Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 139479 and PSDTX1496

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	
			lb/hr	TPY (4)
MSFURN1	Train 1 Hot Oil Furnace	VOC	0.45	1.18
		CO	3.28	8.54
		NOX	2.57	6.70
		PM	0.63	1.63
		PM10	0.63	1.63
		PM2.5	0.63	1.63
		SO2	0.31	0.25
MSFURN2	Train 2 Hot Oil Furnace	VOC	0.45	1.18
		CO	3.28	8.54
		NO_X	2.57	6.70
		PM	0.63	1.63
		PM_{10}	0.63	1.63
		$PM_{2.5}$	0.63	1.63
		SO_2	0.31	0.25
MSFURN3	Train 3 Hot Oil Furnace	VOC	0.45	1.18
		CO	3.28	8.54
		NO_X	2.57	6.70
		PM	0.63	1.63
		PM_{10}	0.63	1.63
		$PM_{2.5}$	0.63	1.63

Emission Sources - Maximum Allowable Emission Rates

		SO_2	0.31	0.25
MSFURN4	Train 4 Hot Oil Furnace	VOC	0.45	1.18
		CO	3.28	8.54
		NO_X	2.57	6.70
		PM	0.63	1.63
		PM_{10}	0.63	1.63
		$PM_{2.5}$	0.63	1.63
		SO_2	0.31	0.25
MSFURN5	Train 5 Hot Oil Furnace	VOC	0.45	1.18
		CO	3.28	8.54
		NO_X	2.57	6.70
		PM	0.63	1.63
		PM_{10}	0.63	1.63
		$PM_{2.5}$	0.63	1.63
		SO_2	0.31	0.25
MSFURN6	Train 6 Hot Oil Furnace	VOC	0.45	1.18
		CO	3.28	8.54
		NO_X	2.57	6.70
		PM	0.63	1.63
		PM_{10}	0.63	1.63
		$PM_{2.5}$	0.63	1.63
		SO_2	0.31	0.25
MSFURN7	Train 7 Hot Oil Furnace	VOC	0.45	1.18
		CO	3.28	8.54
		NO_X	2.57	6.70

Emission Sources - Maximum Allowable Emission Rates

		PM	0.63	1.63
		PM_{10}	0.63	1.63
		$PM_{2.5}$	0.63	1.63
		SO_2	0.31	0.25
MSTO1	Train 1 Thermal Oxidizer	VOC	0.12	0.28
		CO	4.70	12.88
		NO_X	3.36	9.20
		PM	0.42	1.14
		PM_{10}	0.42	1.14
		$PM_{2.5}$	0.42	1.14
		H_2S	<0.01	<0.01
		SO_2	0.30	0.80
MSTO2	Train 2 Thermal Oxidizer	VOC	0.12	0.28
		CO	4.70	12.88
		NO_X	3.36	9.20
		PM	0.42	1.14
		PM_{10}	0.42	1.14
		$PM_{2.5}$	0.42	1.14
		H_2S	<0.01	<0.01
		SO_2	0.30	0.80
MSTO3	Train 3 Thermal Oxidizer	VOC	0.12	0.28
		CO	4.70	12.88
		NO_X	3.36	9.20
		PM	0.42	1.14
		PM_{10}	0.42	1.14

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	0.42	1.14
		H_2S	<0.01	<0.01
		SO_2	0.30	0.80
MSTO4	Train 4 Thermal Oxidizer	VOC	0.12	0.28
		CO	4.70	12.88
		NO_X	3.36	9.20
		PM	0.42	1.14
		PM_{10}	0.42	1.14
		$PM_{2.5}$	0.42	1.14
		H_2S	<0.01	<0.01
		SO_2	0.30	0.80
MSTO5	Train 5 Thermal Oxidizer	VOC	0.12	0.28
		CO	4.70	12.88
		NO_X	3.36	9.20
		PM	0.42	1.14
		PM_{10}	0.42	1.14
		$PM_{2.5}$	0.42	1.14
		H_2S	<0.01	<0.01
		SO_2	0.30	0.80
MSTO6	Train 6 Thermal Oxidizer	VOC	0.12	0.28
		CO	4.70	12.88
		NO_X	3.36	9.20
		PM	0.42	1.14
		PM_{10}	0.42	1.14
		$PM_{2.5}$	0.42	1.14

