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 Natural Gas fired)	PM	0.24	1.04
		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	0.26
7	TDU Steam Boiler (8 MMBtu/hr Natural Gas fired)	PM	0.06	0.26
		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	<0.01	0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		HAP	<0.01	<0.01
8B	TDU Transfer Points (Desorbed Solids Bin)	PM	0.03	0.06
		PM_{10}	0.02	0.03
		$PM_{2.5}$	<0.01	<0.01
		HAP	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

CKD-T1	Truck CKD Offloading - Drop Point	PM	0.01	0.09
		PM_{10}	<0.01	0.04
		$PM_{2.5}$	<0.01	<0.01
CKD-T2	Transfer Outdoor CKD to Partially Enclosed CKD Stockpile - Drop Point	PM	<0.01	0.04
		PM_{10}	<0.01	0.02
		$PM_{2.5}$	<0.01	<0.01
TM-T1	Truck Clay Offloading - Drop Point	PM	0.08	0.35
		PM_{10}	0.04	0.17
		$PM_{2.5}$	<0.01	0.03
BH/Venturi	TDU Cooling Baghouse/Venturi Scrubber	PM	0.09	0.38
		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	<0.01
		HNO_3	<0.01	<0.01
		H_3PO_4	<0.01	<0.01
		H_2O_2	<0.01	<0.01
		H_2S	<0.01	<0.01
		HAP	0.20	0.37 (8)
		HF	<0.01	
		HCl	<0.01	
CT	TDU Cooling Tower	PM	0.10	0.44
		PM_{10}	0.05	0.22
		$PM_{2.5}$	<0.01	<0.01
		VOC	0.06 (5)	0.25 (5)
		H_2S	<0.01	0.03
		HF	<0.01	0.04
		HCl	0.06	0.24

Emission Sources - Maximum Allowable Emission Rates

		NH_3	0.06	0.25
		HNO_3	0.05	0.22
		H_3PO_4	<0.01	<0.01
		H_2O_2	0.04	0.17
		H_2SO_4	<0.01	<0.01
BOX-1	TDU Centrifuge Cake Rolloff 1	VOC	5.57	0.83
		HAP	1.99	0.02 (8)
		HF	<0.01	
		HCl	0.03	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		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 1B	VOC	5.57	0.83
		HAP	1.99	0.02 (8)
		HF	<0.01	
		HCl	0.03	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		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-1C	TDU Centrifuge Cake Rolloff 1C	VOC	5.57	0.83
		HAP	1.99	0.02 (8)
		HF	<0.01	
		HCl	0.03	

Emission Sources - Maximum Allowable Emission Rates

		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		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	0.17	0.20
		HAP	0.06	<0.01 (8)
		HF	<0.01	
		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	<0.01	0.02
		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	0.22	0.07
		HAP	0.08	<0.01 (8)
		HF	<0.01	
		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<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
DUTOTE	Tote Tank	VOC	<0.01	<0.01
		HAP	<0.01	<0.01 (8)
		HF	<0.01	

Emission Sources - Maximum Allowable Emission Rates

		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<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	6.71	4.28
		HAP	2.40	0.09 (8)
		HF	<0.01	
		HCl	0.03	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	0.18	0.33
		HNO_3	<0.01	0.01
		H_3PO_4	<0.01	<0.01
		H_2O_2	<0.01	0.02
FXBIN-FUG	Fixed Bin Fugitives	VOC	4.58	3.07
		HAP	1.64	0.06 (8)
		HF	<0.01	
		HCl	0.02	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	0.13	0.24
		HNO_3	<0.01	<0.01
		H_3PO_4	<0.01	<0.01
		H_2O_2	<0.01	0.01
CARBFLT1	Carbon Adsorption System 1	VOC	<0.01	0.07
		HAP	<0.01	0.07 (8)

Emission Sources - Maximum Allowable Emission Rates

		HF	<0.01	
		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<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 Adsorption System 2	VOC	<0.01	0.06
		HAP	<0.01	0.06 (8)
		HF	<0.01	
		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<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 Adsorption System 3	VOC	7.02	0.13
		HAP	7.02	0.13 (8)
		HF	<0.01	
		HCl	3.23	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	0.33	<0.01
		HNO_3	0.44	0.16
		H_3PO_4	<0.01	<0.01
		H_2O_2	<0.01	<0.01
	TDU Piping Fugitives (5)	VOC	0.16	0.70

