformer No. 4

055 S01 (7)	Heater B-7101-4	PM10	4.80	16.80
		SO2	24.30	85.00
		NOx	109.40	383.20
		CO	14.40	50.50
		VOC	1.30	4.70

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
055 S01 (7)	Heater B-7201	PM10	0.20	0.80
		SO2	1.10	3.80
		NOx	4.90	17.30
		CO	0.70	2.30
		VOC	0.10	0.40
055 V01	Regenerator Vent	PM10	0.01	0.04
		SO2	0.10	0.40
		CO	0.96	4.20
		HCl	0.03	0.10
		Cl2	0.40	1.90
F055	Fugitives (4)	VOC	1.00	4.30

Coker

009 S04	Heater BA-3000	PM10	0.60	2.10
		SO2	3.00	10.50
		NOx	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
		H2S	0.20	0.70

Sour Water Stripper Unit

F038	Fugitives (4)	VOC	0.38	1.70
		NH3	0.01	0.10
		H2S	0.01	0.10

Storage Tanks

T0781	Storage Tank (8)	VOC	6.10	26.70
T0781	Storage Tank (9)	VOC	5.09	22.30

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
T0782	Storage Tank	VOC	5.14	22.50
T1150	Storage Tank (8)	VOC	22.60	99.00
T1150	Storage Tank (9)	VOC	0.59	2.60
T1151	Storage Tank (8)	VOC	22.60	99.00
T1151	Storage Tank (9)	VOC	0.59	2.60
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 (8)	VOC	28.49	124.80
T1215	Storage Tank (9)	VOC	0.84	3.70
T1300	Storage Tank (8)	VOC	23.68	103.70
T1300	Storage Tank (9)	VOC	0.62	2.70
T1314	Storage Tank (8)	VOC	17.76	77.80
T1314	Storage Tank (9)	VOC	0.48	2.10
T1320	Storage Tank (8)	VOC	17.76	77.80
T1320	Storage Tank (9)	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 (8)	VOC	21.71	95.10
T1334	Storage Tank (9)	VOC	0.57	2.50

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
T1335	Storage Tank (8)	VOC	26.89	117.80
T1335	Storage Tank (9)	VOC	0.96	4.20
T1338	Storage Tank	VOC	0.57	2.50
T1361	Storage Tank	VOC	5.14	22.5

T1362	Storage Tank (8)	VOC	34.25	150.00
T1362	Storage Tank (9)	VOC	1.03	4.50
T2119	Storage Tank	VOC	0.66	2.90
T2198	Storage Tank (8)	VOC	17.92	78.50
T2198	Storage Tank (9)	VOC	0.64	2.80
T2199	Storage Tank (8)	VOC	17.83	78.10
T2199	Storage Tank (9)	VOC	0.55	2.40
T2200	Storage Tank (8)	VOC	13.24	58.00
T2200	Storage Tank (9)	VOC	0.37	1.60
T2201	Storage Tank (8)	VOC	13.24	58.00
T2201	Storage Tank (9)	VOC	0.37	1.60
T2202	Storage Tank	VOC	0.48	2.10
T2203	Storage Tank (8)	VOC	3.22	14.10
T2203	Storage Tank (9)	VOC	2.58	11.30
T2209	Storage Tank (8)	VOC	26.71	117.00
T2209	Storage Tank (9)	VOC	0.78	3.40
T2210	Storage Tank (8)	VOC	26.71	117.00
T2210	Storage Tank (9)	VOC	0.78	3.40

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY
T2212	Storage Tank (8)	VOC	26.71	117.00

T2212	Storage Tank (9)	VOC	0.78	3.40
T2213	Storage Tank	VOC	0.78	3.40
T2221	Storage Tank (8)	VOC	17.76	77.80
T2221	Storage Tank (9)	VOC	0.48	2.10
T2222	Storage Tank (8)	VOC	17.76	77.80
T2222	Storage Tank (9)	VOC	0.48	2.10
T2223	Storage Tank (8)	VOC	13.33	58.40
T2223	Storage Tank (9)	VOC	0.48	2.10
T2224	Storage Tank	VOC	0.37	1.60
T2225	Storage Tank (8)	VOC	34.11	149.40
T2225	Storage Tank (9)	VOC	0.89	3.90
T1377	SWS Storage Tank	VOC	5.31	22.90
T1378	SWS Storage Tank (8)	VOC	52.03	227.50
T1378	SWS Storage Tank (9)	VOC	5.31	22.90

Fluid Catalytic Cracking Unit

010 S01	CO Boiler (10)	PM10	155.00	675.00
		SO2	6588.00	13101.00
		NOx	380.00	1660.00
		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) PM10 - particulate matter less than 10 microns
VOC - volatile organic compounds as defined in General Rule 101.1
NOx - total oxides of nitrogen
SO2 - sulfur dioxide
CO - carbon monoxide
H2S - hydrogen sulfide
NH3 - ammonia
HCl - hydrogen chloride
Cl2 - chlorine
COS - carbonyl sulfide

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

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

(10) The NO_x emissions for the CO boiler stack are an estimate only and should not be considered as maximum allowable emission rates until they are confirmed or revised according to data obtained by stack tests or continuous emission monitors. The emission rates for NO_x shall become enforceable upon revision or confirmation by sampling or monitoring data or 180 days after startup of the hydrocracker unit covered by this permit, whichever occurs first. Sampling and monitoring data should reflect pre-expansion emission rates.

* 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

Revised_____