Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 107569 and PSDTX1432

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/hour	TPY (4)
Scenario 1 - Simple Cycle Operations – Turbine Option 1				
DC-CTS5	Unit 5 Turbine – GE 7FA Simple Cycle	NO_x (6)	74.98	40.79
		NO_x (Peak Firing) (6, 7)	120	-
		NO_x (MSS) (6)	100	-
		CO (6)	36.59	43.79
		CO (MSS) (6)	714	-
		VOC	3.53	4.83
		VOC (MSS)	79.44	-
		PM	14.24	5.83
		PM_{10}	14.24	5.83
		$PM_{2.5}$	14.24	5.83
		SO_2	32.27	3.50
		H_2SO_4	4.94	0.54
DC-CTS6	Unit 6 Turbine – GE 7FA Simple Cycle	NO_x (6)	74.98	40.79
		NO_x (Peak Firing) (6, 7)	120	-
		NO_x (MSS) (6)	100	-
		CO (6)	36.59	43.79
		CO (MSS) (6)	714	-
		VOC	3.53	4.83
		VOC (MSS)	79.44	-
		PM	14.24	5.83
		PM_{10}	14.24	5.83
		$PM_{2.5}$	14.24	5.83
		SO_2	32.27	3.50
		H_2SO_4	4.94	0.54

Emission Sources - Maximum Allowable Emission Rates

Scenario 1 - Simple Cycle Operations – Turbine Option 2				
DC-CTS5	Unit 5 Turbine – Siemens SGT6-5000F Simple Cycle	NO_x (6)	82.24	42.13
		NO_x (Ramping) (6, 8)	120	-
		NO_x (MSS) (6)	100	-
		CO (6)	28.73	72.90
		CO (Ramping) (6, 8)	815	-
		CO (MSS) (6)	1,824	-
		VOC	3.19	8.46
		VOC (MSS)	214	-
		PM	15.39	5.80
		PM_{10}	15.39	5.80
		$PM_{2.5}$	15.39	5.80
		SO_2	35.23	3.53
		H_2SO_4	5.39	0.54
DC-CTS6	Unit 6 Turbine – Siemens SGT6-5000F Simple Cycle	NO_x (6)	82.24	42.13
		NO_x (Ramping) (6, 8)	120	-
		NO_x (MSS) (6)	100	-
		CO (6)	28.73	72.90
		CO (Ramping) (6, 8)	815	-
		CO (MSS) (6)	1,824	-
		VOC	3.19	8.46
		VOC (MSS)	214	-
		PM	15.39	5.80
		PM_{10}	15.39	5.80
		$PM_{2.5}$	15.39	5.80
		SO_2	35.23	3.53
		H_2SO_4	5.39	0.54
Scenario 2 - Simple/Combined Cycle Operations – Turbine Option 1				
DC-CTS5	Unit 5 Turbine – GE 7FA Simple Cycle	NO_x (6)	74.98	-

Emission Sources - Maximum Allowable Emission Rates

		NO_x (Peak Firing) (6, 7)	120	-
		NO_x (MSS) (6)	100	-
		CO (6)	36.59	-
		CO (MSS) (6)	714	-
		VOC	3.53	-
		VOC (MSS)	79.44	-
		PM	14.24	-
		PM_{10}	14.24	-
		$PM_{2.5}$	14.24	-
		SO_2	32.27	-
		H_2SO_4	4.94	-
DC-CTHS5	Unit 5 Turbine – GE 7FA Combined Cycle	NO_x (6)	20.35	-
		NO_x (MSS) (6)	232.80	-
		CO (6)	24.78	-
		CO (MSS) (6)	3032.40	-
		VOC	7.09	-
		VOC (MSS)	267.60	-
		PM	30.66	-
		PM_{10}	30.66	-
		$PM_{2.5}$	30.66	-
		SO_2	37.88	-
		H_2SO_4	14.50	-
		NH_3	26.36	-
		NH_3 (MSS)	50.00	-
DC-CTS5 DC-CTHS5	Unit 5 Turbine – GE7FA Annual Emissions	NO_x	-	118.59
		CO	-	179.27
		VOC	-	36.77
		PM	-	62.88
		PM_{10}	-	62.88

