

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 131316 and PSDTX1454

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 (5)	
			lbs/hour	TPY (4)
Siemens Turbine Option				
GT-11	Siemens Turbine – Power Block 1	NO _x	19.70	97.86
		NO _x (MSS)	83.0	
		CO	12.00	65.20
		CO (MSS)	321.80	
		VOC	6.90	81.25
		VOC (MSS)	239.00	
		PM	14.00	62.49
		PM ₁₀	14.00	62.49
		PM _{2.5}	14.00	62.49
		SO ₂	4.00	4.13
		H ₂ SO ₄	2.80	6.95
		NH ₃	25.50	105.12
		CH ₂ O	0.60	2.48
GT-12	Siemens Turbine – Power Block 1	NO _x	19.70	97.86
		NO _x (MSS)	83.0	
		CO	12.00	65.20
		CO (MSS)	321.80	
		VOC	6.90	81.25
		VOC (MSS)	239.00	
		PM	14.00	62.49
		PM ₁₀	14.00	62.49
		PM _{2.5}	14.00	62.49
		SO ₂	4.00	4.13
		H ₂ SO ₄	2.80	6.95
		NH ₃	25.50	105.12

Emission Sources - Maximum Allowable Emission Rates

GT-13	Siemens Turbine – Power Block 1	CH ₂ O	0.60	2.48
		NO _x	19.70	97.86
		NO _x (MSS)	83.0	
		CO	12.00	65.20
		CO (MSS)	321.80	
		VOC	6.90	81.25
		VOC (MSS)	239.00	
		PM	14.00	62.49
		PM ₁₀	14.00	62.49
		PM _{2.5}	14.00	62.49
		SO ₂	4.00	4.13
		H ₂ SO ₄	2.80	6.95
		NH ₃	25.50	105.12
		CH ₂ O	0.60	2.48
GT-21	Siemens Turbine –Power Block 2	NO _x	19.70	97.86
		NO _x (MSS)	83.0	
		CO	12.00	65.20
		CO (MSS)	321.80	
		VOC	6.90	81.25
		VOC (MSS)	239.00	
		PM	14.00	62.49
		PM ₁₀	14.00	62.49
		PM _{2.5}	14.00	62.49
		SO ₂	4.00	4.13
		H ₂ SO ₄	2.80	6.95
		NH ₃	25.50	105.12
		CH ₂ O	0.60	2.48
GT-22	Siemens Turbine –Power Block 2	NO _x	19.70	97.86
		NO _x (MSS)	83.0	
		CO	12.00	65.20

Emission Sources - Maximum Allowable Emission Rates

		CO (MSS)	321.80	81.25
		VOC	6.90	
		VOC (MSS)	239.00	
		PM	14.00	62.49
		PM ₁₀	14.00	62.49
		PM _{2.5}	14.00	62.49
		SO ₂	4.00	4.13
		H ₂ SO ₄	2.80	6.95
		NH ₃	25.50	105.12
		CH ₂ O	0.60	2.48
GT-23	Siemens Turbine –Power Block 2	NO _x	19.70	97.86
		NO _x (MSS)	83.0	
		CO	12.00	65.20
		CO (MSS)	321.80	
		VOC	6.90	81.25
		VOC (MSS)	239.00	
		PM	14.00	62.49
		PM ₁₀	14.00	62.49
		PM _{2.5}	14.00	62.49
		SO ₂	4.00	4.13
		H ₂ SO ₄	2.80	6.95
		NH ₃	25.50	105.12
		CH ₂ O	0.60	2.48
GT-31	Siemens Turbine –Power Block 3	NO _x	19.70	97.86
		NO _x (MSS)	83.0	
		CO	12.00	65.20
		CO (MSS)	321.80	
		VOC	6.90	81.25
		VOC (MSS)	239.00	

Emission Sources - Maximum Allowable Emission Rates

		PM	14.00	62.49
		PM ₁₀	14.00	62.49
		PM _{2.5}	14.00	62.49
		SO ₂	4.00	4.13
		H ₂ SO ₄	2.80	6.95
		NH ₃	25.50	105.12
		CH ₂ O	0.60	2.48
GT-32	Siemens Turbine –Power Block 3	NO _x	19.70	97.86
		NO _x (MSS)	83.0	
		CO	12.00	65.20
		CO (MSS)	321.80	
		VOC	6.90	81.25
		VOC (MSS)	239.00	
		PM	14.00	62.49
		PM ₁₀	14.00	62.49
		PM _{2.5}	14.00	62.49
		SO ₂	4.00	4.13
		H ₂ SO ₄	2.80	6.95
		NH ₃	25.50	105.12
		CH ₂ O	0.60	2.48
GT-33	Siemens Turbine –Power Block 3	NO _x	19.70	97.86
		NO _x (MSS)	83.0	
		CO	12.00	65.20
		CO (MSS)	321.80	
		VOC	6.90	81.25
		VOC (MSS)	239.00	
		PM	14.00	62.49
		PM ₁₀	14.00	62.49
		PM _{2.5}	14.00	62.49

