Emission Sources - Maximum Allowable Emission Rates

Permit Number 41953 and PSDTX951

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)
Turbine Only - Hourly Emission Rates				
U1	Turbine No. 1 (5) GE 7FA	NO_x	62.2	-
		NO_x (MSS)	188.54	-
		CO	31.7	-
		CO (MSS)	2209.90	-
		VOC	3.1	-
		VOC (MSS)	183.49	-
		PM	14.2	-
		PM (MSS)	22.06	-
		PM_{10}	14.2	-
		PM_{10} (MSS)	22.06	-
		$PM_{2.5}$	14.2	-
		$PM_{2.5}$ (MSS)	22.06	-
		SO_2	28.4	-
		SO_2 (MSS)	36.17	-
		H_2SO_4	2.2	-
		H_2SO_4 (MSS)	4.56	-
U2	Turbine No. 2 (5) GE 7FA	NO_x	62.2	-
		NO_x (MSS)	188.54	-
		CO	31.7	-
		CO (MSS)	2209.90	-
		VOC	3.1	-
		VOC (MSS)	183.49	-
		PM	14.2	-

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		PM (MSS)	22.06	-
		PM_{10}	14.2	-
		PM_{10} (MSS)	22.06	-
		$PM_{2.5}$	14.2	-
		$PM_{2.5}$ (MSS)	22.06	-
		SO_2	28.4	-
		SO_2 (MSS)	36.17	-
		H_2SO_4	2.2	-
		H_2SO_4 (MSS)	4.56	-
U3	Turbine No. 3 (5) GE 7FA	NO_x	62.2	-
		NO_x (MSS)	188.54	-
		CO	31.7	-
		CO (MSS)	2209.90	-
		VOC	3.1	-
		VOC (MSS)	183.49	-
		PM	14.2	-
		PM (MSS)	22.06	-
		PM_{10}	14.2	-
		PM_{10} (MSS)	22.06	-
		$PM_{2.5}$	14.2	-
		$PM_{2.5}$ (MSS)	22.06	-
		SO_2	28.4	-
		SO_2 (MSS)	36.17	-
		H_2SO_4	2.2	-
		H_2SO_4 (MSS)	4.56	-
U4	Turbine No. 4 (5) GE 7FA	NO_x	62.2	-
		NO_x (MSS)	188.54	-
		CO	31.7	-
		CO (MSS)	2209.90	-

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		VOC	3.1	-
		VOC (MSS)	183.49	-
		PM	14.2	-
		PM (MSS)	22.06	-
		PM_{10}	14.2	-
		PM_{10} (MSS)	22.06	-
		$PM_{2.5}$	14.2	-
		$PM_{2.5}$ (MSS)	22.06	-
		SO_2	28.4	-
		SO_2 (MSS)	36.17	-
		H_2SO_4	2.2	-
		H_2SO_4 (MSS)	4.56	-
U5	Turbine No. 5 (5) GE 7FA	NO_x	62.2	-
		NO_x (MSS)	188.54	-
		CO	31.7	-
		CO (MSS)	2209.90	-
		VOC	3.1	-
		VOC (MSS)	183.49	-
		PM	14.2	-
		PM (MSS)	22.06	-
		PM_{10}	14.2	-
		PM_{10} (MSS)	22.06	-
		$PM_{2.5}$	14.2	-
		$PM_{2.5}$ (MSS)	22.06	-
		SO_2	28.4	-
		SO_2 (MSS)	36.17	-
		H_2SO_4	2.2	-
		H_2SO_4 (MSS)	4.56	-
U6	Turbine No. 6 (5) GE 7FA	NO_x	62.2	-

Emission Sources - Maximum Allowable Emission Rates

		NO_x (MSS)	188.54	-
		CO	31.7	-
		CO (MSS)	2209.90	-
		VOC	3.1	-
		VOC (MSS)	183.49	-
		PM	14.2	-
		PM (MSS)	22.06	-
		PM_{10}	14.2	-
		PM_{10} (MSS)	22.06	-
		$PM_{2.5}$	14.2	-
		$PM_{2.5}$ (MSS)	22.06	-
		SO_2	28.4	-
		SO_2 (MSS)	36.17	-
		H_2SO_4	2.2	-
		H_2SO_4 (MSS)	4.56	-
Turbine + Duct Burner (DB) - Hourly Emission Rates				
U1	Turbine No. 1 + 550 MMBtu DB (5,6) GE 7FA	NO_x	106.25	-
		NO_x (MSS)	188.54	-
		CO	75.75	-
		CO (MSS)	2209.90	-
		VOC	11.85	-
		VOC (MSS)	183.49	-
		PM	22.06	-
		PM_{10}	22.06	-
		$PM_{2.5}$	22.06	-
		SO_2	36.17	-
		H_2SO_4	4.56	-
U2	Turbine No. 2 + 550 MMBtu DB (5,6) GE 7FA	NO_x	106.25	-
		NO_x (MSS)	188.54	-

