Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 146425 and PSDTX1518

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)
O_FAFO1	Pyrolysis Furnace A	CO	165.16	—
		NO_X	25.20	—
		PM	4.32	—
		PM_{10}	4.32	—
		$PM_{2.5}$	4.32	—
		VOC	3.12	—
		SO_2	0.34	—
		H_2SO_4	0.03	—
		NH_3	2.51	—
O_FBFO	Pyrolysis Furnace B	CO	165.16	—
		NO_X	25.20	—
		PM	4.32	—
		PM_{10}	4.32	—
		$PM_{2.5}$	4.32	—
		VOC	3.12	—
		SO_2	0.34	—
		H_2SO_4	0.03	—
		NH_3	2.51	—

Emission Sources - Maximum Allowable Emission Rates

O_FCF01	Pyrolysis Furnace C	CO	165.16	—
		NO_X	25.20	—
		PM	4.32	—
		PM_{10}	4.32	—
		$PM_{2.5}$	4.32	—
		VOC	3.12	—
		SO_2	0.34	—
		H_2SO_4	0.03	—
		NH_3	2.51	—
O_FDF01	Pyrolysis Furnace D	CO	165.16	—
		NO_X	25.20	—
		PM	4.32	—
		PM_{10}	4.32	—
		$PM_{2.5}$	4.32	—
		VOC	3.12	—
		SO_2	0.34	—
		H_2SO_4	0.03	—
		NH_3	2.51	—
O_FEF01	Pyrolysis Furnace E	CO	165.16	—
		NO_X	25.20	—
		PM	4.32	—
		PM_{10}	4.32	—
		$PM_{2.5}$	4.32	—
		VOC	3.12	—
		SO_2	0.34	—
		H_2SO_4	0.03	—
		NH_3	2.51	—
O_FFF01	Pyrolysis Furnace F	CO	165.16	—
		NO_X	25.20	—

Emission Sources - Maximum Allowable Emission Rates

		PM	4.32	—
		PM_{10}	4.32	—
		$PM_{2.5}$	4.32	—
		VOC	3.12	—
		SO_2	0.34	—
		H_2SO_4	0.03	—
		NH_3	2.51	—
O_FGF01	Pyrolysis Furnace G	CO	165.16	—
		NO_X	25.20	—
		PM	4.32	—
		PM_{10}	4.32	—
		$PM_{2.5}$	4.32	—
		VOC	3.12	—
		SO_2	0.34	—
		H_2SO_4	0.03	—
		NH_3	2.51	—
O_FHF01	Pyrolysis Furnace H	CO	165.16	—
		NO_X	25.20	—
		PM	4.32	—
		PM_{10}	4.32	—
		$PM_{2.5}$	4.32	—
		VOC	3.12	—
		SO_2	0.34	—
		H_2SO_4	0.03	—
		NH_3	2.51	—
O_F_CAP	Pyrolysis Furnaces Cap	CO	651.06	637.87
		NO_X	53.70	196.22
		NO_X Shakedown	53.70	184.22
		PM	—	92.85

Emission Sources - Maximum Allowable Emission Rates

		PM_{10}	—	92.85
		$PM_{2.5}$	—	92.85
		VOC	—	67.20
		SO_2	—	7.33
		H_2SO_4	—	0.67
		NH_3	—	77.46
UFFLARE01	Multi-Point Ground Flare (Routine)	CO	165.05	—
		NO_X	107.92	—
		VOC	500.00	—
		SO_2	22.00	—
UFFLARE01	Multi-Point Ground Flare (Planned MSS, alternate operating mode and Shakedown Period) (8)	CO	4115.51	—
		NO_X	2690.91	—
		VOC	5944.74	—
		SO_2	395.28	—
UFFLARE02	Shared Elevated Flare (Routine)	CO	162.03	—
		NO_X	31.8	—
		VOC	300.00	—
		SO_2	98.00	—
UFFLARE02	Shared Elevated Flare (Planned MSS, alternate operating mode and Shakedown Period) (8)	CO	340.99	—
		NO_X	66.92	—
		VOC	916.17	—
		SO_2	98.00	—
CAPUFFLR	Shared Elevated and Ground Flare Cap	CO	—	295.13
		NO_X	—	148.00
		VOC	—	320.06
		SO_2	—	23.60
CAPUFFLR	Shared Elevated and Ground Flare Cap (Shakedown period)	NO_X	—	192.67
		CO	—	374.11
		VOC	—	422.30

