EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Flexible Permit Number 8404

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**
CATALYTIC REFORMING UNIT NO. 4				
SCRU4-1	Combined Heater Stack	SO_2	22.36	81.53
		NO_x	72.99	319.72
		CO	31.92	115.75
		VOC	1.39	5.01
		PM	4.16	15.12
		PM_{10}	4.16	15.12
		HCl	0.06	0.24
FCRU4	Fugitives (4)	VOC	1.93	8.46
FKCRU4	Cooling Tower (4)	VOC	0.47	2.05
ECRU4	Flare	****For Emergency Use Only****		
ALKYLATION UNIT				
TAL35140	Fresh Sulfuric Acid Tank	H_2SO_4	0.12	0.028
TAL35141	Fresh Sulfuric Acid Tank	H_2SO_4	0.12	0.028
TAL35142	Spent Sulfuric Acid Tank	VOC	0.10	0.10
		H_2SO_4	0.11	0.028
TAL35143	Spent Sulfuric Acid Tank	VOC	0.10	0.10
		H_2SO_4	0.11	0.028
TAL35144	Fresh Caustic	VOC	0.01	0.01
FALKY4	Fugitives (4)	VOC	3.36	14.76

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 **
FKFCCU1 and FKFCCU2	Cooling Tower (4)	VOC	2.63	11.50
FALKY	Caustic Scrubber	VOC	0.05	0.21
EFCCU1 and 2	Alky Emergency Flare	****For Emergency Use Only****		
DELAYED COKER UNIT				
SDCU1-1	Coker Heater No. 1	VOC	0.22	0.94
		NO_2	15.04	65.41
		SO_2	4.08	17.74
		PM_{10}	0.77	3.35
		CO	6.17	26.81
SDCU1-2	Coker Heater No. 2	VOC	0.22	0.94
		NO_2	15.04	65.41
		SO_2	4.08	17.74
		PM_{10}	0.77	3.35
		CO	6.17	26.81
FDCU2	Process Fugitives (4)	VOC	4.96	21.66
		C_6H_6	0.01	0.01
	Coke Handling Fugitives (4)	PM	4.52	4.44
		PM_{10}	2.03	2.00
FKDCU1	Cooling Tower (4)	VOC	0.42	1.84
		C_6H_6	0.01	0.01
TVA01820	Coker Feedstock Tank	VOC	0.03	0.18
TVA01821	Coker Feedstock Tank	VOC	0.01	0.01
TDC01825	Refinery Sludges Tank	VOC	0.01	0.01
TDC01830	Quench/Cutting Water Tank	VOC	0.01	0.06

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 **
VDCU1	Decoking Drum	VOC	0.01	0.01
EDCU1	Emergency Flare	****For Emergency Release Only****		
FLUID CATALYTIC CRACKING UNIT NO. 3				
SFCCU3-1	FCCU3 Charge Heater	VOC	0.37	1.20
		NO_x	16.66	49.63
		SO_2	3.59	15.63
		PM	0.71	3.10
		CO	5.66	24.81
SFCCU3-2	FCCU3 CO Boiler/ Scrubber Stack and Bypass	VOC	37.20	163.02
		NO_x	265.70	1136.00
		SO_2	340.00	1489.20
		PM	188.60	826.10
		CO	875.73	3835.70
SCDHDS1	CDHDS1 Heater	VOC	0.21	0.88
		NO_x	2.30	10.07
		SO_2	1.01	4.22
		PM	0.29	1.22
		CO	3.21	13.41
SCDHydro/CDHDS2	CDHydro/CDHDS2 Heater	VOC	0.37	1.63
		NO_x	2.70	11.83
		SO_2	1.70	7.45
		PM	0.51	2.25
		CO	5.67	24.83
FCDHDS1	CDHDS1 Fugitive Emissions (4)	VOC	1.78	7.78
FCDHydro/CDHDS2	CDHydro/CDHDS2 Fugitive Emissions (4)	VOC	4.31	18.88