Emission Sources - Maximum Allowable Emission Rates

		H_2S	<0.01	<0.01
		SO_2	0.30	0.80
MSTO7	Train 7 Thermal Oxidizer	VOC	0.12	0.28
		CO	4.70	12.88
		NO_X	3.36	9.20
		PM	0.42	1.14
		PM_{10}	0.42	1.14
		$PM_{2.5}$	0.42	1.14
		H_2S	<0.01	<0.01
		SO_2	0.30	0.80
MSWDFLR1	Stage 1 Wet/Dry Gas Flare (Continuous)	VOC	0.08	-
		CO	2.35	-
		NO_X	0.59	-
		H_2S	<0.01	-
		SO_2	<0.01	-
MSWDFLR2	Stage 2 Wet/Dry Gas Flare (Continuous)	VOC	0.08	-
		CO	2.35	-
		NO_X	0.59	-
		H_2S	<0.01	-
		SO_2	<0.01	-
MSWDFLR3	Stage 3 Wet/Dry Gas Flare (Continuous)	VOC	0.08	-
		CO	2.35	-
		NO_X	0.59	-
		H_2S	<0.01	-
		SO_2	<0.01	-

Emission Sources - Maximum Allowable Emission Rates

WDFLRCAP	Annual Wet/Dry Gas Flare Cap (Continuous)	VOC	-	0.90
		CO	-	28.08
		NO_X	-	7.05
		H_2S	-	<0.01
		SO_2	-	<0.01
MSGFLR1	Stage 1 Multi-Point Ground Flare	VOC	2.38	-
		CO	14.11	-
		NO_X	3.54	-
		H_2S	<0.01	-
		SO_2	<0.01	-
MSGFLR2	Stage 2 Multi-Point Ground Flare	VOC	2.38	-
		CO	14.11	-
		NO_X	3.54	-
		H_2S	<0.01	-
		SO_2	<0.01	-
MSGFLR3	Stage 3 Multi-Point Ground Flare	VOC	2.38	-
		CO	14.11	-
		NO_X	3.54	-
		H_2S	<0.01	-
		SO_2	<0.01	-
GFLRCAP	Multi-Point Ground Flare Cap	VOC	-	28.44
		CO	-	168.56
		NO_X	-	42.32
		H_2S	-	<0.01
		SO_2	-	<0.01

Emission Sources - Maximum Allowable Emission Rates

MSGFLR1	Stage 1 Multi-Point Ground Flare (MSS)	VOC	802.56	-
		CO	2357.13	-
		NO_X	274.91	-
		SO_2	0.25	-
MSGFLR2	Stage 2 Multi-Point Ground Flare (MSS)	VOC	802.56	-
		CO	2357.13	-
		NO_X	274.91	-
		SO_2	0.25	-
MSGFLR3	Stage 3 Multi-Point Ground Flare (MSS)	VOC	802.56	-
		CO	2357.13	-
		NO_X	274.91	-
		SO_2	0.25	-
FLMSSCAP	Annual Flare Cap (MSS)	VOC	-	9.80
		CO	-	187.62
		NO_X	-	22.82
		SO_2	-	0.01

Emission Sources - Maximum Allowable Emission Rates

MSFWP1	Fire Water Pump	VOC	0.22	0.01
		CO	1.58	0.07
		NO_X	1.59	0.07
		PM	0.09	<0.01
		PM_{10}	0.09	<0.01
		$PM_{2.5}$	0.09	<0.01
		SO_2	<0.01	<0.01
MSFWP2	Fire Water Pump	VOC	0.22	0.01
		CO	1.58	0.07
		NO_X	1.59	0.07
		PM	0.09	<0.01
		PM_{10}	0.09	<0.01
		$PM_{2.5}$	0.09	<0.01
		SO_2	<0.01	<0.01
MSGEN1	Train 1 Diesel Generator	VOC	1.86	0.08
		CO	8.49	0.39
		NO_X	13.66	0.62
		PM	0.49	0.02
		PM_{10}	0.49	0.02
		$PM_{2.5}$	0.49	0.02
		SO_2	0.02	<0.01
MSGEN2	Train 2 Diesel Generator	VOC	1.86	0.08
		CO	8.49	0.39
		NO_X	13.66	0.62
		PM	0.49	0.02