Emission Sources - Maximum Allowable Emission Rates

		SO_2	—	23.60
O_FUG	Olefins Unit Fugitives (5)	VOC	12.74	55.81
		VOC (9)	1.11	2.40
		NH_3	2.00	8.76
		CO	0.04	0.16
		H_2SO_4	< 0.01	0.02
		H_2S	< 0.01	0.01
		NaOH	< 0.01	< 0.01
O-REGEN	Olefins Regeneration Vent	VOC	0.18	0.06
		CO	10.61	1.91
GFFLARE01	MEG Elevated Flare (Routine)	CO	189.44	—
		NO_X	37.18	—
		VOC	38.59	—
		SO_2	22.74	—
		Total Halide	0.92	—
GFFLARE01	MEG Elevated Flare (Planned MSS and Shakedown Period)	CO	307.90	—
		NO_X	60.42	—
		VOC	214.93	—
		SO_2	22.74	—
		Total Halide	0.92	—
GFFLARE01	MEG Elevated Flare	CO	—	88.60
		NO_X	—	17.39
		VOC	—-	17.37
		SO_2	—	0.43
		Total Halide	—	0.40
GFFLARE01	MEG Elevated Flare (Shakedown Period)	CO	—	103.95
		NO_X	—	20.40
		VOC	—	21.37
		SO_2	—	0.43

Emission Sources - Maximum Allowable Emission Rates

		Total Halide	—	0.40
GBX02	MEG Thermal Oxidizer	NO_X	8.00	25.79
		CO	11.06	35.65
		VOC	21.10	41.43
		SO_2	1.75	0.38
		PM	1.00	3.23
		PM_{10}	1.00	3.23
		$PM_{2.5}$	1.00	3.23
		Total Halide	0.92	4.04
		NH_3	0.04	< 0.01
GDVAC	Glycol Vacuum Vent	VOC	3.43	0.34
GAD09A-D	Glycol Moderator CAS	VOC	< 0.01	< 0.01
G_FUG	Glycol Unit Fugitives (5)	VOC	2.22	9.73
		VOC (9)	0.02	0.09
		CO	0.01	0.03
UCCT01	Utilities Cooling Tower	VOC	115.29	91.13
		PM	8.07	31.56
		PM_{10}	5.65	22.09
		$PM_{2.5}$	3.39	13.26
		NaOH	0.03	0.01
USSG01A	Utilities Boiler A	NO_X	35.25	—
		CO	186.00	—
		PM	7.82	—
		PM_{10}	7.82	—
		$PM_{2.5}$	7.82	—
		VOC	5.66	—
		SO_2	5.22	—
		H_2SO_4	0.07	—
		NH_3	4.02	—

Emission Sources - Maximum Allowable Emission Rates

USSG01B	Utilities Boiler B	NO_X	35.25	—
		CO	186.00	—
		PM	7.82	—
		PM_{10}	7.82	—
		$PM_{2.5}$	7.82	—
		VOC	5.66	—
		SO_2	5.22	—
		H_2SO_4	0.07	—
		NH_3	4.02	—
USSG01C	Utilities Boiler C	NO_X	35.25	—
		CO	186.00	—
		PM	7.82	—
		PM_{10}	7.82	—
		$PM_{2.5}$	7.82	—
		VOC	5.66	—
		SO_2	5.22	—
		H_2SO_4	0.07	—
		NH_3	4.02	—
USSG01CAP	Utilities Boiler Cap	NO_X	39.66	69.02
		CO	198.85	239.40
		PM	—	47.57
		PM_{10}	—	47.57
		$PM_{2.5}$	—	47.57
		VOC	—	34.43
		SO_2	8.03	5.18
		H_2SO_4	—	0.48
		NH_3	—	29.07
UFF01A	Shared Thermal Oxidizer A	NO_X	—	—
		CO	—	—

