Emission Sources - Maximum Allowable Emission Rates

Permit Number 48106 and PSDTX1012M2

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 (16)	TPY (4)
SH1 (6)	GE LM 6000 (~ 50 MW) Simple Cycle (≤ 2,750 hrs/yr)	NO_x	8.6	11.9
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	44.2	60.8
		CO (MSS)	923.0	-
		VOC	4.1	5.6
		VOC (MSS)	17.6	-
		PM	4.0	5.5
		PM_{10}	4.0	5.5
		SO_2	0.3	0.5
		NH_3	4.5	6.1
SH1	GE LM 6000 (~ 50 MW) Simple Cycle (with CO catalyst)	NO_x	8.6	37.8
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	9.5	41.4
		CO (MSS)	923.0	-
		VOC	1.2	5.3
		VOC (MSS)	17.6	-
		PM	4.0	17.5
		PM_{10}	4.0	17.5
		SO_2	0.3	1.5
		NH_3	4.5	19.6

Emission Sources - Maximum Allowable Emission Rates

SH2 (6)	GE LM 6000 (~ 50 MW) Simple Cycle (≤ 2,750 hrs/yr)	NO_x	8.6	11.9
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	44.2	60.8
		CO (MSS)	923.0	-
		VOC	4.1	5.6
		VOC (MSS)	17.6	-
		PM	4.0	5.5
		PM_{10}	4.0	5.5
		SO_2	0.3	0.5
		NH_3	4.5	6.1
SH2	GE LM 6000 (~ 50 MW) Simple Cycle (with CO catalyst)	NO_x	8.6	37.8
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	9.5	41.4
		CO (MSS)	923.0	-
		VOC	1.2	5.3
		VOC (MSS)	17.6	-
		PM	4.0	17.5
		PM_{10}	4.0	17.5
		SO_2	0.3	1.5
		NH_3	4.5	19.6

Emission Sources - Maximum Allowable Emission Rates

SH3 (6)	GE LM 6000 (~ 50 MW) Simple Cycle (≤ 2,750 hrs/yr)	NO_x	8.6	11.9
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	44.2	60.8
		CO (MSS)	923.0	-
		VOC	4.1	5.6
		VOC (MSS)	17.6	-
		PM	4.0	5.5
		PM_{10}	4.0	5.5
		SO_2	0.3	0.5
		NH_3	4.5	6.1
SH3	GE LM 6000 (~ 50 MW) Simple Cycle (with CO catalyst)	NO_x	8.6	37.8
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	9.5	41.4
		CO (MSS)	923.0	-
		VOC	1.2	5.3
		VOC (MSS)	17.6	-
		PM	4.0	17.5
		PM_{10}	4.0	17.5
		SO_2	0.3	1.5
		NH_3	4.5	19.6

Emission Sources - Maximum Allowable Emission Rates

SH4 (6)	GE LM 6000 (~ 50 MW) Simple Cycle (≤ 2,750 hrs/yr)	NO_x	8.6	11.9
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	44.2	60.8
		CO (MSS)	923.0	-
		VOC	4.1	5.6
		VOC (MSS)	17.6	-
		PM	4.0	5.5
		PM_{10}	4.0	5.5
		SO_2	0.3	0.5
		NH_3	4.5	6.1
SH4	GE LM 6000 (~ 50 MW) Simple Cycle (with CO catalyst)	NO_x	8.6	37.8
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	9.5	41.4
		CO (MSS)	923.0	-
		VOC	1.2	5.3
		VOC (MSS)	17.6	-
		PM	4.0	17.5
		PM_{10}	4.0	17.5
		SO_2	0.3	1.5
		NH_3	4.5	19.6

Emission Sources - Maximum Allowable Emission Rates

SH5 (7)	GE 7FA (~ 164 MW) HRSG (~ 681 MMBtu-hr) Combined Cycle	NO_x	46.7	191.4
		NO_x (MSS)	247.0	-
		CO	98.4	403.3
		CO (MSS)	2,200.0	-
		VOC	16.4	67.4
		VOC (MSS)	150.0	-
		PM	32.8	134.5
		PM_{10}	32.8	134.5
		SO_2	1.6	7.3
		NH_3	24.2	99.0
SH6 (6)	GE LM 6000 (~ 50 MW) Simple Cycle (≤ 2,750 hrs/yr)	NO_x	8.6	11.9
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	44.2	60.8
		CO (MSS)	923.0	-
		VOC	4.1	5.6
		VOC (MSS)	17.6	-
		PM	4.0	5.5
		PM_{10}	4.0	5.5
		SO_2	0.3	0.5
		NH_3	4.5	6.1