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 **
FFCCU3	FCCU3 Fugitive Emissions (4)	VOC	7.28	31.42
FKFCCU3	Cooling Tower (4)	VOC	3.07	13.43
EFCCU3	Flare	****For Emergency Use Only****		
HYDROGEN CRACKING UNIT				
CHCU	HCU Compressors	VOC	12.12	53.06
		NO_x	36.34	159.18
		CO	36.34	159.18
		SO_2	0.02	0.12
		PM	0.44	1.90
EHCU	HCU Emergency Flare	****For Emergency Use Only****		
SHCU1-1	HCU No. 1 Reactor No. 1 Heater	VOC	0.18	0.50
		NO_x	3.60	15.77
		SO_2	1.67	4.74
		PM	0.32	0.90
		CO	2.21	6.27
SHCU1-2	HCU No.1 Reactor No. 2 Heater	VOC	0.22	0.64
		NO_x	4.56	19.97
		SO_2	2.11	6.01
		PM	0.26	1.13
		CO	2.79	7.94

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 **
SHCU1-3	Preflash Reboiler	SO_2	2.85	8.11
		NO_x	6.16	26.98
		CO	3.77	10.73
		VOC	0.30	0.86
		PM	0.54	1.53
SHCU1-4	Fract. Reboiler	SO_2	3.34	9.48
		NO_x	7.20	31.54
		CO	4.41	12.54
		VOC	0.35	1.00
		PM	0.63	1.79
FHCU1	Fugitive Emissions (4)	VOC	4.35	19.06
HYDROGEN TREATING UNIT NO. 1				
SHTU1-1	Charge Heater	SO_2	0.86	3.77
		NO_x	4.45	19.49
		CO	1.11	4.86
		VOC	0.09	0.39
		PM_{10}	0.16	0.70
FHTU1	Fugitives (4)	VOC	1.86	8.22
FK33PH	No. 33PH Cooling Tower (4)	VOC	0.01	0.01
EHTU	Emergency Flare	****For Emergency Use Only****		
HYDROGEN TREATING UNIT NO. 2				
SHTU2-1	HTU No. 2 Charge Heater	VOC	0.30	1.30
		NO_x	3.24	14.19
		SO_2	1.36	5.96
		PM	0.41	1.80
		CO	4.54	19.87
SHTU2-2	HTU No. 2 Reboiler	VOC	0.23	1.01

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 **
		NO_x	2.52	11.04
		SO_2	1.06	4.64
		PM	0.32	1.40
		CO	3.53	15.45
FHTU2	Fugitives (4)	VOC	2.61	11.43
FKHTU2	Cooling Tower (4)	VOC	0.42	0.16
HYDROGEN TREATING UNIT NO. 3				
SHTU3-1	Charge Heater	SO_2	1.48	6.48
		NO_x	3.61	15.81
		CO	1.91	8.37
		VOC	0.15	0.66
		PM_{10}	0.27	1.18
SHTU3-2	Rerun Tower Reboiler	SO_2	1.23	5.39
		NO_x	3.00	13.14
		CO	1.59	6.96
		VOC	0.13	0.57
		PM_{10}	0.23	1.01
FHTU3	Fugitives (4)	VOC	3.07	13.46
FKHTU3	Cooling Tower (4)	VOC	0.14	0.05
HYDROGEN TREATING UNIT NO. 4				
SHTU 4-1	Charge Heater No. 1	VOC	0.16	0.44
		NO_x	3.28	9.14
		SO_2	0.71	1.98
		PM_{10}	0.13	0.37
		CO	0.94	2.62
SHTU 4-2	Charge Heater No. 2	VOC	0.16	0.44
		NO_x	3.28	9.14