Emission Sources - Maximum Allowable Emission Rates

		SO ₂	4.00	4.13
		H ₂ SO ₄	2.80	6.95
		NH ₃	25.50	105.12
		CH ₂ O	0.60	2.48
GE Turbine Option				
GT-11	GE Turbine – Power Block 1	NO _x	25.20	147.00
		NO _x (MSS)	137.60	
		CO	16.10	97.80
		CO (MSS)	253.00	
		VOC	9.70	121.88
		VOC (MSS)	239.30	
		PM	21.40	93.73
		PM ₁₀	21.40	93.73
		PM _{2.5}	21.40	93.73
		SO ₂	5.40	6.50
		H ₂ SO ₄	9.50	10.42
		NH ₃	36.00	157.68
		CH ₂ O	0.82	3.59
		GT-12	GE Turbine – Power Block 1	NO _x
NO _x (MSS)	137.60			
CO	16.10			97.80
CO (MSS)	253.00			
VOC	9.70			121.88
VOC (MSS)	239.30			
PM	21.40			93.73
PM ₁₀	21.40			93.73
PM _{2.5}	21.40			93.73
SO ₂	5.40			6.50
H ₂ SO ₄	9.50			10.42
NH ₃	36.00			157.68
CH ₂ O	0.82			3.59

Emission Sources - Maximum Allowable Emission Rates

GT-21	GE Turbine – Power Block 2	NO _x	25.20	147.00
		NO _x (MSS)	137.60	
		CO	16.10	97.80
		CO (MSS)	253.00	
		VOC	9.70	121.88
		VOC (MSS)	239.30	
		PM	21.40	93.73
		PM ₁₀	21.40	93.73
		PM _{2.5}	21.40	93.73
		SO ₂	5.40	6.50
		H ₂ SO ₄	9.50	10.42
		NH ₃	36.00	157.68
		CH ₂ O	0.82	3.59
GT-22	GE Turbine – Power Block 2	NO _x	25.20	147.00
		NO _x (MSS)	137.60	
		CO	16.10	97.80
		CO (MSS)	253.00	
		VOC	9.70	121.88
		VOC (MSS)	239.30	
		PM	21.40	93.73
		PM ₁₀	21.40	93.73
		PM _{2.5}	21.40	93.73
		SO ₂	5.40	6.50
		H ₂ SO ₄	9.50	10.42
		NH ₃	36.00	157.68
		CH ₂ O	0.82	3.59
GT-31	GE Turbine – Power Block 3	NO _x	25.20	147.00
		NO _x (MSS)	137.60	
		CO	16.10	97.80
		CO (MSS)	253.00	
		VOC	9.70	121.88

Emission Sources - Maximum Allowable Emission Rates

		VOC (MSS)	239.30	
		PM	21.40	93.73
		PM ₁₀	21.40	93.73
		PM _{2.5}	21.40	93.73
		SO ₂	5.40	6.50
		H ₂ SO ₄	9.50	10.42
		NH ₃	36.00	157.68
		CH ₂ O	0.82	3.59
GT-32	GE Turbine – Power Block 3	NO _x	25.20	147.00
		NO _x (MSS)	137.60	
		CO	16.10	97.80
		CO (MSS)	253.00	
		VOC	9.70	121.88
		VOC (MSS)	239.30	
		PM	21.40	93.73
		PM ₁₀	21.40	93.73
		PM _{2.5}	21.40	93.73
		SO ₂	5.40	6.50
		H ₂ SO ₄	9.50	10.42
		NH ₃	36.00	157.68
		CH ₂ O	0.82	3.59
Ancillary Emissions				
CT-1	Cooling Tower 1	PM	2.33	10.20
		PM ₁₀	1.01	4.43
		PM _{2.5}	0.005	0.02
CT-2	Cooling Tower 2	PM	2.33	10.20
		PM ₁₀	1.01	4.43
		PM _{2.5}	0.005	0.02
CT-3	Cooling Tower 3	PM	2.33	10.20
		PM ₁₀	1.01	4.43

