Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 1467 and PSDTX1090M1

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)
SC-7	Mitsubishi M501 GAC	NO_x	25.2	72.00
		CO	18.4	237.02
		VOC	7.00	113.99
		PM	7.00	14.80
		PM_{10}	7.00	14.80
		$PM_{2.5}$	7.00	14.80
		SO_2	1.54	6.75
		NH_3	18.7	81.91
		H_2SO_4	1.41	6.18
		HAPs	1.40	6.33
SC-7	Mitsubishi M501 GAC (MSS)	NO_x	58.50	--
		CO	555.67	--
		VOC	312.92	--
		HAPs	2.09	--
FIRE-2	Emergency Diesel Firewater Pump Engine	NO_x	0.60	0.028
		CO	0.13	0.007
		VOC	0.05	0.003
		PM	0.03	0.002
		PM_{10}	0.03	0.002
		$PM_{2.5}$	0.03	0.002
		SO_2	<0.01	<0.01
		HAPs	<0.01	<0.01
LH-1	Forced Draft Line Heater	NO_x	0.118	0.515
		CO	0.145	0.635
		VOC	0.031	0.137
		PM	0.019	0.083
		PM_{10}	0.019	0.083
		$PM_{2.5}$	0.019	0.083
		SO_2	<0.01	0.017
		HAPs	<0.01	0.032

Emission Sources - Maximum Allowable Emission Rates

FUG-7	Unit 7 Piping Fugitives (10)	VOC	0.029	0.13
Unit 4				
S4-1	Westinghouse W501-B6 69 MW Turbine with 124 MMBtu/hr Duct Burner (11)	NO_x (12)	188	674
		CO (12)	840	1,665
		SO_2	17	12
		VOC	12	44
		$PM/PM_{10}/ PM_{2.5}$	2	6
S4-2	Westinghouse W501-B6 69 MW Turbine with 124 MMBtu/hr Duct Burner (11)	NO_x (12)	188	674
		CO (12)	840	1,665
		SO_2	17	12
		VOC	12	44
		$PM/PM_{10}/ PM_{2.5}$	2	6
Unit 6 Simple Cycle				
SC-S6A	GE Frame 7EA 70 MW Turbine without Duct Burner High Load Operation (8)	NO_x	174	-
		CO	233	-
		VOC	8	-
		$PM/PM_{10}/ PM_{2.5}$	9	-
		SO_2	14	-
		H_2SO_4	2	-
SC-S6A	GE Frame 7EA 70 MW Turbine without Duct Burner Startup, Shutdown, and Low Load Operation (9) (Limited to 2,500 hours per year)	NO_x	180	-
		CO	386	-
		VOC	5	-
		$PM/PM_{10}/ PM_{2.5}$	9	-
		SO_2	14	-

Emission Sources - Maximum Allowable Emission Rates

	(11)	CO	-	363
		VOC	-	8
		$PM/PM_{10}/ PM_{2.5}$	-	29
		SO_2	-	13
		H_2SO_4	-	2
SC-S6B	GE Frame 7EA 70 MW Turbine without Duct Burner High Load Operation (8)	NO_x	174	-
		CO	233	-
		VOC	8	-
		$PM/PM_{10}/ PM_{2.5}$	9	-
		SO_2	14	-
		H_2SO_4	2	-
SC-S6B	GE Frame 7EA 70 MW Turbine without Duct Burner Startup, Shutdown, and Low Load Operation (9) (Limited to 2,500 hours per year)	NO_x	180	-
		CO	386	-
		VOC	5	-
		$PM/PM_{10}/ PM_{2.5}$	9	-
		SO_2	14	-
		H_2SO_4	2	-
SC-S6B	Annual Emissions from EPN SC-S6B (11)	NO_x	-	283 (6)
		CO	-	363
		VOC	-	8
		$PM/PM_{10}/ PM_{2.5}$	-	29
		SO_2	-	13
		H_2SO_4	-	2
Unit 6 Combine Cycle				
CC-S6A	GE Frame 7EA 70 MW Turbine with 285 MMBtu/hr Duct Burner High Load Operation (8)	NO_x	42	-
		CO	326	-
		VOC	18	-
		$PM/PM_{10}/ PM_{2.5}$	15	-
		SO_2	20	-

Emission Sources - Maximum Allowable Emission Rates

CC-S6A	GE Frame 7EA 70 MW Turbine with 285 MMBtu/hr Duct Burner Startup, Shutdown, and Low Load Operation (9)	NO_x	180	-
		CO	518	-
		VOC	18	-
		$PM/PM_{10}/ PM_{2.5}$	15	-
		SO_2	20	-
		H_2SO_4	3.8	-
CC-S6A	Annual Emissions from EPN CC-S6A (11)	NO_x	-	165 (7)
		CO	-	456
		VOC	-	25
		$PM/PM_{10}/ PM_{2.5}$	-	38
		SO_2	-	16
		H_2SO_4	-	3.1
		NH_3	-	50
CC-S6B	GE Frame 7EA 70 MW Turbine with 285 MMBtu/hr Duct Burner High Load Operation (8)	NO_x	42	-
		CO	326	-
		VOC	18	-
		$PM/PM_{10}/ PM_{2.5}$	15	-
		SO_2	20	-
		H_2SO_4	3.8	-
		NH_3	20	-
CC-S6B	GE Frame 7EA 70 MW Turbine with 285 MMBtu/hr Duct Burner Startup, Shutdown, and Low Load Operation (9)	NO_x	180	-
		CO	518	-
		VOC	18	-
		$PM/PM_{10}/ PM_{2.5}$	15	-
		SO_2	20	-
		H_2SO_4	3.8	-