Emission Sources - Maximum Allowable Emission Rates

		HAP	0.03	0.14 (8)
		HF	<0.01	
		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	0.02	0.42
		HNO_3	<0.01	0.01
		H_3PO_4	<0.01	<0.01
		H_2O_2	<0.01	0.17
FUG-DU	DU Piping Fugitives (5)	VOC	0.06	0.25
		HAP	0.02	0.09 (8)
		HF	<0.01	
		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	<0.01	0.15
		HNO_3	<0.01	<0.01
		H_3PO_4	<0.01	<0.01
		H_2O_2	<0.01	0.06
PROD-LOAD	Reclaimed Oil Product Loadout	VOC	0.36	0.06
		HAP	0.36	0.06 (8)
		HF	<0.01	
		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	0.05	0.03
		HNO_3	<0.01	<0.01
		H_3PO_4	<0.01	<0.01
		H_2O_2	0.02	0.01

Emission Sources - Maximum Allowable Emission Rates

PROD-LOAD2	Distillate Product Loadout	VOC	1.56	0.57
		HAP	<0.01	<0.01
FUG-2	Cement Kiln Dust Stock Pile	PM	0.02	0.09
		PM_{10}	0.01	0.05
		$PM_{2.5}$	<0.01	<0.01
FUG-1	Stabilization Building 2 Process Fugitives (5)	PM	0.04	0.21
		PM_{10}	0.04	0.21
		$PM_{2.5}$	<0.01	<0.01
		VOC	2.46	(6)
		HAP	2.46	(7) (8)
		HF	<0.01	
		HCl	0.21	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	0.18	0.14
		HNO_3	0.14	0.05
		H_3PO_4	<0.01	<0.01
		H_2O_2	<0.01	<0.01
BH1	Stabilization Building 2 Baghouse	PM	2.14	4.50
		PM_{10}	2.14	4.50
		$PM_{2.5}$	2.14	4.50
		VOC	46.76	(6)
		HAP	46.78	(7) (8)
		HF	<0.01	
		HCl	3.98	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	3.43	2.75
		HNO_3	2.69	0.96

Emission Sources - Maximum Allowable Emission Rates

		H_3PO_4	0.01	0.02
		H_2O_2	0.18	0.14
BH2	Stabilization Building 3 Baghouse	PM	2.14	4.50
		PM_{10}	2.14	4.50
		$PM_{2.5}$	2.14	4.50
		VOC	37.30	(6)
		HAP	37.32	(7) (8)
		HF	<0.01	
		HCl	2.22	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	2.51	2.30
		HNO_3	2.26	0.80
		H_3PO_4	<0.01	0.01
		H_2O_2	0.15	0.12
BH7	Stabilization Building 3 Baghouse	PM	2.14	4.50
		PM_{10}	2.14	4.50
		$PM_{2.5}$	2.14	4.50
		VOC	37.30	(6)
		HAP	37.32	(7) (8)
		HF	<0.01	
		HCl	2.22	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	2.51	2.30
		HNO_3	2.26	0.80
		H_3PO_4	<0.01	0.01
		H_2O_2	0.15	0.12

Emission Sources - Maximum Allowable Emission Rates

FUG-3	Stabilization Building 3 Process Fugitives (5)	PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	<0.01
		VOC	3.93	(6)
		HAP	3.93	(7) (8)
		HF	<0.01	
		HCl	0.23	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	0.26	0.24
		HNO_3	0.24	0.08
		H_3PO_4	<0.01	<0.01
		H_2O_2	0.02	0.01
FUG-1, BH1, BH2, BH7, and FUG-3	Stabilization Buildings Annual Emission Caps	VOC	--	6.13
		HAP	--	3.65 (8)
BH4	Catalyst Building Baghouse	PM	1.71	5.49
		PM_{10}	1.71	5.49
		$PM_{2.5}$	1.71	5.49
		HAP	0.02	0.05
CAT-FUG1	Drum Loading Fugitives 1 (from Catalyst Building) (5)	PM	<0.01	0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		HAP	<0.01	<0.01
CAT-FUG2	Drum Loading Fugitives 2 (from outside) (5)	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		HAP	<0.01	<0.01
TO	Thermal Oxidizer - Routine (15	PM	0.11	0.49
		PM_{10}	0.11	0.49