Emission Sources - Maximum Allowable Emission Rates

		PM _{2.5}	0.005	0.02
FWP-1	Emergency Firewater Pump 1	NO _x	2.50	0.12
		CO	0.72	0.04
		VOC	0.99	0.05
		PM	0.09	0.01
		PM ₁₀	0.09	0.01
		PM _{2.5}	0.09	0.01
		SO ₂	0.01	0.01
FWP-2	Emergency Firewater Pump 2	NO _x	2.50	0.12
		CO	0.72	0.04
		VOC	0.99	0.05
		PM	0.09	0.01
		PM ₁₀	0.09	0.01
		PM _{2.5}	0.09	0.01
		SO ₂	0.01	0.01
FWP-3	Emergency Firewater Pump 3	NO _x	2.50	0.12
		CO	0.72	0.04
		VOC	0.99	0.05
		PM	0.09	0.01
		PM ₁₀	0.09	0.01
		PM _{2.5}	0.09	0.01
		SO ₂	0.01	0.01
EG-1	Emergency Generator 1	NO _x	15.63	0.78
		CO	8.60	0.43
		VOC	1.05	0.05
		PM	0.49	0.02
		PM ₁₀	0.49	0.02
		PM _{2.5}	0.49	0.02
		SO ₂	0.02	0.01

Emission Sources - Maximum Allowable Emission Rates

EG-2	Emergency Generator 2	NO _x	15.63	0.78
		CO	8.60	0.43
		VOC	1.05	0.05
		PM	0.49	0.02
		PM ₁₀	0.49	0.02
		PM _{2.5}	0.49	0.02
		SO ₂	0.02	0.01
EG-3	Emergency Generator 3	NO _x	15.63	0.78
		CO	8.60	0.43
		VOC	1.05	0.05
		PM	0.49	0.02
		PM ₁₀	0.49	0.02
		PM _{2.5}	0.49	0.02
		SO ₂	0.02	0.01
DIESEL-1	Diesel Storage Tank 1	VOC	0.05	0.01
DIESEL-2	Diesel Storage Tank 2	VOC	0.01	0.01
DIESEL-3	Diesel Storage Tank 3	VOC	0.05	0.01
DIESEL-4	Diesel Storage Tank 4	VOC	0.01	0.01
DIESEL-5	Diesel Storage Tank 5	VOC	0.05	0.01
DIESEL-6	Diesel Storage Tank 6	VOC	0.01	0.01
FUG-NH ₃	Ammonia Piping Fugitives (6)	NH ₃	1.32	5.76
FUG-NGAS	Natural Gas Fugitives (6)	VOC	0.01	0.03

(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 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
 - SO₂ - sulfur dioxide
 - H₂SO₄ - sulfuric acid
 - NH₃ - ammonia
 - CH₂O - formaldehyde
 - MSS - maintenance, startup, and shutdown

Emission Sources - Maximum Allowable Emission Rates

- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period. Annual emission rates include planned MSS and TE unless otherwise noted.

Emission Sources - Maximum Allowable Emission Rates

- (5) Planned maintenance, startup and shutdown (MSS) for all pollutants are 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) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: February 14, 2017

Emission Sources - Maximum Allowable Emission Rates

Permit Number GHGPDTX133

This table lists the maximum allowable emission rates of greenhouse gas (GHG) emissions, as defined in Title 30 Texas Administrative Code § 101.1, for all sources of GHG air contaminants on the applicant's property that are authorized 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 authorized by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
Siemens Turbine Option				
GT-11	Siemens Turbine – Power Block 1	N ₂ O (5)	-	3
		CH ₄ (5)	-	24
		CO ₂ (5)	-	1,285,255
		CO ₂ e	-	1,286,564
GT-12	Siemens Turbine – Power Block 1	N ₂ O (5)	-	3
		CH ₄ (5)	-	24
		CO ₂ (5)	-	1,285,255
		CO ₂ e	-	1,286,564
GT-13	Siemens Turbine – Power Block 1	N ₂ O (5)	-	3
		CH ₄ (5)	-	24
		CO ₂ (5)	-	1,285,255
		CO ₂ e	-	1,286,564
GT-21	Siemens Turbine – Power Block 2	N ₂ O (5)	-	3
		CH ₄ (5)	-	24
		CO ₂ (5)	-	1,285,255
		CO ₂ e	-	1,286,564
GT-22	Siemens Turbine – Power Block 2	N ₂ O (5)	-	3
		CH ₄ (5)	-	24
		CO ₂ (5)	-	1,285,255
		CO ₂ e	-	1,286,564
GT-23	Siemens Turbine – Power Block 2	N ₂ O (5)	-	3
		CH ₄ (5)	-	24
		CO ₂ (5)	-	1,285,255