Emission Sources - Maximum Allowable Emission Rates

		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
		VOC	—	—
		SO_2	—	—
UFF01B	Shared Thermal Oxidizer B	NO_X	—	—
		CO	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
		VOC	—	—
		SO_2	—	—
UFF01	Shared Thermal Oxidizer Cap	NO_X	18.80	29.11
		CO	25.81	39.95
		PM	2.34	3.61
		PM_{10}	2.34	3.61
		$PM_{2.5}$	2.34	3.61
		VOC	114.96	63.33
		SO_2	1.13	1.49
U_FUG	Utilities Fugitives (5)	VOC	0.95	4.18
		VOC (9)	0.12	0.26
		NH_3	0.22	0.96
		CO	< 0.01	0.02
		H_2SO_4	< 0.01	< 0.01
EMGGEN01	Olefins Emergency Generator No. 1	NO_X	0.38	0.06
		CO	4.48	0.67
		PM	0.02	<0.01
		PM_{10}	0.02	<0.01
		$PM_{2.5}$	—0.02	<0.01

Emission Sources - Maximum Allowable Emission Rates

		VOC	0.02	<0.01
		SO_2	0.01	<0.01
EMGGEN02	Utilities Emergency Generator No. 2	NO_X	0.38	0.06
		CO	4.48	0.67
		PM	0.02	<0.01
		PM_{10}	0.02	<0.01
		$PM_{2.5}$	0.02	<0.01
		VOC	0.02	<0.01
		SO_2	0.01	<0.01
ADMINGEN	Admin Emergency Generator No. 1	NO_X	1.31	0.20
		CO	3.42	0.51
		PM	0.12	0.02
		PM_{10}	0.12	0.02
		$PM_{2.5}$	0.12	0.02
		VOC	0.07	0.01
		SO_2	0.02	<0.01
FWP1	Firewater Pump No. 1	NO_X	5.37	0.54
		CO	2.21	0.22
		PM	0.31	0.03
		PM_{10}	0.31	0.03
		$PM_{2.5}$	0.31	0.03
		VOC	0.08	0.01
		SO_2	0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

FWP2	Firewater Pump No. 2	NO_X	5.37	0.54
		CO	2.21	0.22
		PM	0.31	0.03
		PM_{10}	0.31	0.03
		$PM_{2.5}$	0.31	0.03
		VOC	0.08	0.01
		SO_2	0.01	<0.01
GLYGEN01	Glycol Emergency Generator No. 1	NO_X	0.38	0.06
		CO	4.48	0.67
		PM	0.02	<0.01
		PM_{10}	0.02	<0.01
		$PM_{2.5}$	0.02	<0.01
		VOC	0.02	<0.01
		SO_2	0.01	<0.01
LIQLOAD	Truck/Railcar/Drum Liquid Loading (Uncaptured Emissions)	VOC	4.81	0.64
		NaOH	1.31	0.06
WWTP	Wastewater Plant (Uncontrolled emissions)	VOC	1.05	4.58
		NH_3	< 0.01	< 0.01
		Acetone	< 0.01	< 0.01
		H_2S	< 0.01	0.01
ZWSRCO1A/B	Equalization Tanks Catalytic Oxidizer	VOC	0.04	0.18
		NH_3	< 0.01	< 0.01
		Acetone	< 0.01	< 0.01
		H_2S	< 0.01	< 0.01
		NO_X	0.06	0.26
		CO	0.02	0.10
		PM	0.01	0.03
		PM_{10}	0.01	0.03
		$PM_{2.5}$	0.01	0.03