Emission Sources - Maximum Allowable Emission Rates

CC-S6B	Annual Emissions from EPN CC-S6B (11)	NO_x	-	165 (7)
		CO	-	456
		VOC	-	25
		$PM/PM_{10}/ PM_{2.5}$	-	38
		SO_2	-	16
		H_2SO_4	-	3.1
		NH_3	-	50
FIRE	Firewater Pump Engine	NO_x	9.3	0.9
		CO	2.0	0.2
		VOC	0.8	<0.1
		$PM/PM_{10}/ PM_{2.5}$	0.7	<0.1
		SO_2	0.1	<0.1
		H_2SO_4	<0.1	<0.1
OTD-1	Diesel Storage Tank 1	VOC	<0.1	<0.1
OTD-2	Diesel Storage Tank 2	VOC	<0.1	<0.1
OTD-3	Diesel Storage Tank 3	VOC	<0.1	<0.1
LO-1	Gas Turbine GT-6A Lube Oil Vent	VOC	<0.1	0.2
		$PM/PM_{10}/ PM_{2.5}$	<0.1	0.2
LO-2	Gas Turbine GT-6B Lube Oil Vent	VOC	<0.1	0.2
		$PM/PM_{10}/ PM_{2.5}$	<0.1	0.2
LO-3	Steam Turbine Lube Oil Vent	VOC	<0.1	0.2
		$PM/PM_{10}/ PM_{2.5}$	<0.1	0.2
FUG-6	Unit 6 Piping Fugitives (10)	VOC	0.3	1.5
		H_2S	<0.1	0.1
		NH_3	0.5	2.2
		Cl_2	<0.1	0.4
OTA-1	Ammonia Storage Tank 1	NH_3	<0.1	0.4
CT-1467-4	Cooling Tower 4	PM	5.94	26.04
		PM_{10}	0.38	1.67

Emission Sources - Maximum Allowable Emission Rates

CT-1467-6	Cooling Tower 6	PM	1.49	6.51
		PM_{10}	0.10	0.42
		$PM_{2.5}$	0.002	0.01
		HOCl (5)	<0.1	<0.1
FUG-4	Unit 4 Fugitives (10)	VOC	0.5	2.2
		Cl_2	0.08	0.35
MSSFUG	MSS Fugitive Emissions (ILE) (10)	NO_x	<0.01	<0.01
		CO	<0.01	<0.01
		PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		VOC	7.00	1.07
		NH_3	<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) 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 $PM_{2.5}$
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
H_2SO_4 - sulfuric acid
H_2S - hydrogen sulfide
NH_3 - anhydrous ammonia
Cl_2 - chlorine
HOCl - hypochlorous acid
HAPs - hazardous air pollutants

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

(5) Inorganic compounds calculated at HOCl.

(6) For Unit 6, the annual NO_x emissions for Simple Cycle Operations assumes up to 2,500 hours of startup, shutdown, and low load operation per turbine.

Emission Sources - Maximum Allowable Emission Rates

(7) For Unit 6, the annual NO_x emissions after HRSG installation is determined assuming a limitation of 2,500 hours of simple cycle operation and up to 2,500 hours of startup, shutdown, and low load operation per turbine.
(8) High Load Operation is defined in Special Condition No. 6(A)(1).
(9) Low Load Operation is defined in Special Condition No. 6(A)(2).
(10) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(11) The tpy emission limit specified in the MAERT for this facility includes emissions from the facility during both normal operations and planned MSS activities.
(12) The NO_x and CO lb/hr and tpy emission rates are authorized by Standard Permit Registration No. 114528.

Date: April 5, 2022

Permit Number GHGPSDTX199

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)
SC-7	Mitsubishi M501 GAC High Load Operation (GHG)	CO_2	790,000
		CH_4	625.66
		N_2O	2.66
		CO_2e	806,434
FIRE-2	Emergency Diesel Firewater Pump Engine	CO_2	5.65
		CH_4	<0.01
		N_2O	<0.01
		CO_2e	5.67
LN-1	Forced Draft Line Heater	CO_2	1822.72
		CH_4	0.03
		N_2O	<0.01
		CO_2e	1824.61
FUG-7	Unit 7 Piping Fugitives (5)	CO_2	0.04
		CH_4	6.66
		CO_2e	169.97

(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, effective January 1, 2015: CO_2 (1), CH_4 (25), N_2O (298), and SF_6 (22,800)
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. Annual emission limits include both normal and maintenance, startup, and shutdown (MSS) emissions.
(5) Fugitive emission rates are estimates and are enforceable through compliance with the applicable special conditions and permit application representations.

Date: November 23, 2021