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.

Emission	Source	Air Contaminant	Emission	Rates *
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY**
CATALYTIC REFORM	IING UNIT NO. 4			
SCRU4-1	Combined Heater Stack	SO_2 NO_x CO VOC PM PM_{10} HCI	22.36 72.99 31.92 1.39 4.16 4.16 0.06	81.53 319.72 115.75 5.01 15.12 15.12 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 ₂ SO ₄	0.12	0.028
TAL35141	Fresh Sulfuric Acid Tank	H ₂ SO ₄	0.12	0.028
TAL35142	Spent Sulfuric Acid Tank	VOC H₂SO₄	0.10 0.11	0.10 0.028
TAL35143	Spent Sulfuric Acid Tank	VOC H ₂ SO ₄ 0.11	0.10 0.028	0.10
TAL35144	Fresh Caustic	VOC	0.01	0.01
FALKY4	Fugitives (4)	VOC	3.36	14.76

Emission	Source	Air Contaminant	Contaminant <u>Emission Rates</u>		
Point No. (1)	Name (2)	Name (3)	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 Emergen	cy Use Only**	**	
DELAYED COKER UNIT					
SDCU1-1	Coker Heater No. 1	VOC NO_2 SO_2 PM_{10} CO	0.22 15.04 4.08 0.77 6.17	0.94 65.41 17.74 3.35 26.81	
SDCU1-2	Coker Heater No. 2	VOC NO_2 SO_2 PM_{10} CO	0.22 15.04 4.08 0.77 6.17	0.94 65.41 17.74 3.35 26.81	
FDCU2	Process Fugitives (4)	VOC C_6H_6	4.96 0.01	21.66 0.01	
	Coke Handling Fugitives (4)	PM PM ₁₀	4.52 2.03	4.44 2.00	
FKDCU1	Cooling Tower (4)	VOC C_6H_6	0.42 0.01	1.84 0.01	
TVA01820	Coker Feedstock Tank	VOC	0.03	0.18	
TVA01821	Coker Feedstock Tank	VOC	0.01	0.01	
TDC01825 TDC01830	Refinery Sludges Tank Quench/Cutting Water Tank	VOC VOC	0.01 0.01	0.01 0.06	

Emission	Source	Air	Contaminant	<u>Emissio</u>	n Rates *
Point No. (1)	Name (2)		Name (3)	lb/hr	<u>TPY **</u>
VDCU1	Decoking Drum		VOC	0.01	0.01
EDCU1	Emergency Flare		****For Emergency	Release C	nly****
FLUID CATALYTIC CI	RACKING UNIT NO. 3				
SFCCU3-1	FCCU3 Charge Heater		VOC NO _x SO ₂ PM CO	0.37 16.66 3.59 0.71 5.66	1.20 49.63 15.63 3.10 24.81
SFCCU3-2	FCCU3 CO Boiler/ Scrubber Stack and Bypass		VOC NO _x SO ₂ PM CO	37.20 265.70 340.00 188.60 875.73	163.02 1136.00 1489.20 826.10 3835.70
SCDHDS1	CDHDS1 Heater	NO _x SO ₂ PM CO	VOC 2.30 1.01 0.29 3.21	0.21 10.07 4.22 1.22 13.41	0.88
SCDHydro/CDHDS2	CDHydro/CDHDS2 Heater	NO _x SO ₂ PM CO	VOC 2.70 1.70 0.51 5.67	0.37 11.83 7.45 2.25 24.83	1.63
FCDHDS1	CDHDS1 Fugitive Emissions (4)		VOC	1.78	7.78
FCDHydro/CDHDS2	CDHydro/CDHDS2		VOC	4.31	18.88

Emission	Source	Air Contaminant	ant <u>Emission Rates *</u>	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY **
	Fugitive Emissions (4)			
FFCCU3	FCCU3 Fugitive Emissions (4)	VOC	7.28	31.42
FKFCCU3	Cooling Tower (4)	VOC	3.07	13.43
EFCCU3	Flare	****For Emergency	Jse Only****	
HYDROGEN CRACKI	NG UNIT			
EHCU	HCU Emergency Flare	****For Emergency	Ise Only***	
LITCO	rico Emergency riare	Tor Emergency	Jac Offig	
SHCU1-1	HCU No. 1 Reactor No. 1 Heater	VOC NO _x SO ₂ PM CO	0.18 3.60 1.67 0.32 2.21	0.50 15.77 4.74 0.90 6.27
SHCU1-2	HCU No.1 Reactor No. 2 Heater	VOC NO _x SO ₂ PM CO	0.22 4.56 2.11 0.26 2.79	0.64 19.97 6.01 1.13 7.94
SHCU1-3	Preflash Reboiler	SO ₂ NO _x CO VOC PM	2.85 6.16 3.77 0.30 0.54	8.11 26.98 10.73 0.86 1.53
SHCU1-4	Fract. Reboiler	SO_2	3.34	9.48

