Emission Sources - Maximum Allowable Emission Rates

Permit Number 23271, PSDTX1416, PSDTX1079M2, and GHGTX145M1

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)
16STK-001	Hydrogen Reformer Stack	CO	14.40	63.07
		NH_3	0.55	2.40
		NO_X	10.80	47.30
		PM	1.30	5.71
		$PM_{2.5}$	1.30	5.71
		PM_{10}	1.30	5.71
		SO_2	0.03	0.11
		VOC	0.94	4.13
16VNT-002	Amine Stripper Vent	CO	7.17	29.88
04FUG	Fugitives (5)	Boric Acid	<0.01	<0.01
		CO	<0.01	<0.01
		NH_3	0.33	1.46
		HCN	<0.01	0.01
		VOC	9.80	42.89
04LRC-006	Railcar Loading Scrubber Emissions	VOC	2.88	0.04
04LRC-006F	Railcar Loading Uncaptured Emissions	VOC	2.88	0.04
04VNT-013	Refining System Vent	NH_3	1.14	1.06
		VOC	0.35	1.55

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04LTR-018	Truck Loading Scrubber Emissions	NH_3	0.84	0.02
		VOC	5.46	0.16
04LTR-018F	Truck Loading Uncaptured Emissions	NH_3	0.22	0.01
		VOC	1.29	0.03
04TVS-023	HMD Blend Tanks A-D Breather Pots	VOC	0.22	0.08
04TFX-025	“F” Crude DCH Tank Breather Pot	NH_3	0.01	0.01
		VOC	11.56	2.86
04TFX-028	“A” Refined Tank Breather Pot	VOC	0.10	0.01
04TFX-029	“B” Refined Tank Breather Pot	VOC	0.10	0.01
Combined emissions from EPNs 04TFX-028 and 04TFX-029 shall not exceed		VOC	0.16	0.02
04FLR-032	Diamine Flare (HMD Flare) (Normal Operation Only)	CO	74.72	70.23
		H_2S	0.19	<0.01
		NH_3	9.39	16.86
		NO_X	25.83	27.46
		SO_2	17.62	0.11
		HCN	0.06	0.13
		VOC	15.71	8.15
04FLR-032	Diamine Flare (HMD Flare) (Maintenance, Startup, and Shutdown [MSS] Activities Only)	CO	5.05	0.13
		NH_3	0.60	0.01
		NO_X	2.86	0.07
		HCN	0.61	0.02
		VOC	10.36	0.28
04TVS-033	Co-Product Storage Tanks A - E Breather Pot	VOC	13.16	0.71

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04TVS-034	Crude HMD Tanks A and B	NH_3	5.05	16.62
		VOC	1.70	2.29
04CWA-035	Cooling Basin (5)	NH_3	0.34	1.49
		VOC	1.79	7.86
04TFX-508	HMD Permeate Tank	NH_3	0.16	0.09
		VOC	0.01	0.01
04TFX-506	Aqueous Waste Tank	NH_3	0.97	0.01
		VOC	0.01	0.01
04LBA-006A	Barge Loading	VOC	0.06	0.02
04LBA-006F	Barge Loading Uncaptured Emissions	VOC	0.06	0.02
16TFX006	MDEA Tank	VOC	0.16	0.01
16TFX005	Dilute MDEA Tank	VOC	0.13	0.01
04LDR022C	Drum Loading of Crude HMI	NH_3	0.11	0.01
		VOC	0.10	0.01
04DGR001	HMD Maintenance Degreaser Area	VOC	0.36	0.33
16VNT-004	Hydrogen Plant Vent (MSS)	CO	466.88	10.55
		VOC	106.54	3.41
04VNT-007	Synthesis Process Vent	NH_3	0.02	0.01
		VOC	0.01	0.01
04VNT-007	Synthesis Process Vent (MSS)	NH_3	6.75	0.01
		VOC	0.02	0.01
04VNT-009	Refining Process Vent (MSS)	NH_3	0.38	0.01
		VOC	0.01	0.01
04TANK-OPEN	Tank Depressure (MSS)	NH_3	6.31	0.01

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		HCN	0.01	<0.01
		VOC	2.23	0.02
04FUG-MSS	Fugitive Emissions (MSS) (5)	NH_3	8.80	0.47
		PM	0.08	<0.01
		$PM_{2.5}$	0.08	<0.01
		PM_{10}	0.08	<0.01
		HCN	0.11	<0.01
		VOC	15.52	4.63
		HCl	0.10	0.43
04SWT-002	Flushing N112 Unloading Line to Sump	VOC	0.01	0.01
11LTR067AF	Waste Organics Truck Loading (WOTL) Uncaptured Emissions	VOC	0.80	<0.01
		HCN	0.01	<0.01
04LDR-022D	Drum Loading Refined HMI	VOC	0.09	0.01
04LDR-036B	Drum Loading Crude MGN	VOC	0.01	0.01
04LDR-037B	Drum Loading Refined MGN	VOC	0.01	0.01
04LDR-025B	Drum Loading Crude DCH	NH_3	0.01	0.01
		VOC	0.07	0.01
04LDR-020B	Drum Loading Refined DCH	VOC	0.01	0.01
04LDR-028B	Drum Loading Refined HMD	VOC	0.02	0.01
04LDR-033D	Drum Loading BHMT	VOC	0.02	0.01
04SEP-001	Oil/Sand Separator	NH_3	0.36	0.11
		VOC	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

11BAG311	Wastewater Baghouse	PM	0.04	0.17
		PM_{10}	0.04	0.17
		$PM_{2.5}$	0.04	0.17
11BAGACID	Wastewater Baghouse	PM	0.04	0.17
		PM_{10}	0.04	0.17
		$PM_{2.5}$	0.04	0.17
11BAG311 & 11BAGACID	Wastewater Baghouses	VOC	0.02	0.11
11BAGFLTR	Wastewater Baghouse	PM	0.14	0.60
		$PM_{2.5}$	0.14	0.60
		PM_{10}	0.14	0.60
04TFX022B	Refined DCH Tank	VOC	0.71	0.10
04TFXACID	Acid Cleaning Storage Tank	VOC	0.01	0.01
		HCL	0.03	0.01

(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) CO - carbon monoxide
H_2S - hydrogen sulfide
NH_3 - ammonia
NO_X - total oxides of nitrogen
PM - particulate matter, suspended in the atmosphere, including PM_{10}
$PM_{2.5}$ particulate matter equal to or less than 2.5 microns in diameter
PM_{10} - particulate matter equal to or less than 10 microns in diameter
SO_2 - sulfur dioxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
HCl - hydrochloric acid
HCN - hydrogen cyanide, see Note (6)
(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) For Maximum Allowable Emission Rate Tables (MAERT) dated March 11, 2016 and earlier, the HCN allowable emission rate was included with the VOC allowable emission rate limit. For subsequent amendments, modified sources emitting HCN shall represent this rate as a separate HCN limit for this

Emission Sources - Maximum Allowable Emission Rates

emission point. During the next renewal application, an amendment application shall be submitted to separate all remaining HCN emissions still included in the VOC limit and included them as separate HCN limits by EPN in the MAERT. The VOC emission rate limit shall be reduced accordingly when HCN is reported as a separate limit. This note shall be deleted once all HCN emission rate limits are shown separately.

Date: May 31, 2019