Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 18999, PSDTX755M1, and N216

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)
4061-JT	Gas Turbine 4061 MSS	NO_x	63.00	1.94
		CO	27.00	0.65
		SO_2	0.61	0.02
		PM	1.19	0.04
		PM_{10}	1.19	0.04
		$PM_{2.5}$	1.19	0.04
		VOC	0.38	0.01
4062-JT	Gas Turbine 4062 MSS	NO_x	63.00	1.94
		CO	27.00	0.65
		SO_2	0.61	0.02
		PM	1.19	0.04
		PM_{10}	1.19	0.04
		$PM_{2.5}$	1.19	0.04
		VOC	0.38	0.01
4063-JT	Gas Turbine 4063 MSS	NO_x	63.00	1.94
		CO	27.00	0.65
		SO_2	0.61	0.02
		PM	1.19	0.04
		PM_{10}	1.19	0.04
		$PM_{2.5}$	1.19	0.04
		VOC	0.38	0.01
4064-JT	Gas Turbine 4064 MSS	NO_x	63.00	1.94
		CO	27.00	0.65
		SO_2	0.61	0.02
		PM	1.19	0.04
		PM_{10}	1.19	0.04

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	1.19	0.04
		VOC	0.38	0.01
4065-JT	Gas Turbine 4065 MSS	NO_x	87.50	2.70
		CO	37.50	0.90
		SO_2	0.85	0.03
		PM	1.65	0.06
		PM_{10}	1.65	0.06
		$PM_{2.5}$	1.65	0.06
		VOC	0.53	0.02
4061-JT	Gas Turbine 4061 Bypass Valve	NO_x	0.23	0.88
		CO	0.10	0.29
		SO_2	0.01	0.01
		PM	0.01	0.02
		PM_{10}	0.01	0.02
		$PM_{2.5}$	0.01	0.02
		VOC	0.01	0.01
4062-JT	Gas Turbine 4062 Bypass Valve	NO_x	0.23	0.88
		CO	0.10	0.29
		SO_2	0.01	0.01
		PM	0.01	0.02
		PM_{10}	0.01	0.02
		$PM_{2.5}$	0.01	0.02
		VOC	0.01	0.01
4063-JT	Gas Turbine 4063 Bypass Valve	NO_x	0.23	0.88
		CO	0.10	0.29
		SO_2	0.01	0.01
		PM	0.01	0.02
		PM_{10}	0.01	0.02
		$PM_{2.5}$	0.01	0.02
		VOC	0.01	0.01
4064-JT	Gas Turbine 4064 Bypass Valve	NO_x	0.23	0.88
		CO	0.10	0.29
		SO_2	0.01	0.01
		PM	0.01	0.02
		PM_{10}	0.01	0.02
		$PM_{2.5}$	0.01	0.02
		VOC	0.01	0.01
4065-JT	Gas Turbine 4065 Bypass Valve	NO_x	0.23	0.87
		CO	0.10	0.29
		SO_2	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

		PM	0.01	0.02
		PM_{10}	0.01	0.02
		$PM_{2.5}$	0.01	0.02
		VOC	<0.01	0.01
4026-U	Waste Heat Boiler/SCR1 Normal Operations	NO_x	55.23	127.88
		CO	67.23	171.25
		VOC (6)	13.50	39.14
		SO_2	25.61	35.58
		PM	12.59	52.21
		PM_{10}	12.59	52.21
		$PM_{2.5}$	12.59	52.21
		NH_3	22.68	94.52
		Ethylene	13.50	29.36
		Propylene	13.50	9.79
	Waste Heat Boiler/Alternate scenario (10)	VOC	68.44	(11)
		Ethylene	68.44	(11)
		Propylene	68.44	(11)
4026-U	Waste Heat Boiler/SCR1 MSS Activities	NO_x	92.04	(11)
		CO	149.40	(11)
		NH_3	68.03	(11)
2205-1	Process Water Tanks	VOC	1.02	0.27
		Benzene	0.07	0.02
2205-2	Process Water Tanks	VOC	1.05	0.03
		Benzene	0.08	0.01
M-1003	Process Water Tank	VOC	2.10	0.24
		Benzene	0.30	0.03
2300-2	Outfall Water Tanks	VOC	1.98	0.01
		Benzene	0.04	0.01
M-222	Storage Tank	VOC	0.10	0.16
		Butadiene	0.01	0.02
		Benzene	0.03	0.05
M-223	Storage Tank	VOC	0.15	0.16
		Butadiene	0.02	0.02
		Benzene	0.04	0.05
M-1002	Storage Tank	VOC	0.76	1.92
		Butadiene	0.24	0.61
		Benzene	0.46	1.15
T-136A	Storage Tank	VOC	2.21	0.11
4000-B	Charge Gas Heater/SCR2 Normal Operations	NO_x	3.70	13.25
		CO	17.83	18.92