Emission	Source	Air Contaminant	Emission I	Rates *
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY **
		NO _x CO VOC PM	7.20 4.41 0.35 0.63	31.54 12.54 1.00 1.79
FHCU1	Fugitive Emissions (4)	VOC	4.35	19.06
HYDROGEN TREATIN	NG UNIT NO. 1			
SHTU1-1	Charge Heater	SO_2 NO_x CO VOC PM_{10}	0.86 4.45 1.11 0.09 0.16	3.77 19.49 4.86 0.39 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 TREATIN	NG UNIT NO. 2			
SHTU2-1	HTU No. 2 Charge Heater	VOC NO_x SO_2 PM CO	0.30 3.24 1.36 0.41 4.54	1.30 14.19 5.96 1.80 19.87
SHTU2-2	HTU No. 2 Reboiler	VOC NO _x SO ₂ PM CO	0.23 2.52 1.06 0.32 3.53	1.01 11.04 4.64 1.40 15.45
FHTU2	Fugitives (4)	VOC	2.61	11.43

Emission	Source	Air Contaminant	Emission	Rates *
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY **
FKHTU2	Cooling Tower (4)	VOC	0.42	0.16
HYDROGEN TREATIN	NG UNIT NO. 3			
SHTU3-1	Charge Heater	SO_2 NO_x CO VOC PM_{10}	1.48 3.61 1.91 0.15 0.27	6.48 15.81 8.37 0.66 1.18
SHTU3-2	Rerun Tower Reboiler	SO_2 NO_x CO VOC PM_{10}	1.23 3.00 1.59 0.13 0.23	5.39 13.14 6.96 0.57 1.01
FHTU3	Fugitives (4)	VOC	3.07	13.46
FKHTU3	Cooling Tower (4)	VOC	0.14	0.05
HYDROGEN TREATIN	NG UNIT NO. 4			
SHTU 4-1	Charge Heater No. 1	VOC NO_x SO_2 PM_{10} CO	0.16 3.28 0.71 0.13 0.94	0.44 9.14 1.98 0.37 2.62
SHTU 4-2	Charge Heater No. 2	VOC NO_x SO_2 PM_{10} CO	0.16 3.28 0.71 0.13 0.94	0.44 9.14 1.98 0.37 2.62
SHTU 4-3	Reboiler Heater	VOC	0.03	0.09

AIR CONTAMINANTS DATA

Emission	Source	Air	Contaminant	Emission	Rates *
Point No. (1)	Name (2)		Name (3)	lb/hr	TPY **
			NO_x SO_2 PM_{10} CO	2.00 0.86 0.38 1.70	6.66 2.86 1.27 5.65
SHTU 4-4	Recycle Gas Heater		VOC NO_x SO_2 PM_{10} CO	0.09 6.17 2.65 1.18 5.23	0.38 27.03 11.60 5.15 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 TREATIN	NG UNIT NO 5				
SHTU5		NO _x SO ₂ PM ₁₀ CO	VOC 2.11 1.52 0.46 4.47	0.33 9.22 6.64 2.00 19.12	1.45
FHTU5	HTU5 Fugitives (4)		VOC	3.50	15.32
FKHTU5	HTU5 Cooling Tower		VOC	0.28	1.23

METHYL PERROLIDONE UNIT NO. 3

AIR CONTAMINANTS DATA

Emission	Source	Air Contaminant	Emission	Rates *
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY **
SMPU3-2	MPU No. 3 Extract Heater	VOC NO _x SO ₂ PM	0.50 13.53 2.50 0.27	2.30 34.69 11.00 1.32
SMPU3-1	MPU No. 3 Refined Oil Mix	VOC NO_{x} SO_{2} PM	0.25 6.01 2.20 0.14	1.10 15.42 9.50 0.78
FMPU3	MPU3 Fugitive Emissions (4)	VOC	0.36	1.58
FKMPU3	Cooling Tower (4)	VOC	1.16	5.06
METHYL PERROLIDO	ONE UNIT NO. 4			
SMPU4	MPU No. 4 Secondary	VOC NO_x SO_2 PM CO	0.37 5.52 1.74 0.51 5.68	1.63 24.18 7.62 2.25 24.89
SMPU4C	MPU No. 4 Extract Heater	VOC NO _x SO ₂ PM CO	0.61 9.07 2.86 0.85 9.34	2.68 39.74 12.52 3.70 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	Source	Air Contaminant	Emission	n Rates *
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY **
SVPS2-1	VPS No. 2 ATM Heaters No. 1 through 3 and	VOC NO _x	1.60 11.62	7.00 50.88
	VPS No. 2 VAC Heaters No. 1 and 2;	SO ₂ PM	10.77 2.21	32.06 9.67
	Common Heater Stack	СО	24.39	106.84
SVPS2-2	VPS No. 2 ATM Heater No. 4	VOC NO_x SO_2 PM CO	0.33 2.40 2.22 0.46 5.04	1.45 10.51 6.62 2.00 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 NO_x CO SO_2 PM_{10}	0.18 8.40 5.09 3.44 0.64	0.79 36.79 22.29 15.07 2.80
SVPS 4-2	Atmospheric A Heater	VOC NO_x CO SO_2 PM_{10}	0.30 14.28 8.65 5.86 1.08	1.09 62.55 31.11 21.01 3.89
SVPS 4-3	Atmospheric B Heater	VOC NO _x CO	0.30 14.28 8.65	1.09 62.55 31.11

