EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 76192

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)
HTLSG001	Heater H-3701	VOC	0.30	0.70
		NO_x	1.00	2.10
		CO	0.90	1.80
		PM_{10}	0.30	0.70
		SO_2	1.40	3.10
VTLSG001	Regenerator Scrubber Vent	VOC	0.50	2.20
		SO_2	2.00	8.80
		SO_3	0.10	0.60
		H_2SO_4	0.50	2.00
		PM_{10}	0.80	3.40
		CO	2.60	11.50
VTLSG002	Lockhopper Vent, Sorbent Storage Drum Loading, Sorbent Fines Drum Loading	PM_{10}	0.20	0.70
VTLSG003	Sorbent Fines Drum Unloading	PM_{10}	0.01	0.01
TKTKF827	Tank 827	VOC	7.50	13.00
FULSG001	Fugitive Piping (5)	VOC	2.90	13.50

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INSRU002	No. 2 Sulfur Plant Tail Gas Incinerator	VOC	0.10	0.41
		NO_x	1.36	5.96
		CO	6.16	26.98
		SO_2	35.20	149.76
		$PM_{10}/PM_{2.5}$	0.13	0.56
		H_2S	0.02	0.08
HTLSD001	ULSD Feed Heater (95 MMBtu/hr)	VOC	0.52	2.25
		CO	3.46	15.15
		SO_2	3.00	4.87
		$PM_{10}/PM_{2.5}$	0.72	3.13
		NH_3	0.42	1.84
		H_2S	0.02	0.03
	Typical operation with SCR	NO_x	0.95	-
	SSM operation/SCR bypass	NO_x	3.80	-
	Total Annual NO_x	NO_x	-	4.41
HTLSD002	ULSD Reboiler Heater (39 MMBtu/hr)	VOC	0.22	0.93
		NO_x	0.98	4.28
		CO	1.42	6.22
		SO_2	1.23	2.00
		$PM_{10}/PM_{2.5}$	0.30	1.29
		H_2S	0.01	0.02
FUCTLSD	ULSD Cooling Water Tower	VOC	1.89	8.28
		PM	0.57	0.99
		PM_{10}	0.31	0.81

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		$PM_{2.5}$	0.12	0.30
FULSD001	ULSD Unit Fugitives	VOC	2.56	11.21
		NH_3	0.03	0.13
		H_2S	0.14	0.60
FULSD002	ULSD Fugitives Outside Battery Limits	VOC	0.70	3.05
		H_2S	0.01	0.01
FULSDFDR	No. 3 Flare Header Fugitives	VOC	0.19	0.81
FUSRUA002	Amine Regeneration System Fugitives	VOC	0.37	1.63
		NH_3	0.01	0.05
		H_2S	0.08	0.34
FUSRUS002	Sour Water Stripping System Fugitives	VOC	0.01	0.03
		NH_3	0.01	0.05
		H_2S	0.02	0.10
FUSRU002	No. 2 Sulfur Plant Fugitives	VOC	0.39	1.71
		NH_3	0.06	0.27
		H_2S	0.17	0.76
FLRFN003	No. 3 Flare	VOC	1.72	7.53
		NO_x	0.25	1.10
		CO	1.76	7.71
		SO_2	0.15	0.24
		H_2S	0.01	0.01

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TKTKFSW1	Sour Water Tank No. 1	VOC	1.72	-
		H_2S	0.17	-
TKTKFSW2	Sour Water Tank No. 2	VOC	1.72	-
		H_2S	0.17	-
TKTKFSW1 and TKTKFSW2	Total Annual Sour Water Tanks Nos. 1 and 2	VOC	-	0.51
		H_2S	-	0.05
TKTKFDS1	Diesel Storage Tank No. 1	VOC	20.72	-
TKTKFDS2	Diesel Storage Tank No. 2	VOC	20.72	-
TKTKFDS3	Diesel Storage Tank No. 3	VOC	20.72	-
TKTKFDS1, TKTKFDS2, and TKTKFDS3	Total Annual Diesel Storage Tanks Nos. 1, 2 and 3	VOC	-	14.90

HTBLR012	No. 12 Steam Boiler	VOC	2.16	7.10
		CO	14.56	23.92
		SO_2	12.64	3.51
		$TSP/PM_{10}/PM_{2.5}$	3.00	9.86
		NH_3	1.77	5.81
		H_2S	0.07	0.02
	Typical operation	NO_x	4.00	-