Emission Sources - Maximum Allowable Emission Rates

		CO	75.75	-
		CO (MSS)	2209.90	-
		VOC	11.85	-
		VOC (MSS)	183.49	-
		PM	22.06	-
		PM_{10}	22.06	-
		$PM_{2.5}$	22.06	-
		SO_2	36.17	-
		H_2SO_4	4.56	-
U3	Turbine No. 3 + 550 MMBtu DB (5,6) GE 7FA	NO_x	106.25	-
		NO_x (MSS)	188.54	-
		CO	75.75	-
		CO (MSS)	2209.90	-
		VOC	11.85	-
		VOC (MSS)	183.49	-
		PM	22.06	-
		PM_{10}	22.06	-
		$PM_{2.5}$	22.06	-
		SO_2	36.17	-
		H_2SO_4	4.56	-
U4	Turbine No. 4 + 500 MMBtu DB (5,6) GE 7FA	NO_x	106.25	-
		NO_x (MSS)	188.54	-
		CO	75.75	-
		CO (MSS)	2209.90	-
		VOC	11.85	-
		VOC (MSS)	183.49	-
		PM	22.06	-
		PM_{10}	22.06	-
		$PM_{2.5}$	22.06	-

Emission Sources - Maximum Allowable Emission Rates

		SO_2	36.17	-
		H_2SO_4	4.56	-
U5	Turbine No. 5 + 550 MMBtu DB (5,6) GE 7FA	NO_x	106.25	-
		NO_x (MSS)	188.54	-
		CO	75.75	-
		CO (MSS)	2209.90	-
		VOC	11.85	-
		VOC (MSS)	183.49	-
		PM	22.06	-
		PM_{10}	22.06	-
		$PM_{2.5}$	22.06	-
		SO_2	36.17	-
		H_2SO_4	4.56	-
U6	Turbine No. 6 + 550 MMBtu DB (5,6) GE 7FA	NO_x	106.25	-
		NO_x (MSS)	188.54	-
		CO	75.75	-
		CO (MSS)	2209.90	-
		VOC	11.85	-
		VOC (MSS)	183.49	-
		PM	22.06	-
		PM_{10}	22.06	-
		$PM_{2.5}$	22.06	-
		SO_2	36.17	-
		H_2SO_4	4.56	-
U1, U2 U3, U4 U5, U6	Combined Annual Emission Rates Turbines Nos. 1- 6 + 500 MMBtu DBs	NO_x	-	1927.1
		CO	-	1152.1
		VOC	-	152.7
		PM	-	392.6
		PM_{10}	-	392.6

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	-	392.6
		SO_2	-	285.5
		H_2SO_4	-	27.8
EMGEN	Emergency Diesel Generator (7)	NO_x	30.49	1.83
		CO	6.99	0.42
		PM	0.89	0.05
		PM_{10}	0.89	0.05
		$PM_{2.5}$	0.89	0.05
		VOC	0.90	0.05
		SO_2	5.14	0.31
WTRPMP	Firewater Pump Engine (7)	NO_x	3.16	0.19
		CO	0.17	0.02
		PM	0.06	0.01
		PM_{10}	0.06	0.01
		$PM_{2.5}$	0.06	0.01
		VOC	0.10	0.01
		SO_2	0.36	0.03
CT-1	Cooling Tower (8,9)	PM	27.54	18.93
		PM_{10}	27.54	18.93
		$PM_{2.5}$	27.54	18.93
CT-2	Cooling Tower (8,9)	PM	27.54	18.93
		PM_{10}	27.54	18.93
		$PM_{2.5}$	27.54	18.93
LUBE1	Lube Oil Demisters (10)	PM	0.04	0.17
		PM_{10}	0.04	0.17
		$PM_{2.5}$	0.04	0.17
		VOC	0.04	0.17
FUG	Piping Fugitives (11)	VOC	1.25	5.49
MSSFUG	Planned MSS Activities (11)	NO_x	<0.01	<0.01

ILE and non-ILE

Emission Sources - Maximum Allowable Emission Rates

		CO	<0.01	<0.01
		VOC	18.39	0.13

(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) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
H_2SO_4 - sulfuric acid
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
MSS - maintenance, startup, and shutdown
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Planned MSS for all pollutants is authorized even if not specifically identified as MSS. During any clock hour that includes one or more minutes of planned MSS that pollutant's maximum hourly emission rate shall apply during that clock hour.
(6) The turbine and duct burner emission rates apply during any clock hour that includes one or more minutes of duct burner firing, and no MSS activities.
(7) Emissions are based on normal operations of 100 operating hours per year.
(8) Cooling tower PM_{10} emission are an estimate only based on manufacturer's test data.
(9) The maximum 24-hour average hourly PM_{10} emission rate is 4.32 lb/hr for each cooling tower.
(10) Turbine oil mist vent emissions are an estimate only based on estimates from the mist eliminator manufacturer data.
(11) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: July 24, 2020