Emission Sources - Maximum Allowable Emission Rates

		PM_{10}	0.49	0.02
		$PM_{2.5}$	0.49	0.02
		SO_2	0.02	<0.01
MSGEN3	Train 3 Diesel Generator	VOC	1.86	0.08
		CO	8.49	0.39
		NO_X	13.66	0.62
		PM	0.49	0.02
		PM_{10}	0.49	0.02
		$PM_{2.5}$	0.49	0.02
		SO_2	0.02	<0.01
MSGEN4	Train 4 Diesel Generator	VOC	1.86	0.08
		CO	8.49	0.39
		NO_X	13.66	0.62
		PM	0.49	0.02
		PM_{10}	0.49	0.02
		$PM_{2.5}$	0.49	0.02
		SO_2	0.02	<0.01
MSGEN5	Train 5 Diesel Generator	VOC	1.86	0.08
		CO	8.49	0.39
		NO_X	13.66	0.62
		PM	0.49	0.02
		PM_{10}	0.49	0.02
		$PM_{2.5}$	0.49	0.02
		SO_2	0.02	<0.01
MSGEN6	Train 6 Diesel Generator	VOC	1.86	0.08

Emission Sources - Maximum Allowable Emission Rates

		CO	8.49	0.39
		NO_X	13.66	0.62
		PM	0.49	0.02
		PM_{10}	0.49	0.02
		$PM_{2.5}$	0.49	0.02
		SO_2	0.02	<0.01
MSGEN7	Train 7 Diesel Generator	VOC	1.86	0.08
		CO	8.49	0.39
		NO_X	13.66	0.62
		PM	0.49	0.02
		PM_{10}	0.49	0.02
		$PM_{2.5}$	0.49	0.02
		SO_2	0.02	<0.01
MSGEN8	LNG Storage Diesel Generator	VOC	0.58	0.03
		CO	4.24	0.19
		NO_X	4.27	0.19
		PM	0.24	0.01
		PM_{10}	0.24	0.01
		$PM_{2.5}$	0.24	0.01
		SO_2	<0.01	<0.01
MSFUG1	Train 1 Fugitives (5)	VOC	1.72	7.53
		H_2S	<0.01	<0.01
MSFUG2	Train 2 Fugitives (5)	VOC	1.72	7.53
		H_2S	<0.01	<0.01
MSFUG3	Train 3 Fugitives (5)	VOC	1.72	7.53

Emission Sources - Maximum Allowable Emission Rates

		H_2S	<0.01	<0.01
MSFUG4	Train 4 Fugitives (5)	VOC	1.72	7.53
		H_2S	<0.01	<0.01
MSFUG5	Train 5 Fugitives (5)	VOC	1.72	7.53
		H_2S	<0.01	<0.01
MSFUG6	Train 6 Fugitives (5)	VOC	1.72	7.53
		H_2S	<0.01	<0.01
MSFUG7	Train 7 Fugitives (5)	VOC	1.72	7.53
		H_2S	<0.01	<0.01
MSFUG	Common Equipment Fugitives (5)	VOC	0.44	1.94
MSGENTK1	Train 1 Generator Diesel Tank	VOC	<0.01	<0.01
MSGENTK2	Train 2 Generator Diesel Tank	VOC	<0.01	<0.01
MSGENTK3	Train 3 Generator Diesel Tank	VOC	<0.01	<0.01
MSGENTK4	Train 4 Generator Diesel Tank	VOC	<0.01	<0.01
MSGENTK5	Train 5 Generator Diesel Tank	VOC	<0.01	<0.01
MSGENTK6	Train 6 Generator Diesel Tank	VOC	<0.01	<0.01
MSGENTK7	Train 7 Generator Diesel Tank	VOC	<0.01	<0.01
MSGENTK1	Train 1 Generator Diesel Tank	VOC	<0.01	<0.01
MSGENTK8	LNG Storage Generator Diesel Tank	VOC	<0.01	<0.01
MSFWPTK1	Fire Water Pump Diesel Tank	VOC	<0.01	<0.01
MSFWPTK2	Fire Water Pump Diesel Tank	VOC	<0.01	<0.01
MSAMTNK1	Train 1 Amine Tank	VOC	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