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	0.11	0.49
		SO_2	16.80	38.63
		NO_x	20.63	35.34
		CO	1.24	5.41
		VOC	2.21	2.05
		HAP	0.76	0.34 (8)
		Total As (9)	3.95	
		HF	15.61	
		HCl	34.57	
		H_2S	<0.01	<0.01
		H_2SO_4	0.03	<0.01
		HBr	19.04	34.76
		Total Iodine	18.20	33.43
		NH_3	0.18	0.66
		HNO_3	10.63	32.42
		H_3PO_4	2.80	8.77
		H_2O_2	0.10	0.31
Landfill	Landfill Emissions	VOC	0.32	1.41
		HAP	0.17	0.73 (8)
		HF	<0.01	
		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	<0.01	0.03
		HNO_3	<0.01	0.02
		H_3PO_4	<0.01	<0.01
		H_2O_2	<0.01	<0.01
TDU-TP1	Receiving Bins – Drop Point	PM	<0.01	0.02
		PM_{10}	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	<0.01	<0.01
		HAP	<0.01	0.02
TDU-TP2	Fixed Bins – Drop Point	PM	<0.01	0.02
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		HAP	<0.01	0.02
TDU-TP3	TDU Dryer – Drop Point	PM	<0.01	0.02
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		HAP	<0.01	0.02
LANDFILLTP	Landfill – Drop Point	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		HAP	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

Maintenance, Startup, and Shutdown (MSS)

TANK-MSS	Tank MSS	VOC	3.95	0.15
WWTANK-MSS	Wastewater Tank MSS	VOC	0.43	0.01
		HAP	0.43	0.01 (8)
		HF	<0.01	
		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	0.31	<0.01
		HNO_3	<0.01	<0.01
		H_3PO_4	<0.01	<0.01
		H_2O_2	<0.01	<0.01
CARB-VNTMSS	Carbon Vent MSS	VOC	1.89	0.03
		HAP	1.89	0.03 (8)
		HF	<0.01	
		HCl	0.02	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<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
EQUIP-MSS	Equipment Purging and Opening	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		VOC	3.27	0.04
		HAP	0.44	0.01 (8)
		HF	<0.01	
		HCl	<0.01	

Emission Sources - Maximum Allowable Emission Rates

H_2S <0.01 <0.01				
		H_2SO_4	<0.01	<0.01
TPAINT-MSS	TDX Sitewide Painting	NH_3	0.05	0.02
		HNO_3	<0.01	<0.01
		H_3PO_4	<0.01	<0.01
		H_2O_2	0.02	<0.01
		PM	0.49	0.05
		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	<0.01	<0.01
TBLAST-MSS	TDX Sitewide Abrasive Blasting	PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		VOC	18.77	0.19
		HAP	0.80	<0.01
		PM	1.43	0.01
		PM_{10}	0.17	<0.01
		$PM_{2.5}$	0.03	<0.01
UBLAST-MSS	USET Sitewide Abrasive Blasting	PM	2.86	0.01
		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	0.06	<0.01
		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	VOC	0.80	<0.01
		HAP	0.80	<0.01
		HF	<0.01	
		HCl	4.04	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	0.04	<0.01
		HNO_3	0.63	<0.01
		H_3PO_4	0.03	<0.01
		H_2O_2	<0.01	<0.01
DWELL-MSS	Frac Tank - Deepwell Maintenance	VOC	2.39	0.01
		HAP	2.39	0.01 (8)
		HF	<0.01	
		HCl	<0.01	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<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	0.17	<0.01

Emission Sources - Maximum Allowable Emission Rates

		PM_{10}	0.08	<0.01
		$PM_{2.5}$	0.01	<0.01
		HAP	<0.01	<0.01
Washout	Washout	VOC	73.71	14.61
		HAP	28.71	2.43 (8)
		HF	0.06	
		HCl	0.12	
		H_2S	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		NH_3	2.03	0.77
		HNO_3	1.53	0.16
		H_3PO_4	0.01	<0.01
		H_2O_2	0.21	0.02

(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
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 6.13 tpy.
(7) The annual H_2S, HF, and HCl emissions from this source are included in the Stabilization Buildings Annual HAP cap of 3.65 tpy.
(8) Emission limit applies to the sum of total HAP emissions (including but not limited to HF and HCl).
(9) Total Arsenic includes elemental arsenic and arsenic compounds.

Date: TBD