Emission Sources - Maximum Allowable Emission Rates

		CO ₂ e	-	1,286,564
GT-31	Siemens Turbine – Power Block 3	N ₂ O (5)	-	3
		CH ₄ (5)	-	24
		CO ₂ (5)	-	1,285,255
		CO ₂ e	-	1,286,564
GT-32	Siemens Turbine – Power Block 3	N ₂ O (5)	-	3
		CH ₄ (5)	-	24
		CO ₂ (5)	-	1,285,255
		CO ₂ e	-	1,286,564
GT-33	Siemens Turbine – Power Block 3	N ₂ O (5)	-	3
		CH ₄ (5)	-	24
		CO ₂ (5)	-	1,285,255
		CO ₂ e	-	1,286,564
GE Turbine Option				
GT-11	GE Turbine – Power Block 1	N ₂ O (5)	-	60
		CH ₄ (5)	-	467
		CO ₂ (5)	-	2,004,025
		CO ₂ e	-	2,024,241
GT-12	GE Turbine – Power Block 1	N ₂ O (5)	-	60
		CH ₄ (5)	-	467
		CO ₂ (5)	-	2,004,025
		CO ₂ e	-	2,024,241
GT-21	GE Turbine – Power Block 2	N ₂ O (5)	-	60
		CH ₄ (5)	-	467
		CO ₂ (5)	-	2,004,025
		CO ₂ e	-	2,024,241
GT-22	GE Turbine – Power Block 2	N ₂ O (5)	-	60
		CH ₄ (5)	-	467
		CO ₂ (5)	-	2,004,025

Emission Sources - Maximum Allowable Emission Rates

		CO ₂ e	-	2,024,241
GT-31	GE Turbine – Power Block 3	N ₂ O (5)	-	60
		CH ₄ (5)	-	467
		CO ₂ (5)	-	2,004,025
		CO ₂ e	-	2,024,241
GT-32	GE Turbine – Power Block 3	N ₂ O (5)	-	60
		CH ₄ (5)	-	467
		CO ₂ (5)	-	2,004,025
		CO ₂ e	-	2,024,241
Ancillary Emissions				
FWP-1	Emergency Firewater Pump 1	N ₂ O (5)	-	<1
		CH ₄ (5)	-	<1
		CO ₂ (5)	-	23
		CO ₂ e	-	23
FWP-2	Emergency Firewater Pump 2	N ₂ O (5)	-	<1
		CH ₄ (5)	-	<1
		CO ₂ (5)	-	23
		CO ₂ e	-	23
FWP-3	Emergency Firewater Pump 3	N ₂ O (5)	-	<1
		CH ₄ (5)	-	<1
		CO ₂ (5)	-	23
		CO ₂ e	-	23
EG-1	Emergency Generator 1	N ₂ O (5)	-	<1
		CH ₄ (5)	-	<1
		CO ₂ (5)	-	85
		CO ₂ e	-	86
EG-2	Emergency Generator 2	N ₂ O (5)	-	<1
		CH ₄ (5)	-	<1
		CO ₂ (5)	-	85

Emission Sources - Maximum Allowable Emission Rates

		CO ₂ e	-	86
EG-3	Emergency Generator 3	N ₂ O (5)	-	<1
		CH ₄ (5)	-	<1
		CO ₂ (5)	-	85
		CO ₂ e	-	86
FUG-NGAS	Natural Gas Fugitives (5)	CH ₄ (5)	-	1
		CO ₂ (5)	-	<1
		CO ₂ e	-	29
FUG-SF ₆	Circuit Breaker Fugitives	SF ₆	-	<1
		CO ₂ e	-	358

- (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) N₂O - nitrous oxide
CH₄ - methane
CO₂ - carbon dioxide
SF₆ - sulfur hexafluoride
CO₂e - carbon dioxide equivalents based on the following Global Warming Potentials (1/2015):
CO₂ (1), N₂O (298), CH₄ (25), SF₆ (22,800).
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period. These rates include emissions from maintenance, startup, and shutdown.
- (5) Emission rate is given for informational purposes only and does not constitute enforceable limit.

Date: February 14, 2017