MSAMTNK2	Train 2 Amine Tank	VOC	<0.01	<0.01
MSAMTNK3	Train 3 Amine Tank	VOC	<0.01	<0.01
MSAMTNK4	Train 4 Amine Tank	VOC	<0.01	<0.01
MSAMTNK5	Train 5 Amine Tank	VOC	<0.01	<0.01
MSAMTNK6	Train 6 Amine Tank	VOC	<0.01	<0.01
MSAMTNK7	Train 7 Amine Tank	VOC	<0.01	<0.01
MSVACTRK	Truck Loading (MSS)	VOC	<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
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
H_2S - hydrogen sulfide
MSS - maintenance, startup, and shutdown emissions
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period. Annual emission rates for each source include planned MSS emissions, unless otherwise noted.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: June 28, 2019

Emission Sources - Maximum Allowable Emission Rates

Permit Number GHGPSDTX157

This table lists the maximum allowable emission rates of greenhouse gas (GHG) emissions, as defined in Title 30 Texas Administrative Code § 101.1, for sources of GHG air contaminants on the applicant's property authorized by this permit. 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 TPY (4)
MSFURN1	Train 1 Hot Oil Furnace	CO_2	27,268
		N_2O	0.29
		CH_4	1.45
		CO_2e	27,391
MSFURN2	Train 2 Hot Oil Furnace	CO_2	27,268
		N_2O	0.29
		CH_4	1.45
		CO_2e	27,391
MSFURN3	Train 3 Hot Oil Furnace	CO_2	27,268
		N_2O	0.29
		CH_4	1.45
		CO_2e	27,391
MSFURN4	Train 4 Hot Oil Furnace	CO_2	27,268
		N_2O	0.29
		CH_4	1.45
		CO_2e	27,391
MSFURN5	Train 5 Hot Oil Furnace	CO_2	27,268
		N_2O	0.29
		CH_4	1.45
		CO_2e	27,391
MSFURN6	Train 6 Hot Oil Furnace	CO_2	27,268
		N_2O	0.29
		CH_4	1.45
		CO_2e	27,391
MSFURN7	Train 7 Hot Oil Furnace	CO_2	27,268
		N_2O	0.29
		CH_4	1.45
		CO_2e	27,391
MSTO1	Train 1Thermal Oxidizer	CO_2	197,429
		N_2O	0.03
		CH_4	4.88
		CO_2e	197,560

Emission Sources - Maximum Allowable Emission Rates

MSTO2	Train 2 Thermal Oxidizer	CO_2	197,429
		N_2O	0.03
		CH_4	4.88
		CO_2e	197,560
MSTO3	Train 3 Thermal Oxidizer	CO_2	71,471
		N_2O	0.04
		CH_4	6.11
		CO_2e	71,636
MSTO4	Train 4 Thermal Oxidizer	CO_2	71,471
		N_2O	0.04
		CH_4	6.11
		CO_2e	71,636
MSTO5	Train 5 Thermal Oxidizer	CO_2	71,471
		N_2O	0.04
		CH_4	6.11
		CO_2e	71,636
MSTO6	Train 6 Thermal Oxidizer	CO_2	71,471
		N_2O	0.04
		CH_4	6.11
		CO_2e	71,636
MSTO7	Train 7 Thermal Oxidizer	CO_2	71,471
		N_2O	0.04
		CH_4	6.11
		CO_2e	71,636
WTDYFLRCAP	Annual Wet/Dry Gas Flare Cap (Continuous)	CO_2	1,954
		N_2O	<0.01
		CH_4	7.30
		CO_2e	2,138
GFLRCAP	Multi-Point Ground Flare Cap	CO_2	11,595
		N_2O	0.02
		CH_4	39.15
		CO_2e	12,944
FLMSSCAP	Annual Flare Cap (MSS)	CO_2	83,602
		N_2O	0.08
		CH_4	91
		CO_2e	85,913