Emission Sources - Maximum Allowable Emission Rates

		SO_2	0.01	0.06
		HCl	< 0.01	0.01
MSSATM	Maintenance, Startup and Shutdown (Uncontrolled emissions)	VOC	445.47	4.44
		PM	12.98	0.08
		PM_{10}	12.98	0.08
		$PM_{2.5}$	12.98	0.08
MSSILE	Inherently Low Emitting Activities	VOC	11.49	1.05
		PM	0.02	0.01
		PM_{10}	0.02	0.01
		$PM_{2.5}$	0.02	0.01
MSSVAC	MSS Vacuum Trucks	VOC	72.16	1.82
MSSFRAC	MSS Frac Tanks	VOC	0.03	0.03
TMPCTRL	MSS Temporary Control Devices identified in Special Condition 57	NO_X	3.06	0.20
		CO	8.80	0.66
		PM	0.30	0.02
		PM_{10}	0.30	0.02
		$PM_{2.5}$	0.30	0.02
		VOC	24.26	0.68
		SO_2	0.56	0.04
MSSTANK	Tank Maintenance Activities (Uncontrolled)	VOC	20.11	3.53
REFUSTN	Vehicle Refueling Station	VOC	2.03	0.17
ELDC01,	EPE Granules Feed Bin Dust Collector	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
EDFAN01	EPE Granules Hopper Vent Dust Collector	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—

Emission Sources - Maximum Allowable Emission Rates

EDDC04	EPE Seed Bed Bin Dust Collector Vent	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
ELDC03,	EPE Extruder Feed Conveyor Dust Collector	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
EPFAN01	EPE Pellet Silos Dust Collector	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
EMDC01, EMFAN01, EMFAN02	EPE Pellet Surge Bin Dust Collector and Pellet Dryer Vents	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
ELFAN04, ELDC06, ELB01, ELB03, ELB05, ELFAN01	EPE Weigh Feeder Hopper Extraction Vent, Zinc Oxide Drying Hopper Dust Collector, Additive Vacuum Blower Vents and Solids Additives Vent Dust Collector	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
EBFIL01, ECFIL04, ECFIL05, ECFIL06	EPE Catalyst Cylinder Vent Filter and Catalyst Hold Tank Filter Vents	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
E_VENTCAP	EPE Vents Cap (6)	VOC	35.68	37.08
		PM	1.08	2.74
		PM_{10}	1.08	2.74
		$PM_{2.5}$	1.08	2.74
CLDC01	CPE Granules Feed Bin Dust Collector	VOC	—	—

Emission Sources - Maximum Allowable Emission Rates

		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
CDFAN01	CPE Granules Hopper Vent Dust Collector	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
CDDC04	CPE Seed Bed Bin Dust Collector Vent	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
CLDC03	CPE Extruder Feed Conveyor Dust Collector	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
CPFAN01	CPE Pellet Silos Dust Collector	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
CMDC01, CMFAN01, CMFAN02	CPE Pellet Surge Bin Dust Collector and Pellet Dryer Vents	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
CLFAN04, CLDC06, ELB02, ELB04, CLB03,	CPE Weigh Feeder Hopper Extraction Vent, Zinc Oxide Drying Hopper Dust Collector and Additive Vacuum Blower Vents	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—