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 **
		SO_2	0.71	1.98
		PM_{10}	0.13	0.37
		CO	0.94	2.62
SHTU 4-3	Reboiler Heater	VOC	0.03	0.09
		NO_x	2.00	6.66
		SO_2	0.86	2.86
		PM_{10}	0.38	1.27
		CO	1.70	5.65
SHTU 4-4	Recycle Gas Heater	VOC	0.09	0.38
		NO_x	6.17	27.03
		SO_2	2.65	11.60
		PM_{10}	1.18	5.15
		CO	5.23	22.92
FHTU 4	HTU No. 4 Fugitives (4)	VOC	8.19	36.24
FK33PH	No. 33PH Cooling Tower (4)	VOC	0.01	0.01
EHTU	Emergency Flare	**** For Emergency Use Only****		
HYDROGEN TREATING UNIT NO 5				
SHTU5	HTU5 Heater	VOC	0.33	1.45
		NO_x	2.11	9.22
		SO_2	1.52	6.64
		PM_{10}	0.46	2.00
		CO	4.47	19.12
FHTU5	HTU5 Fugitives (4)	VOC	3.50	15.32
FKHTU5	HTU5 Cooling Tower	VOC	0.28	1.23

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 **
METHYL PERROLIDONE UNIT NO. 3				
SMPU3-2	MPU No. 3 Extract Heater	VOC	0.50	2.30
		NO_x	13.53	34.69
		SO_2	2.50	11.00
		PM	0.27	1.32
SMPU3-1	MPU No. 3 Refined Oil Mix	VOC	0.25	1.10
		NO_x	6.01	15.42
		SO_2	2.20	9.50
		PM	0.14	0.78
FMPU3	MPU3 Fugitive Emissions (4)	VOC	0.36	1.58
FKMPU3	Cooling Tower (4)	VOC	1.16	5.06
METHYL PERROLIDONE UNIT NO. 4				
SMPU4	MPU No. 4 Secondary	VOC	0.37	1.63
		NO_x	5.52	24.18
		SO_2	1.74	7.62
		PM	0.51	2.25
		CO	5.68	24.89
SMPU4C	MPU No. 4 Extract Heater	VOC	0.61	2.68
		NO_x	9.07	39.74
		SO_2	2.86	12.52
		PM	0.85	3.70
		CO	9.34	40.91
FMPU4	MPU4 Fugitive Emissions (4)	VOC	1.36	2.78
SVVMPU3-3	Vacuum Vent	VOC	1.50	6.60
FKMPU4	Cooling Tower (4)	VOC	1.16	5.06
VACUUM PIPE STILL NO. 2				

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 **
SVPS2-1	VPS No. 2 ATM Heaters No. 1 through 3 and VPS No. 2 VAC Heaters No. 1 and 2; Common Heater Stack	VOC	1.60	7.00
		NO_x	11.62	50.88
		SO_2	10.77	32.06
		PM	2.21	9.67
		CO	24.39	106.84
SVPS2-2	VPS No. 2 ATM Heater No. 4	VOC	0.33	1.45
		NO_x	2.40	10.51
		SO_2	2.22	6.62
		PM	0.46	2.00
		CO	5.04	22.08
FVPS2	VPS2 Fugitive Emissions (4)	VOC	2.23	9.75
FKVPS2	Cooling Tower (4)	VOC	1.36	5.96
VACUUM PIPE STILL NO. 4				
SVPS 4-1	Atmospheric C Heater	VOC	0.18	0.79
		NO_x	8.40	36.79
		CO	5.09	22.29
		SO_2	3.44	15.07
		PM_{10}	0.64	2.80
SVPS 4-2	Atmospheric A Heater	VOC	0.30	1.09
		NO_x	14.28	62.55
		CO	8.65	31.11
		SO_2	5.86	21.01
		PM_{10}	1.08	3.89
SVPS 4-3	Atmospheric B Heater	VOC	0.30	1.09
		NO_x	14.28	62.55
		CO	8.65	31.11
		SO_2	5.86	21.01
		PM_{10}	1.08	3.89
SVPS 4-4	Naphtha Reboiler	VOC	0.15	0.53
		NO_x	3.48	15.24