AIR CONTAMINANTS DATA

Emission	Source	Air Contan	ninant <u>Emi</u>	ssion Rates *
Point No. (1)	Name (2)	Name	(3) lb/hi	r TPY **
		SO ₂ PM ₁₀	5.80 1.00	
SVPS 4-4	Naphtha Reboiler	$\begin{array}{c} VOC \\ NO_x \\ CO \\ SO_2 \\ PM_{10} \end{array}$	0.19 3.44 1.89 1.42 0.20	8 15.24 5 6.63 2 5.12
SVPS 4-5	Vacuum Heater A	$\begin{array}{c} VOC \\ NO_x \\ CO \\ SO_2 \\ PM_{10} \end{array}$	0.23 5.44 2.80 2.23 0.44	0 23.65 6 10.29 1 7.95
SVPS 4-6	Vacuum Heater B	$\begin{array}{c} VOC \\ NO_x \\ CO \\ SO_2 \\ PM_{10} \end{array}$	0.23 5.44 2.86 2.23 0.44	0 23.65 6 10.29 1 7.95
SVPS 4-7	Common Heater Stack	$\begin{array}{c} VOC \\ NO_x \\ CO \\ SO_2 \\ PM_{10} \end{array}$	1.00 39.30 23.00 16.14 2.98	6 172.40 2 82.80 4 57.92
FVPS4	VPS4 Fugitives (4)	VOC	1.42	2 6.20
FKVPS4	VPS4 Cooling Tower (4)	VOC	1.1	1 0.41
FSEPVPS	API Separator	VOC	2.40	0 10.51
EVPS4	Emergency Flare	VOC	****For Emergency	y Use Only****

LUBE CATALYTIC DEWAXING UNIT

Emission	Source	Air Contaminant	Emission	Rates *
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY **
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
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

Emission	Source Air Contaminant		Emission Rates *		
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY **	
		PM ₁₀	0.04	0.08	
STGTU2-2	Hot Oil Heater	VOC NO_x SO_2 PM PM_{10}	0.07 3.12 0.69 0.08 0.07	0.31 13.65 3.02 0.34 0.30	
FSRU2	SRU No. 2 Fugitives (4)	SO ₂ H ₂ S	0.01 0.01	0.01 0.01	
FSRU3	SRU No. 3 Fugitives (4)	SO ₂ H ₂ S	0.01 0.01	0.03 0.03	
FSRU4	SRU No. 4 Fugitives (4)	VOC SO ₂ H ₂ S	0.01 0.03 0.06	0.04 0.13 0.27	
FTGTU1	Tail Gas Treating Unit 1 Fugitives (4)	SO ₂ CO H ₂ S	0.01 0.01 0.01	0.01 0.01 0.01	
FTGTU2	Tail Gas Treating Unit 2 Fugitives (4)	VOC SO ₂ H ₂ S	1.52 0.02 0.15	6.64 0.11 0.64	
FARU1	No. 1 Amine Regeneration Unit Process Fugitives (4)	VOC H₂S	0.06 0.05	0.26 0.22	
FARU2	No. 2 Amine Regeneration Unit Process Fugitives (4)	VOC H₂S	0.05 0.03	0.22 0.14	
FARU3	No. 3 Amine Regeneration Unit Process Fugitives (4)	VOC H₂S	0.08 0.19	0.33 0.83	

Emission	Source	Air Contaminant	<u>Emission</u>	Emission Rates *	
Point No. (1)	Name (2)	Name (3)	lb/hr	<u>TPY **</u>	
FARU4	No. 4 Amine Regeneration Unit Process Fugitives (4)	VOC H₂S	0.45 0.30	1.99 1.34	
EARU1 and 2	ARU 1 and 2 Emergency Flar	re ****For Emerger	ncy Use Only***	*	
FSWS1	Sour Water Stripper Fugitives (4)	VOC NH₃ H₂S	0.01 0.01 0.05	0.01 0.01 0.22	
TAR01748	Amine Tank	VOC H₂S	0.10 0.01	0.45 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	
TML01525	Tank 1525	VOC	3.24	13.74	
TST01601	Tank 1601	VOC	3.15	6.16	

Emission	Source	Air Contaminant	Emission Rates *	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY **
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
TK01918	Tank 1918	VOC	2.44	1.62
TST01920	Tank 1920	VOC	1.09	3.27

Emission	Source	Air Contaminant	Emission	Emission Rates *	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY **	
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 LOAD	ING 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	
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) SO₂ 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 PM₁₀
 - 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
 - H₂SO₄ sulfuric acid
 - NO₂ nitrogen dioxide
 - C₆H₆ benzene
 - H₂S hydrogen sulfide
 - NH₃ anhydrous ammonia
- (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 operat schedule:	ing
	Hrs/dayDays/weekWeeks/year or Hrs/year_8,760_	
	Dated May 8, 20)06