Emission Sources - Maximum Allowable Emission Rates

MSFWP	Firewater Pump	CO_2	14.10
		N_2O	<0.01
		CH_4	<0.01
		CO_2e	14.10
MSFWP2	Firewater Pump	CO_2	14.10
		N_2O	<0.01
		CH_4	<0.01
		CO_2e	14.10
MSGEN1	Train 1 Diesel Generator	CO_2	75.30
		N_2O	<0.01
		CH_4	<0.01
		CO_2e	76.00
MSGEN2	Train 2 Diesel Generator	CO_2	75.30
		N_2O	<0.01
		CH_4	<0.01
		CO_2e	76.00
MSGEN3	Train 3 Diesel Generator	CO_2	75.30
		N_2O	<0.01
		CH_4	<0.01
		CO_2e	76.00
MSGEN4	Train 4 Diesel Generator	CO_2	75.30
		N_2O	<0.01
		CH_4	<0.01
		CO_2e	76.00
MSGEN5	Train 5 Diesel Generator	CO_2	75.30
		N_2O	<0.01
		CH_4	<0.01
		CO_2e	76.00
MSGEN6	Train 6 Diesel Generator	CO_2	75.30
		N_2O	<0.01
		CH_4	<0.01
		CO_2e	76.00
MSGEN7	Train 7 Diesel Generator	CO_2	75.30
		N_2O	<0.01
		CH_4	<0.01
		CO_2e	76.00
MSGEN8	LNG Storage Diesel Generator	CO_2	75.30
		N_2O	<0.01
		CH_4	<0.01

Emission Sources - Maximum Allowable Emission Rates

MSFUG1	Train 1 Fugitives (5)	CO_2e	76.00
		CO_2	4.52
		CH_4	14.59
		CO_2e	369
MSFUG2	Train 2 Fugitives (5)	CO_2	4.52
		CH_4	14.59
		CO_2e	369
MSFUG3	Train 3 Fugitives (5)	CO_2	4.52
		CH_4	14.59
		CO_2e	369
MSFUG4	Train 4 Fugitives (5)	CO_2	4.52
		CH_4	14.59
		CO_2e	369
MSFUG5	Train 5 Fugitives (5)	CO_2	4.52
		CH_4	14.59
		CO_2e	369
MSFUG6	Train 6 Fugitives (5)	CO_2	4.52
		CH_4	14.59
		CO_2e	369
MSFUG7	Train 7 Fugitives (5)	CO_2	4.52
		CH_4	14.59
		CO_2e	369
MSFUG	Common Equipment Fugitive Emissions (5)	CO_2	0.03
		CH_4	7.79
		CO_2e	195
MSBOGMSS	BOG Compressor MSS	CH_4	0.26
		CO_2e	7.00

(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_2 - carbon dioxide
N_2O - nitrous oxide
CH_4 - methane
CO_2e - carbon dioxide equivalents, based on the following Global Warming Potentials from 40 CFR Part 98, subpart A, Table A-1, as published on November 29, 2013 (78 FR71904): CO_2 (1), CH_4 (25), and N_2O (298)
(4) Compliance with annual CO_{2e} emission limits (tons per year) is based on a 12-month rolling period. Annual emission limits includes normal and planned maintenance, startup, and shutdown (MSS) emissions. For all non-CO_{2e} GHG emissions, listed emission rates are given for informational purposes only and do not constitute an enforceable limit.
(5) Fugitive emission rates are estimates and are enforceable through compliance with the applicable special conditions and permit application representations.

Date: June 28, 2019