

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 135322 and PSDTX1470

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 (4)	TPY (5)
SCCT1	Simple Cycle Combustion Turbine 1 (Siemens SCC6-5000F(5))	NO _x	73.50	75.33
		NO _x (MSS)	102.84	
		CO	43.00	173.82
		CO (MSS)	2137	
		PM	8.50	8.50
		PM ₁₀	8.50	8.50
		PM _{2.5}	8.50	8.50
		VOC	2.80	17.91
		VOC (MSS)	244.59	
		SO ₂	9.65	9.65
		HAPs	0.91	3.68
		HAPs (MSS)	45.27	
SCCT2	Simple Cycle Combustion Turbine 2 (Siemens SCC6-5000F(5))	NO _x	73.50	75.33
		NO _x (MSS)	102.84	
		CO	43.00	173.82
		CO (MSS)	2137	
		PM	8.50	8.50
		PM ₁₀	8.50	8.50
		PM _{2.5}	8.50	8.50
		VOC	2.80	17.91
		VOC (MSS)	244.59	
		SO ₂	9.65	9.65
		HAPs	0.91	3.68

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		HAPs (MSS)	45.27	
SCCT3	Simple Cycle Combustion Turbine 3 (Siemens SCC6-5000F(5))	NO _x	73.50	75.33
		NO _x (MSS)	102.84	
		CO	43.00	173.82
		CO (MSS)	2137	
		PM	8.50	8.50
		PM ₁₀	8.50	8.50
		PM _{2.5}	8.50	8.50
		VOC	2.80	17.91
		VOC (MSS)	244.59	
		SO ₂	9.65	9.65
		HAPs	0.91	3.68
		HAPs (MSS)	45.27	
SCCT4	Simple Cycle Combustion Turbine 4 (Siemens SCC6-5000F(5))	NO _x	73.50	75.33
		NO _x (MSS)	102.84	
		CO	43.00	173.82
		CO (MSS)	2137	
		PM	8.50	8.50
		PM ₁₀	8.50	8.50
		PM _{2.5}	8.50	8.50
		VOC	2.80	17.91
		VOC (MSS)	244.59	
		SO ₂	9.65	9.65
		HAPs	0.91	3.68
		HAPs (MSS)	45.27	
HRSG1	Combined Cycle Combustion Turbine 1 (Siemens SCC6-5000F(5) and 700 MMBtu/hr	NO _x	22.80	107.70
		NO _x (MSS, Multiple SUSD)	201.87	
		NO _x (MSS, Single SUSD)	73.04	

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	Duct burners)			
		CO	13.90	397.49
		CO (MSS, Multiple SUSD)	2708	
		CO (MSS, Single SUSD)	854.55	
		PM	17.60	55.49
		PM ₁₀	17.60	55.49
		PM _{2.5}	17.60	55.49
		VOC	12.50	61.15
		VOC (MSS, Multiple SUSD)	264.04	
		VOC (MSS, Single SUSD)	84.79	
		SO ₂	12.72	46.88
		H ₂ SO ₄ Mist	5.85	21.53
		(NH ₄) ₂ SO ₄	7.88	29.01
		NH ₃	21.10	78.31
		HAPs	0.32	8.46
		HAPs (MSS, Multiple SUSD)	57.37	
		HAPs (MSS, Single SUSD)	18.11	
HRSG2	Combined Cycle Combustion Turbine 2 (Siemens SCC6-5000F(5) and 700 MMBtu/hr Duct burners)	NO _x	22.80	107.70
		NO _x (MSS, Multiple SUSD)	201.87	
		NO _x (MSS, Single SUSD)	73.04	
		CO	13.90	397.49
		CO (MSS, Multiple SUSD)	2708	
		CO (MSS, Single SUSD)	854.55	
		PM	17.60	55.49
		PM ₁₀	17.60	55.49

Emission Sources - Maximum Allowable Emission Rates

		PM _{2.5}	17.60	55.49
		VOC	12.50	61.15
		VOC (MSS, Multiple SUSD)	264.04	
		VOC (MSS, Single SUSD)	84.79	
		SO ₂	12.72	46.88
		H ₂ SO ₄ Mist	5.85	21.53
		(NH ₄) ₂ SO ₄	7.88	29.01
		NH ₃	21.10	78.31
		HAPs	0.32	8.46
		HAPs (MSS, Multiple SUSD)	57.37	
		HAPs (MSS, Single SUSD)	18.11	
HRSG3	Combined Cycle Combustion Turbine 3 (Siemens SCC6-5000F(5) and 700 MMBtu/hr Duct burners)	NO _x	22.80	107.70
		NO _x (MSS, Multiple SUSD)	201.87	
		NO _x (MSS, Single SUSD)	73.04	
		CO	13.90	397.49
		CO (MSS, Multiple SUSD)	2708	
		CO (MSS, Single SUSD)	854.55	
		PM	17.60	55.49
		PM ₁₀	17.60	55.49
		PM _{2.5}	17.60	55.49
		VOC	12.50	61.15
		VOC (MSS, Multiple SUSD)	264.04	
		VOC (MSS, Single SUSD)	84.79	
		SO ₂	12.72	46.88