Emission Sources - Maximum Allowable Emission Rates

SH6	GE LM 6000 (~ 50 MW) Simple Cycle (with CO catalyst)	NO_x	8.6	37.8
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	9.5	41.4
		CO (MSS)	923.0	-
		VOC	1.2	5.3
		VOC (MSS)	17.6	-
		PM	4.0	17.5
		PM_{10}	4.0	17.5
		SO_2	0.3	1.5
		NH_3	4.5	19.6
SH7 (6)	GE LM 6000 (~ 50 MW) Simple Cycle (≤ 2,750 hrs/yr)	NO_x	8.6	11.9
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-
		CO	44.2	60.8
		CO (MSS)	923.0	-
		VOC	4.1	5.6
		VOC (MSS)	17.6	-
		PM	4.0	5.5
		PM_{10}	4.0	5.5
		SO_2	0.3	0.5
		NH_3	4.5	6.1
SH7	GE LM 6000 (~ 50 MW) Simple Cycle (with CO catalyst)	NO_x	8.6	37.8
		NO_x (MSS) (17)	203.7	-
		NO_x (MSS) (18)	100.0	-

Emission Sources - Maximum Allowable Emission Rates

		CO	9.5	41.4
		CO (MSS)	923.0	-
		VOC	1.2	5.3
		VOC (MSS)	17.6	-
		PM	4.0	17.5
		PM_{10}	4.0	17.5
		SO_2	0.3	1.5
		NH_3	4.5	19.6
SH8 (7)	GE 7FA (~ 173.9 MW) HRSG (~ 681 MMBtu-hr) Combined Cycle	NO_x	21.0	120.7
		NO_x (MSS)	70.0	-
		NO_x (PHTN)	140.0	-
		CO	14.7	621.9
		CO (MSS)	1,100.0	-
		VOC	6.7	69.5
		VOC (MSS)	85.5	-
		PM	18.4	80.8
		PM_{10}	18.4	80.8
		$PM_{2.5}$	18.4	80.8
		SO_2	1.7	7.3
		H_2SO_4	1.0	4.5
		NH_3	26.0	134.1
		NH_3 (MSS)	65.0	-
HTR-01 (8)	Inlet Air Heaters	NO_x	0.49	0.25
		CO	0.41	0.21
		VOC	0.03	0.01

Emission Sources - Maximum Allowable Emission Rates

		PM	0.04	0.02
		PM_{10}	0.04	0.02
		SO_2	<0.01	<0.01
HTR-02 (8)	Inlet Air Heaters	NO_x	0.49	0.25
		CO	0.41	0.21
		VOC	0.03	0.01
		PM	0.04	0.02
		PM_{10}	0.04	0.02
		SO_2	<0.01	<0.01
HTR-03 (8)	Inlet Air Heaters	NO_x	0.49	0.25
		CO	0.41	0.21
		VOC	0.03	0.01
		PM	0.04	0.02
		PM_{10}	0.04	0.02
		SO_2	<0.01	<0.01
SC CTWR-1 (9)	Simple Cycle Cooling Tower 1	VOC	2.20	0.05
		PM	0.21	0.42
		PM_{10}	0.14	0.29
		$PM_{2.5}$	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		HOCl	0.02	<0.01
SC CTWR-2 (9)	Simple Cycle Cooling Tower 2	VOC	2.20	0.05
		PM	0.21	0.42
		PM_{10}	0.14	0.29
		$PM_{2.5}$	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

		H_2SO_4	<0.01	<0.01
		HOCl	0.02	<0.01
SC CTWR-3 (9)	Simple Cycle Cooling Tower 3	VOC	2.20	0.05
		PM	0.21	0.42
		PM_{10}	0.14	0.29
		$PM_{2.5}$	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		HOCl	0.02	<0.01
SC CTWR-4 (9)	Simple Cycle Cooling Tower 4	VOC	1.85	0.04
		PM	0.03	0.06
		PM_{10}	0.02	0.04
		$PM_{2.5}$	<0.01	<0.01
		H_2SO_4	<0.01	<0.01
		HOCl	<0.01	<0.01
CLTWR-1	Cooling Tower 1 (combined cycle)	VOC	0.80	1.54
		PM	2.74	12.0
		PM_{10}	0.84	3.69
		$PM_{2.5}$	0.01	0.02
		H_2SO_4	<0.01	<0.01
		HOCl	0.53	0.11
SC PB FUG (5)	Simple Cycle Power Block Fugitives	VOC	0.01	0.06
		H_2S	<0.01	<0.01
SC MS FUG (5)	Simple Cycle Natural Gas Meter Skid	VOC	0.05	0.21
		H_2S	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