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	-	62.88
		SO_2	-	30.50
		H_2SO_4	-	11.67
		NH_3	-	110.89
DC-CTS6	Unit 6 Turbine – GE 7FA Simple Cycle	NO_x (6)	74.98	-
		NO_x (Peak Firing) (6, 7)	120	-
		NO_x (MSS) (6)	100	-
		CO (6)	36.59	-
		CO (MSS) (6)	714	-
		VOC	3.53	-
		VOC (MSS)	79.44	-
		PM	14.24	-
		PM_{10}	14.24	-
		$PM_{2.5}$	14.24	-
		SO_2	32.27	-
		H_2SO_4	4.94	-
DC-CTHS6	Unit 6 Turbine – GE 7FA Combined Cycle	NO_x (6)	20.35	-
		NO_x (MSS) (6)	232.80	-
		CO (6)	24.78	-
		CO (MSS) (6)	3032.40	-
		VOC	7.09	-
		VOC (MSS)	267.60	-
		PM	30.66	-
		PM_{10}	30.66	-
		$PM_{2.5}$	30.66	-
		SO_2	37.88	-
		H_2SO_4	14.50	-
		NH_3	26.36	-
		NH_3 (MSS)	50.00	-

Emission Sources - Maximum Allowable Emission Rates

DC-CTS6 DC-CTHS6	Unit 6 Turbine – GE7FA Annual Emissions	NO_x	-	118.59
		CO	-	179.27
		VOC	-	36.77
		PM	-	62.88
		PM_{10}	-	62.88
		$PM_{2.5}$	-	62.88
		SO_2	-	30.50
		H_2SO_4	-	11.67
		NH_3	-	110.89
Scenario 2 - Simple/Combined Cycle Operations – Turbine Option 2				
DC-CTS5	Unit 5 Turbine – Siemens SGT6-5000F Simple Cycle	NO_x (6)	82.24	-
		NO_x (Ramping) (6, 8)	120	-
		NO_x (MSS) (6)	100	-
		CO (6)	28.73	-
		CO (Ramping) (6, 8)	815	-
		CO (MSS) (6)	1,824	-
		VOC	3.19	-
		VOC (MSS)	214	-
		PM	15.39	-
		PM_{10}	15.39	-
		$PM_{2.5}$	15.39	-
		SO_2	35.23	-
		H_2SO_4	5.39	-
DC-CTHS5	Unit 5 Turbine – Siemens SGT6-5000F Combined Cycle	NO_x (6)	21.12	-
		NO_x (MSS) (6)	148.80	-
		CO (6)	25.72	-
		CO (MSS) (6)	3612.00	-
		VOC	7.36	-
		VOC (MSS)	418.80	-

Emission Sources - Maximum Allowable Emission Rates

		PM	35.47	-
		PM_{10}	35.47	-
		$PM_{2.5}$	35.47	-
		SO_2	40.66	-
		H_2SO_4	15.56	-
		NH_3	27.37	-
		NH_3 (MSS)	50.00	-
DC-CTS5 DC-CTHS5	Unit 5 Turbine – Siemens SGT6-5000F Annual Emissions	NO_x	-	131.22
		CO	-	294.40
		VOC	-	47.65
		PM	-	81.88
		PM_{10}	-	81.88
		$PM_{2.5}$	-	81.88
		SO_2	-	35.62
		H_2SO_4	-	13.63
		NH_3	-	122.75
DC-CTS6	Unit 6 Turbine – Siemens SGT6-5000F Simple Cycle	NO_x (6)	82.24	-
		NO_x (Ramping) (6, 8)	120	-
		NO_x (MSS) (6)	100	-
		CO (6)	28.73	-
		CO (Ramping) (6, 8)	815	-
		CO (MSS) (6)	1,824	-
		VOC	3.19	-
		VOC (MSS)	214	-
		PM	15.39	-
		PM_{10}	15.39	-
		$PM_{2.5}$	15.39	-
		SO_2	35.23	-
		H_2SO_4	5.39	-

