Emission Sources - Maximum Allowable Emission Rates

Permit Number 56389

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, sources, and related activities. 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	
			lbs/hour	TPY (4)
HTCRU001-S	Atmospheric and Vacuum Tower Heaters (HTCRU001/HTCRU002)	CO	53.12	232.66
		VOC	3.48	15.23
		NOx	38.70	169.50
		PM	4.81	21.05
		PM_{10}	4.81	21.05
		$PM_{2.5}$	4.81	21.05
		SO_2	20.60	90.23
		NH_3	2.90	12.50
HTCRU004	Crude Tower Heater (30 MM Btu/hr)	CO	4.10	18.00
		VOC	0.30	1.20
		NOx	3.00	13.10
		PM	0.40	1.60
		PM_{10}	0.40	1.60
		$PM_{2.5}$	0.40	1.60
		SO_2	1.60	2.76

Emission Sources - Maximum Allowable Emission Rates

HTREF001	Diesel Hydrotreater Heater No. 1 (22.7 MM Btu/hr)	CO	1.90	8.20
		VOC	0.10	0.50
		NOx	1.40	6.00
		PM	2.57	11.24
		PM_{10}	1.05	4.62
		$PM_{2.5}$	0.26	1.15
		SO_2	0.70	3.20
HTREF002	Diesel Hydrotreater Heater No. 2 (20.4 MM Btu/hr)	CO	1.70	7.40
		VOC	0.10	0.50
		NOx	1.20	5.40
		PM	0.20	0.70
		PM_{10}	0.20	0.70
		$PM_{2.5}$	0.20	0.70
		SO_2	0.70	2.90
HTALK001	Alky Heater No. 1 (80 MM Btu/hr)	CO	6.60	28.90
		VOC	0.40	1.90
		NOx	4.80	21.00
		PM	0.60	2.60
		PM_{10}	0.60	2.60
		$PM_{2.5}$	0.60	2.60
		SO_2	2.60	11.20

Emission Sources - Maximum Allowable Emission Rates

HTALK002	Alky Heater No. 2 (80 MM Btu/hr)	CO	6.60	28.90
		VOC	0.40	1.90
		NOx	4.80	21.00
		PM	0.60	2.60
		PM_{10}	0.60	2.60
		$PM_{2.5}$	0.60	2.60
		SO_2	2.60	11.20
FLRFNEAST FLRFNWEST	East and West Flares	CO	326.06	47.24
		VOC	332.29	82.22
		NOx	51.42	7.39
		SO_2	13.88	5.87
		H_2S	0.14	0.04
FLRNEAST/FLRF-NWEST- Natural Gas	East and West Flare Natural Gas	CO	15.97	22.49
		VOC	0.31	0.43
		NO_x	3.50	4.93
		SO_2	1.51	2.13
		H_2S	0.02	0.03
FLRFNEAST FLRFNWEST	East and West Flare Pilots	CO	0.30	1.30
		VOC	0.01	0.02
		NOx	0.06	0.26
		SO_2	0.01	0.01
		H_2S	0.01	0.01
FUFGR001	FGR System Fugitives	VOC	0.71	3.15
FUFLRFN	East/West Flares – Natural Gas Line Fugitives	VOC	0.60	2.60
FUBLR002	Boilerhouse No. 2 Fugitives	VOC (5)	0.58	2.53