Emission Sources - Maximum Allowable Emission Rates

CBFIL01CCFIL04, CCFIL05, CCFIL06	CPE Catalyst Cylinder Vent Filter and Catalyst Hold Tank Filter Vents	VOC	—	—
		PM	—	—
		PM_{10}	—	—
		$PM_{2.5}$	—	—
C_VENTCAP	CPE Vents Cap (7)	VOC	35.68	37.08
		PM	0.84	2.32
		PM_{10}	0.84	2.32
		$PM_{2.5}$	0.84	2.32
PE-REGEN	PE Regeneration Vent	VOC	< 0.01	< 0.01
E_FUG, C_FUG	EPE and CPE Fugitives (5)	VOC	4.38	19.17
		VOC (9)	0.60	1.30
		CO	0.07	0.32
ELD01	EPE Primary Run Tank	VOC	0.36	0.02
ELD02	EPE Secondary Run Tank	VOC	0.36	0.03
CCD81	CPE Seal Pot	VOC	0.04	<0.01
GETK02A	MEG Rundown Tank 2A	VOC	0.65	0.22
GETK02B	MEG Rundown Tank 2B	VOC	0.65	0.22
GDTK01	Glycol Catalyst Storage Tank	VOC	0.23	0.01
GDD08	Glycol Catalyst Charge Vessel	VOC	0.03	<0.01
GDD09	Glycol Catalyst Drips Vessel	VOC	0.02	< 0.01
GETK01	Glycol Slops Tank	VOC	0.58	0.03
SCTOTE-GLY	Spent Glycol Catalyst Tote	VOC	0.04	< 0.01
ZTTK02	Heavy Glycol Storage Tank	VOC	0.83	0.03
ZTTK03	Glycol Bleed Storage Tank	VOC	0.83	0.03
GED04	Glycol Drain Collection Vessel	VOC	0.03	<0.01
ZTTK05	Hexene Storage Tank	VOC	0.43	1.20
ZTTK06AMNT	Heavy Fuel Oil Storage Tank	VOC	0.5	—
ZTTK06BMNT	Heavy Fuel Oil Storage Tank	VOC	0.5	—
CAPTHFO	Total Emissions from EPNs	VOC	—	0.03

Emission Sources - Maximum Allowable Emission Rates

	ZTTK06AMNT, ZTTK06BMNT			
ZTTK04	Slop Oil Tank 1	VOC	0.72	2.48
FZTK01	Olefins Decoke Condensate Sump	VOC	0.64	0.02
GFTK01	Glycol Flare Seal Sump	VOC	0.53	<0.01
ZFTK02B	Firewater Pump Diesel Tank 2B	VOC	0.04	<0.01
ZMTK02	Infrastructure Diesel Tank	VOC	0.38	<0.01
UKDGEN01TK	Olefins Emergency Generator No. 1 Diesel Tank	VOC	0.05	<0.01
UKDGEN02TK	Utilities Emergency Generator No. 2 Diesel Tank	VOC	0.05	<0.01
ADMINGENTK	Admin Emergency Generator No 1 Diesel Tank	VOC	0.12	<0.01
ZFTK02C	Firewater Pump Diesel Tank 2C	VOC	0.04	<0.01
GUDGEN01TK	Glycol Generator Diesel Tank	VOC	0.05	<0.01
ZMTK01	Infrastructure Gasoline Tank	VOC	11.61	1.71
TOTES	Site Totes	NaOCl	0.01	<0.01
U_LAB	Laboratory	VOC	2.65	0.48
UTTK04	Sulfuric Acid Tank	H_2SO_4	<0.01	<0.01
UCTK01	Sodium Hypochlorite Tank	NaOCl	2.23	0.08
UTD05	Aqueous Ammonia Vent Drum	NH_3	1.94	0.15
ZTTK01	Caustic Storage Tank	NaOH	0.33	0.03

(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
NaOH - sodium hydroxide
NH_3 - ammonia
HCl - hydrogen chloride
HI - hydrogen iodide
H_2SO_4 - sulfuric acid mist
H_2S - hydrogen sulfide

Emission Sources - Maximum Allowable Emission Rates

Total Halide - combined emissions of hydrogen chloride and hydrogen iodide.
NaOCl - sodium hypochlorite

(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) Includes total emissions for the following sources of emissions (designated by EPN): ELDCO1, EDFAN01, EDDC04, ELDC03, EPFAN01, EMDC01, EMFAN01, EMFAN02, ELFAN04, ELDC06, ELB01, ELB03, ELB05, ELFAN01, EBFIL01, ECFIL04, ECFIL05, ECFIL06
(7) Includes total emissions for the following sources of emissions (designated by EPN): CLDC01, CDFAN01, CDDC04, CLDC03, CPFAN01, CMDC01, CMFAN01, CMFAN02, CLFAN04, CLDC06, ELB02, ELB04, CLB03, CBFIL01, CCFIL04, CCFIL05, CCFIL06
(8) Alternate operating mode as defined in Special Condition 48.
(9) Additional emission limits for connectors during the initial unit shakedown period use of alternate fugitive monitoring per Special Condition 70.

Date: May 21, 2021