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	1.85	6.63
		SO_2	1.42	5.12
		PM_{10}	0.26	0.95
SVPS 4-5	Vacuum Heater A	VOC	0.23	0.82
		NO_x	5.40	23.65
		CO	2.86	10.29
		SO_2	2.21	7.95
		PM_{10}	0.41	1.47
SVPS 4-6	Vacuum Heater B	VOC	0.23	0.82
		NO_x	5.40	23.65
		CO	2.86	10.29
		SO_2	2.21	7.95
		PM_{10}	0.41	1.47
SVPS 4-7	Common Heater Stack	VOC	1.06	3.82
		NO_x	39.36	172.40
		CO	23.02	82.80
		SO_2	16.14	57.92
		PM_{10}	2.98	10.72
FVPS4	VPS4 Fugitives (4)	VOC	1.42	6.20
FKVPS4	VPS4 Cooling Tower (4)	VOC	1.11	0.41
FSEPVPS	API Separator	VOC	2.40	10.51
EVPS4	Emergency Flare	VOC	****For Emergency Use Only****	

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 **
LUBE CATALYTIC DEWAXING UNIT				
SLCDU1-1	Charge Heater	SO_2	0.44	1.82
		NO_x	0.99	4.34
		CO	1.39	5.78
		VOC	0.09	0.38
		PM	0.13	0.52
		PM_{10}	0.13	0.52
FLCDU	LCDU Fugitives (4)	VOC	1.55	7.02
SLCDU1-2	Reactor Heater	SO_2	0.98	4.08
		NO_x	2.22	9.72
		CO	3.11	13.96
		VOC	0.20	0.85
		PM	0.28	1.17
		PM_{10}	1.17	1.17
ECRU4	CRU4 Flare	****For Emergency Use Only****		
SULFUR COMPLEX				
STGTU1-1	TGTU No. 1 Incinerator	VOC	0.29	0.88
		NO_x	6.00	18.22
		SO_2	60.56	238.53
		CO	3.68	11.17
		PM_{10}	0.53	1.58
STGTU2-1	TGTU2 No. 2 Incinerator	VOC	0.29	0.88
		NO_x	7.50	22.78
		SO_2	62.61	247.50
		CO	3.68	11.17
		PM_{10}	0.53	1.58

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 **
STGTU1-2	Hot Oil Heater	VOC	0.04	0.09
		NO_x	0.53	1.21
		SO_2	0.19	0.45
		CO	0.15	0.34
		PM_{10}	0.04	0.08
STGTU2-2	Hot Oil Heater	VOC	0.07	0.31
		NO_x	3.12	13.65
		SO_2	0.69	3.02
		PM	0.08	0.34
		PM_{10}	0.07	0.30
FSRU2	SRU No. 2 Fugitives (4)	SO_2	0.01	0.01
		H_2S	0.01	0.01
FSRU3	SRU No. 3 Fugitives (4)	SO_2	0.01	0.03
		H_2S	0.01	0.03
FSRU4	SRU No. 4 Fugitives (4)	VOC	0.01	0.04
		SO_2	0.03	0.13
		H_2S	0.06	0.27
FTGTU1	Tail Gas Treating Unit 1 Fugitives (4)	SO_2	0.01	0.01
		CO	0.01	0.01
		H_2S	0.01	0.01
FTGTU2	Tail Gas Treating Unit 2 Fugitives (4)	VOC	1.52	6.64
		SO_2	0.02	0.11
		H_2S	0.15	0.64
FARU1	No. 1 Amine Regeneration Unit Process Fugitives (4)	VOC	0.06	0.26
		H_2S	0.05	0.22
FARU2	No. 2 Amine Regeneration	VOC	0.05	0.22

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY **
	Unit Process Fugitives (4)	H_2S	0.03	0.14
FARU3	No. 3 Amine Regeneration	VOC	0.08	0.33
	Unit Process Fugitives (4)	H_2S	0.19	0.83
FARU4	No. 4 Amine Regeneration	VOC	0.45	1.99
	Unit Process Fugitives (4)	H_2S	0.30	1.34
EARU1 and 2	ARU 1 and 2 Emergency Flare	****For Emergency Use Only****		
FSWS1	Sour Water Stripper	VOC	0.01	0.01
	Fugitives (4)	NH_3	0.01	0.01
		H_2S	0.05	0.22
TAR01748	Amine Tank	VOC	0.10	0.45
		H_2S	0.01	0.02
STORAGE TANKS				
TST01243	Tank 1243	VOC	0.01	0.01
TML01248	Tank 1248	VOC	13.20	5.87
TML01250	Tank 1250	VOC	6.24	2.88
TST01475	Tank 1475	VOC	1.35	5.95
TML01251	Tank 1251	VOC	6.20	2.34
TML01252	Tank 1252	VOC	6.38	1.88
TML01254	Tank 1254	VOC	6.74	3.71
TST01510	Tank 1510	VOC	2.86	8.16