Emission Sources - Maximum Allowable Emission Rates

		CO (warm standby mode)	89.13	(12)
		VOC (6)	0.69	2.84
		SO_2	6.48	18.92
		PM	1.24	3.22
		PM_{10}	1.19	3.07
		$PM_{2.5}$	1.19	3.07
		NH_3	2.18	8.89
		Ethylene	0.49	2.00
		Propylene	0.21	0.84
4000-B	Charge Gas Heater/SCR2 MSS Activities (13)	VOC	1.39	(13)
		NO_x	37.04	(13)
		CO	89.13	(13)
		NH_3	6.02	(13)
		Propylene	0.69	(13)
1-104BD	Auxiliary Boiler (227.5 MMBtu/hr, LHV)	NO_x (7) (PSD)	30.24	105.96
		CO (PSD)	20.76	72.76
		VOC (6)	1.92	6.71
		SO_2	1.26	4.42
		PM	1.88	6.58
		PM_{10} (PSD)	1.88	6.58
		$PM_{2.5}$	1.88	6.58
		Ethylene	1.35	4.73
		Propylene	0.34	1.18
1-105A	Main Flare Normal Operations, MSS Activities and 109 Splitter Project MSS Activities	NO_x	171.36	14.23
		CO	882.76	73.30
		VOC (9)	806.74	56.82
		SO_2	45.56	2.72
		H_2S	0.48	0.03
		Ethylene	83.90	4.82
		Propylene	484.04	25.28
		Butene	50.02	6.02
		Butadiene	32.27	0.72
		Benzene	29.04	0.72
185-F	Fuel Tank	VOC	0.02	0.01
186-F	Fuel Tank	VOC	0.02	0.01
187-F	Fuel Tank	VOC	0.02	0.01
F-1-101-U	Cooling Tower (8 cell) (5)	VOC (9)	3.70	3.86
		PM	0.55	1.93
		PM_{10}	0.31	1.24
		$PM_{2.5}$	<0.01	0.02

Emission Sources - Maximum Allowable Emission Rates

		Ethylene	0.93	0.39
		Propylene	3.66	1.93
		Butene	0.01	0.01
		Butadiene	0.01	0.01
		Benzene	0.01	0.01
F-2401-UL	Cooling Tower (3 cell) (5)	VOC (9)	1.39	1.45
		PM	0.21	0.72
		PM_{10}	0.12	0.46
		$PM_{2.5}$	<0.01	<0.01
		Ethylene	0.14	0.15
		Propylene	0.70	0.73
		Butene	0.01	0.01
		Butadiene	0.01	0.01
		Benzene	0.01	0.01
LD-C4	Loading C4	VOC	0.24	0.01
LD-OIL	Loading Oil	VOC	2.70	0.08
ANA-VENT	Process Analyzers Vent (8)	NO_x	0.01	0.01
		CO	0.01	0.01
		VOC (6)	0.05	0.19
		Propylene	0.02	0.04
267-F	Storage Tank	VOC	0.03	0.01
179-F/797F	Fuel Tank	VOC	0.36	0.01
F-1-GB	Stormwater System	VOC	5.39	1.25
MAINT-METER	Meter Calibrations	VOC	0.01	0.01
PLANT	Plant Fugitives including 109 Splitter Project (5)	VOC (9)	8.35	35.54
		Ethylene	0.54	2.28
		Propylene	5.36	22.81
		Butene	0.11	0.46
		Butadiene	0.01	0.05
		Benzene	0.11	0.46
TOTES	Containers	VOC	0.10	0.09
LD-CAT	Catalyst Handling	PM	0.04	0.01
		PM_{10}	0.03	0.01
		$PM_{2.5}$	0.03	0.01
CAT-TRANSFER1	Catalyst Transfer	PM	0.04	0.01
		PM_{10}	0.02	0.01
		$PM_{2.5}$	0.02	0.01
CAT-CLEAR1	Catalyst Clearing	PM	11.14	0.13
		PM_{10}	11.14	0.13
		$PM_{2.5}$	8.36	0.10

Emission Sources - Maximum Allowable Emission Rates

PLANT NH_3	Ammonia Handling (5)	NH_3	0.18	0.57
DEGR	Cold Solvent Cleaner	VOC	0.01	0.06
PLANT MSS	Process Systems MSS	VOC (9)	43.84	8.00
		Ethylene	2.83	0.52
		Propylene	18.84	3.44
		Butene	12.50	0.05
		Butadiene	0.50	0.01
		Benzene	1.00	0.01
PLANT MSS	Transfer System MSS	VOC	0.19	0.01
PLANT MSS	Storage System MSS	VOC	2.29	1.03
PLANT MSS	Tank M-1002 MSS	VOC	180.06	0.25
PLANT MSS	Tank M-222 MSS	VOC	15.46	0.02
PLANT MSS	Tank M-223 MSS	VOC	15.46	0.02
PLANT MSS	Tank MSS Degassing	NO_x	7.79	0.28
		CO	5.12	0.18
		SO_2	0.22	0.01
		PM	0.11	0.01
		PM_{10}	0.11	0.01
		$PM_{2.5}$	0.11	0.01
		VOC	1.48	0.05
4030-EJ	Steam Eductor Normal Operation MSS	NO_x	2.54	2.39
		CO	191.11	1.61
		SO_2	0.10	0.01
		VOC (9)	260.81	5.10
		Ethylene	13.17	0.81
		Propylene	39.24	1.27
		Butene	2.60	0.02
		Butadiene	0.13	0.01
		Benzene	0.26	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) NO_X - total oxides of nitrogen
CO - carbon monoxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
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
NH_3 - ammonia
H_2S - hydrogen sulfide
(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 VOC includes HRVOC chemicals: ethylene and propylene.
(7) The NO_X emission rate is based on the boiler firing plant fuel gas containing hydrogen.

Emission Sources - Maximum Allowable Emission Rates

(8) Emissions for analyzer vents AT9056, AT9057, AT9058, AT9059, AT9090, and AT9095 are included in EPN ANA-VENT.
(9) The VOC includes HRVOC chemicals: ethylene, propylene, butene, and butadiene.
(10) Hourly emission rates for the operating scenario identified in Special Condition No. 12.
(11) Annual emission rates are included in the annual emission rates for the Waste Heat Boiler/SCR1 Normal Operations.
(12) The annual CO emission rate during warm standby mode operation is included in the annual CO emission rate for the Charge Gas Heater/SCR2 Normal Operations.
(13) Annual emission rates are included in the annual emission rates for the Charge Gas Heater/SCR2 Normal Operations.

Date: January 29, 2021