Emission Sources - Maximum Allowable Emission Rates

DC-CTHS6	Unit 6 Turbine – Siemens SGT6-5000F Combined Cycle	NO_x (6)	21.12	-
		NO_x (MSS) (6)	148.80	-
		CO (6)	25.72	-
		CO (MSS) (6)	3612.00	-
		VOC	7.36	-
		VOC (MSS)	418.80	-
		PM	35.47	-
		PM_{10}	35.47	-
		$PM_{2.5}$	35.47	-
		SO_2	40.66	-
		H_2SO_4	15.56	-
		NH_3	27.37	-
		NH_3 (MSS)	50.00	-
DC-CTS6 DC-CTHS6	Unit 6 Turbine – Siemens SGT6-5000F Annual Emissions	NO_x	-	131.22
		CO	-	294.40
		VOC	-	47.65
		PM	-	81.88
		PM_{10}	-	81.88
		$PM_{2.5}$	-	81.88
		SO_2	-	35.62
		H_2SO_4	-	13.63
		NH_3	-	122.75
Ancillary Emissions				
DC-CT5LOV	Unit 5 Lube Oil Vent	VOC	< 0.01	0.01
		PM	< 0.01	0.01
		PM_{10}	< 0.01	0.01
		$PM_{2.5}$	< 0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

DC-CT6LOV	Unit 6 Lube Oil Vent	VOC	< 0.01	0.01
		PM	< 0.01	0.01
		PM_{10}	< 0.01	0.01
		$PM_{2.5}$	< 0.01	0.01
DC-ST1LOV	Steam Turbine Lube Oil Vent	VOC	<0.01	0.01
		PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	0.01
DC-ABS	Auxiliary Boiler	NO_x	0.73	3.21
		CO	2.71	11.86
		VOC	0.40	1.75
		PM	0.55	2.41
		PM_{10}	0.55	2.41
		$PM_{2.5}$	0.55	2.41
		SO_2	1.04	0.91
DC-EDGV	Emergency Diesel Generator	NO_x	16.54	0.83
		CO	9.56	0.48
		VOC	0.89	0.04
		PM	0.54	0.03
		PM_{10}	0.54	0.03
		$PM_{2.5}$	0.54	0.03
		SO_2	0.02	<0.01
DC-DFPV	Diesel Firewater Pump	NO_x	1.74	0.09
		CO	1.88	0.09
		VOC	0.12	<0.01
		PM	0.09	<0.01
		PM_{10}	0.09	<0.01
		$PM_{2.5}$	0.09	<0.01

Emission Sources - Maximum Allowable Emission Rates

		SO_2	<0.01	<0.01
DC-EDGTV	Emergency Generator Diesel Tank	VOC	0.02	<0.01
DC-DFPTV	Firewater Pump Diesel Tank	VOC	0.02	<0.01
DC-NGFUG	Natural Gas Component Fugitives (5)	VOC	0.01	0.03
DC-NH_3F	Ammonia Component Fugitives (5)	NH_3	0.12	0.51
DC-LOFUG	Units 5 and 6 Lube Oil Component Fugitives (5)	VOC	0.50	2.18
DC-MSSFUG	Planned Maintenance Activities Fugitives (5)	NO_x	< 0.01	< 0.01
		CO	< 0.01	< 0.01
		VOC	0.12	< 0.01
		PM	0.05	< 0.01
		PM_{10}	0.05	< 0.01
		$PM_{2.5}$	0.05	< 0.01
		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
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
SO_2 - sulfur dioxide
H_2SO_4 - sulfuric acid
MSS - maintenance, startup, and shutdown emissions.
NH_3 - ammonia
(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) For each pollutant whose emissions during planned MSS activities are measured using a CEMS, the MSS lb/hr limits apply only during each clock hour that includes one or more minutes of MSS activities. During all other clock hours, the lb/hr limits for normal operations, peak firing operations, and transitional load operations apply, as applicable, subject to the qualifying requirements in the Special Conditions.
(7) This hourly emission rate is authorized only during periods of peak firing operation of the GE model turbine, when turbine operation is above base load, subject to the qualifying requirements in the Special Conditions.

Emission Sources - Maximum Allowable Emission Rates

(8) This hourly emission rate is authorized only during periods of transitional load operation of the Siemens model turbine, other than periods of planned MSS, when the turbine ramp rate is greater than 5 MW/minute, subject to the qualifying requirements in the Special Conditions.

Date: March 8, 2016