

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 1467, PSDTX1090M1, and N284

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	30.66
		PM ₁₀	7.00	30.66
		PM _{2.5}	7.00	30.66
		SO ₂	1.54	6.75
		NH ₃	18.7	81.91
		H ₂ SO 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

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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 ₂ SO ₄	2	-

Emission Sources - Maximum Allowable Emission Rates

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	-
		H ₂ SO ₄	2	-
SC-S6A	Annual Emissions from EPN SC-S6A (11)	NO _x	-	283 (6)
		CO	-	363
		VOC	-	8
		PM/PM ₁₀ / PM _{2.5}	-	29
		SO ₂	-	13
		H ₂ SO 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 ₂ SO 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 ₂ SO ₄	2	-

Emission Sources - Maximum Allowable Emission Rates

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 ₂ SO 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	-
		H ₂ SO ₄	3.8	-
		NH ₃	20	-
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 ₂ SO ₄	3.8	-

Emission Sources - Maximum Allowable Emission Rates

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 ₂ SO 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 ₂ SO 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 ₂ SO 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 ₂ SO 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 ₂ SO 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 ₂ S	<0.1	0.1
		NH ₃	0.5	2.2
		Cl ₂	<0.1	0.4

Emission Sources - Maximum Allowable Emission Rates

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
		PM _{2.5}	0.01	0.03
		HOCl (5)	<0.1	<0.1
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
 - SO₂ - sulfur dioxide
 - PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}
 - PM₁₀ - 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
 - H₂SO₄ - sulfuric acid
 - H₂S - hydrogen sulfide
 - NH₃ - anhydrous ammonia
 - Cl₂ - chlorine
 - HOCl - hypochlorous acid

Emission Sources - Maximum Allowable Emission Rates

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.
- (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: November 23, 2021

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 ₂ O	2.66
		CO ₂ e	806,434
FIRE-2	Emergency Diesel Firewater Pump Engine	CO ₂	5.65
		CH ₄	<0.01
		N ₂ O	<0.01
		CO ₂ e	5.67
LN-1	Forced Draft Line Heater	CO ₂	1822.72
		CH ₄	0.03
		N ₂ O	<0.01
		CO ₂ e	1824.61
FUG-7	Unit 7 Piping Fugitives (5)	CO ₂	0.04
		CH ₄	6.66
		CO ₂ e	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) CO₂ - carbon dioxide

N₂O - nitrous oxide

CH₄ - methane

CO₂e - carbon dioxide equivalents, based on the following Global Warming Potentials from 40 CFR Part 98, subpart A, Table A-1, effective January 1, 2015: CO₂ (1), CH₄ (25), N₂O (298), and SF₆ (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