Emission Sources - Maximum Allowable Emission Rates

FUBLR003	Boilerhouse No. 3 Fugitives	VOC (5)	0.46	2.00
FUCRU001	Crude Unit Fugitives	VOC (5)	11.22	49.16
FUCRUSO2	Crude Heater SCR Fugitives	NH_3 (5)	0.37	1.60
FUREF002	Distillate/Diesel Hydrotreater Fugitives	VOC (5)	5.68	24.88
FUALK001	Alky No. 1 Fugitives	VOC (5)	3.80	16.64
		HF (5)	0.07	0.31
FUALK002	Alky No. 2 Fugitives	VOC (5)	4.04	17.71
		HF (5)	0.07	0.31
FUALKDEF	Propane Defluorinator Fugitives	VOC (5)	3.08	13.47
FUCRY001	LPG Unit Fugitives	VOC (5)	3.23	14.16
FULTO001	Light Oil Unit Fugitives	VOC (5)	4.30	18.85
FUDOK001	Dock Fugitives	VOC (5)	0.61	2.68
FUDPU001	UDEX Fugitives	VOC (5)	5.19	22.70
FUTRR001	LPG Loading Rack Fugitives	VOC (5)	0.43	1.87
FUTKFBLD	Blender Tank Farm Fugitives	VOC (5)	7.27	31.83
FUTKFDOK	Dock Tank Farm Fugitives	VOC (5)	7.45	32.63
FUTKFP01	No. 1 Pumper Tank Farm Fugitives	VOC (5)	3.56	14.37
FUTKFP02	No. 2 Pumper Tank Farm Fugitives	VOC (5)	4.31	18.88
		H_2S	0.01	0.01
FUPRK001	OSBL Fugitives (Piperack and Drains)	VOC (5)	4.94	21.65
FUTKFRB	Red Bluff Tank Farm Fugitives	VOC (5)	4.77	20.89
FUTKFOTH	Tank Farm (other fugitives)	VOC (5)	8.67	0.91
FUBZSTR	Benzene Stripper Unit Fugitives	VOC (5)	0.25	1.10
		Benzene (5)	0.01	0.01
MSSBZSTR	MSS Emissions from BSU	VOC (5)	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

		Benzene (5)	0.01	0.01
FUGCTCPX	Complex Cooling Tower	VOC (6)	34.05	12.00
		PM	0.57	2.52
		PM_{10}	0.43	1.89
		$PM_{2.5}$	0.01	0.01
FUGCTALK	Alky/Auxiliary Cooling Tower	VOC (6)	9.60	4.40
		PM	0.12	0.53
		PM_{10}	0.10	0.44
		$PM_{2.5}$	0.01	0.01
FUGCTUDX	UDEX Cooling Tower	VOC (6)	4.80	2.20
		PM	0.06	0.24
		PM_{10}	0.05	0.20
		$PM_{2.5}$	0.01	0.01
TKTKF009	Tank 9	VOC	2.01	0.74
TKTKF051	Tank 51	VOC	6.56	3.35
TKTKF065	Tank 65	VOC	0.45	0.82
TKTKF097	Tank 97	VOC	11.83	0.93
TKTKF205	Tank 205	VOC	3.52	2.29
TKTKF210	Tank 210	VOC	23.44	5.96
TKTKF250	Tank 250	VOC	4.73	1.50
TKTKF301	Tank 301	VOC	0.89	0.22
TKTKF309	Tank 309	VOC	0.17	0.02
		NH_3	0.02	0.01
		H_2S	0.04	0.01
TKTKF328	Tank 328	VOC	0.35	0.27

Emission Sources - Maximum Allowable Emission Rates

TKTKF331	Tank 331	VOC	35.83	4.32
TKTKF336	Tank 336	VOC	0.61	0.01
		H_2S	0.03	0.11
TKTKF337	Tank 337	VOC	0.61	0.01
		H_2S	0.05	0.16
TKTKF343	Tank 343	VOC	1.28	2.16
TKTKF345	Tank 345	VOC	0.18	0.70
		NH_3	0.01	0.02
		H_2S	0.01	0.03
TKTKF349	Tank 349	VOC	1.30	1.08
TKTKF350	Tank 350	VOC	1.16	0.90
TKTKF400	Tank 400	VOC	13.68	0.98
TKTKF807	Tank 807	VOC	5.53	1.97
TKTKF813	Tank 813	VOC	4.65	2.91
TKTKF815	Tank 815	VOC	4.44	3.55
TKTKF816	Tank 816	VOC	4.43	5.47
TKTKF817	Tank 817	VOC	9.50	3.99
TKTKF822	Tank 822	VOC	3.43	2.27
TKTKF825	Tank 825	VOC	5.26	5.78
TKTKF830	Tank 830	VOC	7.15	3.61
TKTKF831	Tank 831	VOC	7.15	3.61
TKTKFC1	Corrosion Inhibitor Tank	VOC	1.82	0.01
TKTKFNE	Neutralizer Tank	VOC	1.82	0.01
FEWWS	Wastewater System (7)	VOC	6.16	19.50
		Acetone	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

		NH_3	0.04	0.19
		H_2S	0.52	2.29.0

(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
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
NH_3 - ammonia
HF - hydrogen fluoride
H_2S - hydrogen sulfide
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition and the cooling water circulation flow rates represented in the permit application.
(7) The Wastewater System includes all sources of wastewater at the refinery through the wastewater pipe leaving the site to the off-site wastewater treatment facility.

Date: Draft