Emission Sources - Maximum Allowable Emission Rates

Permit Number 90163

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)
1	TDU Dryer (32 MMBtu/hr)	PM_{10}	0.24	1.04
		$PM_{2.5}$	0.24	1.04
		SO_2	0.02	0.08
		NO_x	3.14	13.74
		CO	2.64	11.54
		VOC	0.17	0.76
		HAP	0.06	0.32
7	TDU Steam Boiler (8 MMBtu/hr Natural Gas fired)	PM_{10}	0.06	0.26
		$PM_{2.5}$	0.06	0.26
		SO_2	0.01	0.02
		NO_x	0.78	3.44
		CO	0.66	2.89
		VOC	0.04	0.19
		HAP	0.01	0.06
8A	TDU Conveyor	PM_{10}	0.02	0.03
		$PM_{2.5}$	0.01	0.01
8B	TDU Transfer Points (Desorbed Solids Bin)	PM	0.15	0.29
		$PM_{2.5}$	0.02	0.04
BH/Venturi	TDU Baghouse/Venturi Scrubber	PM_{10}	0.09	0.38
		$PM_{2.5}$	0.09	0.38
		VOC	0.20	0.37
		H_2SO_4	0.01	0.01
		NH_3	0.01	0.03
		HNO_3	0.01	0.01

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		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.03
		HAP	0.20	0.37 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.01	
CT	TDU Cooling Tower	PM	0.62	2.72
		PM_{10}	0.62	2.72
		$PM_{2.5}$	0.62	2.72
BOX-1	TDU Centrifuge Cake Rolloff	VOC	4.23	1.76
		HAP	4.23	0.04 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.03	
		NH_3	0.15	0.06
		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.01
BOX-1B	TDU Centrifuge Cake Rolloff	VOC	4.23	1.76
		HAP	4.23	0.04 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.03	
		NH_3	0.15	0.06
		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.01
BOX-2	TDU Gas Treatment Cake Box	VOC	0.13	0.42
		HAP	0.13	0.01 (8)

Emission Sources - Maximum Allowable Emission Rates

		H_2S	0.01	
		HF	0.01	
		HCl	0.01	
		NH_3	0.01	0.01
		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.01
SHAKER	TDU Shaker Box	VOC	0.17	0.14
		HAP	0.17	0.01 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.01	
		NH_3	0.01	0.01
		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.01
BIN-FUG	Feed Bin Fugitives (5)	VOC	10.18	18.64
		HAP	10.18	0.45 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.03	
		NH_3	0.18	0.35
		HNO_3	0.01	0.03
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.02
CARBFLT1	Carbon Canister Set 1	VOC	0.01	0.01
		HAP	0.01	0.013 (8)
		H_2S	0.01	
		HF	0.01	

Emission Sources - Maximum Allowable Emission Rates

		HCl	0.01	
		NH_3	0.01	0.01
		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.01
CARBFLT2	Carbon Canister Set 2	VOC	0.01	0.01
		HAP	0.01	0.01 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.01	
		NH_3	0.01	0.01
		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.01
CARBFLT3	Carbon Canister Set 3	VOC	0.15	0.01
		HAP	0.15	0.01 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.01	
		NH_3	0.01	0.01
		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.01
FUG-TDU	TDU Piping Fugitives (5)	VOC	0.16	0.18
		HAP	0.03	0.02 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.01	
		NH_3	0.024	0.10

Emission Sources - Maximum Allowable Emission Rates

		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.04
PROD-LOAD	TDU Product Loading	VOC	0.36	0.01
		HAP	0.36	0.01 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.01	
		NH_3	0.05	0.01
		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.02	0.01
FUG-2	CKD Pile	PM	0.01	0.05
		PM_{10}	0.01	0.05
		$PM_{2.5}$	0.01	0.05
BH5	Stabilization Building 2 Bins Dust Collector	PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
BH6	Stabilization Building 2 Bins Dust Collector	PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
FUG-1	Stabilization Building 2 Process Fugitives (5)	PM_{10}	0.02	0.02
		$PM_{2.5}$	0.01	0.01
		VOC	15.08	(6)
		HAP	15.08	(7) (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.42	
		NH_3	0.36	2.90
		HNO_3	0.12	1.11
		H_3PO_4	0.03	0.42

Emission Sources - Maximum Allowable Emission Rates

		H_2O_2	0.02	0.15
BH1	Stabilization Building 2 Pans Baghouse	PM_{10}	2.14	3.43
		$PM_{2.5}$	2.14	3.43
		VOC	135.76	(6)
		HAP	135.76	(7) (8)
		H_2S	0.01	
		HF	0.11	
		HCl	3.77	
		NH_3	3.25	2.61
		HNO_3	1.09	1.00
		H_3PO_4	0.24	0.38
		H_2O_2	0.16	0.13
BH2	Stabilization Building 3 Pans Baghouse	PM_{10}	2.14	3.43
		$PM_{2.5}$	2.14	3.43
		VOC	122.74	(6)
		HAP	122.74	(7) (8)
		H_2S	0.01	
		HF	0.02	
		HCl	2.11	
		NH_3	2.38	2.18
		HNO_3	0.60	0.84
		H_3PO_4	0.13	0.21
		H_2O_2	0.14	0.11
BH7	Stabilization Building 3 Pans Baghouse	PM_{10}	2.14	3.43
		$PM_{2.5}$	2.14	3.43
		VOC	122.74	(6)
		HAP	122.74	(7) (8)
		H_2S	0.01	
		HF	0.18	