CC PB FUG (5)	Combined Cycle Power Block Fugitives	VOC	0.04	0.14
		H_2S	<0.01	<0.01
CC MS FUG (5)	Combined Cycle Natural Gas Meter Skid	VOC	0.10	0.44
		H_2S	<0.01	<0.01
SC AMFUG (5)	Simple Cycle Ammonia Fugitives	NH_3	0.25	1.1
CC AMFUG (5)	Combined Cycle Ammonia Fugitives	NH_3	0.06	0.23
TANK 5-4	Oil/Water Separator	VOC	0.05	0.01
EDG (10)	Emergency Diesel Generator Twin Pack	NO_x	7.3	3.2
		CO	1.4	0.6
		VOC	0.37	0.14
		PM	0.2	0.1
		PM_{10}	0.2	0.1
		SO_2	<0.01	<0.01
SC-VNTS (11)	Simple Cycle Oil Vents	PM_{10}	0.14	0.62
		VOC	0.28	1.24
CC-VNTS (12)	Combined Cycle Oil Vents	PM_{10}	0.04	0.15
		$PM_{2.5}$	0.04	0.15
		VOC	0.07	0.30
WTTNKS (13)	Water Treatment Chemical Storage Tanks	VOC	8.68	1.28
		H_2SO_4	0.02	<0.01
OILRES (14)	Circulating Water Pump/Gas Compressor Lube Oil Reservoir	VOC	<0.01	<0.01
WASHTNKS (15)	Underground Wash Water Tanks	VOC	0.48	0.05

Emission Sources - Maximum Allowable Emission Rates

MSSFUG (5)	Non-ILE Maintenance Activities Attachment B	VOC	90.22	3.97
		PM_{10}	1.12	0.18
		$PM_{2.5}$	0.17	0.03
		H_2S	0.03	<0.01
		Exempt Solvent	0.01	0.04
ILEMSS (5)	ILE Maintenance Activities Attachment A	NO_x	0.32	0.70
		CO	0.18	0.40
		VOC	0.13	0.14
		PM_{10}	0.03	0.05
		$PM_{2.5}$	0.03	0.05
		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) Exempt Solvent -Those carbon compounds or mixtures of carbon compounds used as solvents which have been excluded from the definition of volatile organic compound.

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
HOCl - hypochlorous acid
H_2S - hydrogen sulfide
H_2SO_4 - sulfuric acid
MSS - maintenance, startup, and shutdown
PHTN - peak high transitory NO_x

(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) Hours of operations are limited to 2,750 hours until the requirements of Special Condition No. 12 have been meet.
(7) Emissions are based upon 8,200 operating hours per year.
(8) Emissions are based upon 1,000 operating hours per year.

Emission Sources - Maximum Allowable Emission Rates

(9) Emissions are based upon 4,000 operating hours per year.
(10) Emissions are based upon 876 operation hours per year.
(11) This grouping includes the following vents: SH-VNT-1-4 (A-D), SH6-7 (A-D).
(12) This grouping includes the following vents: SH-VNT-5 (A-C) and SH-VNT-8 (A-B).
(13) This grouping includes the following tanks: SH-TNK (20-26, 49-50) and SH-CLARIFY.
(14) This grouping includes the following tanks: SH-TNK (41-44, 51).
(15) This grouping includes the following tanks: SH-TNK (8-13, 45-48, 52).
(16) For each pollutant whose emissions are measured during planned MSS activities using a CEMS, only the MSS lb/hr limits apply during each clock hour that includes one or more minutes of MSS activities. During all other clock hours, the normal lb/hr limits apply.
(17) The NO_x MSS emission rate is in effect until start of operation of turbine number 8 (EPN: SH8).
(18) The NO_x MSS emission rate goes into effect upon start of operation of turbine number 8 (EPN: SH8).

Date: March 20, 2015