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	with SCR			
	SSM operation/SCR bypass	NO_x	16.00	-
	Total Annual NO_x	NO_x	-	13.90
HTCKR201	No. 2 Coker Heaters (combined stack)	VOC	1.35	5.92
		CO	9.10	19.93
		SO_2	7.90	2.93
		$TSP/PM_{10}/PM_{2.5}$	1.88	8.22
		NH_3	1.11	4.84
		H_2S	0.04	0.02
	Typical operation with SCR	NO_x	2.50	-
	SSM operation/SCR bypass	NO_x	10.00	-
	Total Annual NO_x	NO_x	-	11.58
FUCRU002	No. 2 Crude Unit Fugitives	VOC	11.72	51.41
		NH_3	0.03	0.13
		H_2S	0.09	0.39
FU2CKR003	No. 2 Coker Unit Fugitives	VOC	10.46	45.81
		NH_3	0.03	0.13
		H_2S	0.09	0.39
FUBLR012	Boiler 12 Unit Fugitives	VOC	0.03	2.54
		NH_3	0.01	0.01
TKTKF502	Gasoline Tank #1	VOC	2.81	
TKTKF503	Gasoline Tank #2	VOC	2.81	
TKTKF504	Gasoline Tank #3	VOC	2.51	
TKTKF502 TKTKF503	Total Annual for	VOC	-	8.27

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TKTKF504	Gasoline Tanks 1,2 and 3			
TKTKF505	Reformate Tank #1	VOC	1.57	
TKTKF506	Reformate Tank #2	VOC	1.57	
TKTKF505 TKTKF506	Total Annual for Reformate Tanks 1&2	VOC	-	1.87
TKTKF507	Kerosene Tank #1	VOC	1.73	
TKTKF508	Kerosene Tank #2	VOC	1.73	
TKTKF507 TKTKF508	Total Annual for Kerosene Tanks 1&2	VOC	-	0.37
TKTKF509	FCC Naphtha Tank	VOC	1.68	0.90
TKTKF510	Acid Soluble Oil Tank #1	VOC	2.37	
TKTKF511	Acid Soluble Oil Tank #2	VOC	2.37	
TKTKF510 TKTKF511	Total Annual for Acid Soluble Oil Tanks 1&2	VOC	-	0.25
TKTKF601	Wastewater Tank #1	VOC	0.82	
TKTKF602	Wastewater Tank #2	VOC	0.82	
TKTKF601 TKTKF602	Total Annual for Wastewater Tanks 1&2	VOC	-	3.56
TKTKF603	Sour Water Tank #1	VOC	0.26	-
		H_2S	0.03	-
TKTKF604	Sour Water Tank #2	VOC	0.26	-
		H_2S	0.03	-
TKTKF605	Sour Water Tank #3	VOC	0.26	-
		H_2S	0.03	-

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TKTKF606	Stripped Sour Water Tank #1	VOC	1.74	-
TKTKF607	Stripped Sour Water Tank #2	VOC	1.74	-
TKTKF603 TKTKF604 TKTKF605 TKTKF606 TKTKF607	Total Annuals for Sour Water Tanks	VOC	-	1.16
		H_2S	-	0.12
TKTKF610	Heavy Distillate Tank #1	VOC	0.29	-
TKTKF611	Heavy Distillate Tank #2	VOC	0.29	-
TKTKF612	Heavy Distillate Tank #3	VOC	0.29	-
TKTKF613	Heavy Distillate Tank #4	VOC	0.29	-
TKTKF610 TKTKF611 TKTKF612 TKTKF613	Total Annual for Heavy Distillate Tanks	VOC	-	0.17
TKTKF202	Transfer from Permit 6059	VOC	0.27	0.77
		NH_3	0.01	0.01
		H_2S	0.01	0.01
TKTKF700	Transfer from Permit 6059	VOC	0.01	0.01
TKTKF710	Transfer from Permit 6059	VOC	0.01	0.01
FUCKR004	Coke Handling & Transfer	TSP/PM_{10}	1.27	3.66
		$PM_{2.5}$	0.07	0.19

(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) Exempt Solvent - Those carbon compounds or mixtures of carbon compounds used as solvents which have been excluded from the definition of volatile organic compound.
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

SO_2 - sulfur dioxide
SO_3 - sulfur trioxide
H_2SO_4 - sulfuric acid
PM - particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$
PM10 - particulate matter (PM) 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
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
NH_3 - ammonia
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. Emission values should be used for federal applicability.

Dated June 30, 2011