Emission Sources - Maximum Allowable Emission Rates

		HCl	2.11	
		NH_3	2.38	2.18
		HNO_3	0.60	0.84
		H_3PO_4	0.13	0.21
		H_2O_2	0.14	0.11
FUG-3	Stabilization Building 3 Process Fugitives (5)	PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
		VOC	27.28	(6)
		HAP	27.28	(7) (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.47	
		NH_3	0.53	0.49
		HNO_3	0.13	0.19
		H_3PO_4	0.03	0.05
		H_2O_2	0.03	0.02
	Stabilization Buildings Annual Emission Caps for EPNs FUG1, BH1, BH2, BH7 and FUG-3	**VOC**		**22.23**
		HAP		**4.38 (8)**
BH3	Stabilization Building 3 CKD Bin Baghouse	PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
BH8	Stabilization Building 3 CKD Bin Baghouse	PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
BH4	Catalyst Building Baghouse	PM_{10}	1.71	5.49
		$PM_{2.5}$	1.71	5.49
		HAP	0.17	0.55
CAT-FUG1	Drum Loading Fugitives 1 (from Catalyst Building) (5)	PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
		HAP	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

CAT-FUG2	Drum Loading Fugitives 2 (from outside) (5)	PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
		HAP	0.01	0.01
TO	Thermal Oxidizer (15 MMBtu/hr)	PM_{10}	0.12	0.51
		$PM_{2.5}$	0.12	0.51
		SO_2	54.80	26.27
		NO_x	25.43	28.53
		CO	1.24	5.41
		VOC	6.10	1.56
		HAP	120.8	9.11 (8)
		H_2S	0.01	
		Total As (9)	10.70	
		HF	40.40	
		HCl	107.00	
		H_2SO_4	0.01	0.03
		Total Bromine	98.60	98.64
		Total Iodine	44.30	14.77
		NH_3	0.17	0.12
		HNO_3	17.5	8.99
		H_3PO_4	2.40	4.76
		H_2O_2	0.06	0.11

Emission Sources - Maximum Allowable Emission Rates

Maintenance, Startup, and Shutdown (MSS)				
TANK-MSS	Tank Opening MSS	VOC	3.25	0.07
		HAP	0.13	0.004
EQUIP-MSS	Equipment Purging and Opening	VOC	17.36	0.04
		HAP	3.49	0.01 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.01	
		NH_3	0.01	0.01
		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.01
TPAINT-MSS	TDX Sitewide Painting	PM_{10}	0.49	0.05
		$PM_{2.5}$	0.49	0.05
		VOC	16.65	1.66
		HAP	0.40	0.04
UPAINT-MSS	USET Sitewide Painting	PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
		VOC	18.77	0.19
		HAP	0.80	0.01
TBLAST-MSS	TDX Sitewide Abrasive Blasting	PM_{10}	0.17	0.01
		$PM_{2.5}$	0.03	0.01
UBLAST-MSS	USET Sitewide Abrasive Blasting	PM_{10}	0.34	0.01
		$PM_{2.5}$	0.05	0.01

Emission Sources - Maximum Allowable Emission Rates

TO-SRTMSS	Thermal Oxidizer Startup	PM_{10}	0.06	0.01
		$PM_{2.5}$	0.06	0.01
		SO_2	0.01	0.01
		NO_x	0.45	0.01
		CO	3.09	0.06
		VOC	0.04	0.01
		HAP	0.01	0.01
TO-VNTMSS	Thermal Oxidizer MSS Venting	VOC	8.55	0.03
		HAP	8.21	0.03
		H_2S	0.01	
		NH_3	0.18	0.01
		HNO_3	5.49	0.01
		H_3PO_4	0.22	0.01
		H_2O_2	0.01	0.01
DWELL-MSS	Deepwell Maintenance	VOC	2.85	0.04
		HAP	2.85	0.04 (8)
		H_2S	0.01	
		HF	0.01	
		HCl	0.01	
		NH_3	0.01	0.01
		HNO_3	0.01	0.01
		H_3PO_4	0.01	0.01
		H_2O_2	0.01	0.01
FLTCHG-MSS	Baghouse Filter Changes	PM_{10}	0.08	0.01
		$PM_{2.5}$	0.01	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) 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

Emission Sources - Maximum Allowable Emission Rates

$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
HAP - hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
H_2S - hydrogen sulfide (delisted HAP)
As - arsenic (HAP)
H_2SO_4 - sulfuric acid
NH_3 - ammonia
HNO_3 - nitric acid
H_3PO_4 - phosphoric acid
H_2O_2 - hydrogen peroxide
HCl - hydrogen chloride (HAP)
HF - hydrogen fluoride (HAP)

(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) The annual VOC emissions from this source are included in the Stabilization Buildings Annual VOC Emission Cap of 22.23 tpy.
(7) The annual H_2S, HF, and HCl emissions from this source are included in the Stabilization Buildings Annual HAP cap of 4.38 tpy.
(8) Emission limit applies to the sum of total HAP emissions (including but not limited to HF and HCl) and H2S emissions.
(9) Total Arsenic includes elemental arsenic and arsenic compounds.

Date: December 29, 2016