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 **
TML01525	Tank 1525	VOC	3.24	13.74
TST01601	Tank 1601	VOC	3.15	6.16
TST01617	Tank 1617	VOC	0.01	0.01
TML01663	Tank 1663	VOC	7.46	3.02
TST01679	Tank 1679	VOC	0.31	2.32
TST01691	Tank 1691	VOC	0.31	2.33
TML01698	Tank 1698	VOC	11.91	14.18
TML01699	Tank 1699	VOC	18.46	27.51
TST01728	Tank 1728	VOC	0.70	0.33
TBS01741	Tank 1741	VOC	0.17	0.25
TML01768	Tank 1768	VOC	0.94	1.72
TST01850	Tank 1850	VOC	0.01	0.01
TST01884	Tank 1884	VOC	0.01	0.01
TST01885	Tank 1885	VOC	3.24	9.24
TST01893	Tank 1893	VOC	4.72	1.03
TST01895	Tank 1895	VOC	3.59	9.24
TML01904	Tank 1904	VOC	6.11	1.97
TST01913	Tank 1913	VOC	3.76	7.57

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	Emission Rates * TPY **
TK01918	Tank 1918	VOC	2.44	1.62
TST01920	Tank 1920	VOC	1.09	3.27
TK01930	Tank 1930	VOC	1.16	2.04
TST08731	Tank 8731	VOC	0.31	1.07
TST08737	Tank 8737	VOC	0.31	1.07
TFT12824	Tank 12824	VOC	1.85	0.01
TST19194	Tank 19194	VOC	3.11	5.80
TST021657	Tank 21657	VOC	0.31	2.30
TK2041	Tank 2041	VOC	6.27	4.51
FUGITIVE AND LOADING EMISSIONS				
FLR39	No. 39 Loading Rack (4)	VOC	0.45	0.33
FPDU1	PDU1 Fugitive Emissions (4)	VOC	1.26	5.53
FPDU2	PDU2 Fugitive Emissions (4)	VOC	1.18	5.16
FPH27	PH27 Fugitives (4)	VOC	8.69	38.04
FU-RACK4	No. 4 Load Rack Fugitive Emissions (4)	VOC	0.72	3.15
FLDFM	Landfarm Fugitives	VOC	0.01	0.01
FASTU	ASTU Fugitives (4)	VOC	0.40	1.74
FBSW	BS and W Fugitives (4)	VOC	0.16	0.69

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 **
FLOTA	LOTA Fugitives (4)	VOC	2.01	8.80
FNSGP	NSGP Fugitives (4)	VOC	1.09	4.80
FPH57	PH57 Fugitives (4)	VOC	1.41	6.16
FSCLA	SCLTA Fugitives (4)	VOC	0.06	0.25
FWAGS	WAGS Fugitives (4)	VOC	0.15	0.67
FWSGP	WSGP Fugitives (4)	VOC	1.81	7.93

(1) Emission point identification - either specific equipment designation or emission point number from a plot plan.
(2) Specific point source names. For fugitive sources use area name or fugitive source name.
(3) 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
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.
HCl - hydrogen chloride
H_2SO_4 - sulfuric acid
NO_2 - nitrogen dioxide
C_6H_6 - benzene
H_2S - hydrogen sulfide
NH_3 - anhydrous ammonia

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

(4) Fugitive emissions and cooling tower emissions are an estimate only and should not be considered as a maximum allowable emission rate.

** Compliance with annual emission limits is based on a rolling 12-month period. This requirement affects new equipment when brought on line and all sources affected by this permit within 180 days of the date of this amendment.

* 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__July 26, 2006__