Emission Sources - Maximum Allowable Emission Rates

HRSG4	Combined Cycle Combustion Turbine 4 (Siemens SCC6-5000F(5) and 700 MMBtu/hr Duct burners)	H ₂ SO ₄ Mist	5.85	21.53
		(NH ₄) ₂ SO ₄	7.88	29.01
		NH ₃	21.10	78.31
		HAPs	0.32	8.46
		HAPs (MSS, Multiple SUSD)	57.37	
		HAPs (MSS, Single SUSD)	18.11	
		NO _x	22.80	107.70
		NO _x (MSS, Multiple SUSD)	201.87	
		NO _x (MSS, Single SUSD)	73.04	
		CO	13.90	397.49
		CO (MSS, Multiple SUSD)	2708	
		CO (MSS, Single SUSD)	854.55	
		PM	17.60	55.49
		PM ₁₀	17.60	55.49
		PM _{2.5}	17.60	55.49
		VOC	12.50	61.15
		VOC (MSS, Multiple SUSD)	264.04	
		VOC (MSS, Single SUSD)	84.79	
		SO ₂	12.72	46.88
		H ₂ SO ₄ Mist	5.85	21.53
		(NH ₄) ₂ SO ₄	7.88	29.01
		NH ₃	21.10	78.31
		HAPs	0.32	8.46
		HAPs (MSS, Multiple SUSD)	57.37	
		HAPs (MSS, Single SUSD)	18.11	

Emission Sources - Maximum Allowable Emission Rates

		SUSD)		
HRSG1, HRSG2, HRSG3, HRSG4, SCCT1, SCCT2, SCCT3, SCCT4	Annual Emissions Cap 2 2x1 CCCTs	NO _x	---	651.15
		CO	---	2091.00
		PM	---	221.95
		PM ₁₀	---	221.95
		PM _{2.5}	---	221.95
		VOC	---	289.18
		SO ₂	---	187.51
		H ₂ SO ₄ Mist	---	86.14
		(NH ₄) ₂ SO ₄	---	116.05
		NH ₃	---	313.22
		HAPs	---	44.44
FPENG	Fire Pump Engine	NO _x	1.57	0.08
		CO	1.43	0.07
		PM	0.08	0.01
		PM ₁₀	0.08	0.01
		PM _{2.5}	0.08	0.01
		VOC	0.08	0.01
		SO ₂	< 0.01	< 0.01
EGEN	Emergency Generator	NO _x	13.40	0.67
		CO	7.72	0.39
		PM	0.44	0.02
		PM ₁₀	0.44	0.02
		PM _{2.5}	0.44	0.02
		VOC	0.71	0.04
		SO ₂	0.02	0.01
		HAPs	0.04	<0.01
BOILER	Auxiliary Boiler	NO _x	1.18	1.18
		CO	1.21	1.21

Emission Sources - Maximum Allowable Emission Rates

		PM	0.33	0.33
		PM ₁₀	0.33	0.33
		PM _{2.5}	0.33	0.33
		VOC	0.10	0.10
		SO ₂	0.14	0.14
		HAPs	0.06	0.06
LOV-1	Lube Oil Vent 1 (6)	VOC	0.09	0.40
LOV-2	Lube Oil Vent 2 (6)	VOC	0.09	0.40
LOV-3	Lube Oil Vent 3 (6)	VOC	0.09	0.40
LOV-4	Lube Oil Vent 4 (6)	VOC	0.09	0.40
LOV-5	Lube Oil Vent 5 (6)	VOC	0.09	0.40
LOV-6	Lube Oil Vent 6 (6)	VOC	0.09	0.40
NH ₃ -FUG	Fugitive Emissions - Ammonia (6)	NH ₃	0.21	0.91
NG-FUG	Fugitives Emissions - Natural Gas (6)	VOC	0.01	0.02
EGTANK	Diesel Tank - Emergency Generator (6)	VOC	0.02	0.01
FRPTANK	Diesel Tank - Fire Pump Engine (6)	VOC	0.02	0.01
ILE-MSS	Inherently Low Emitting Maintenance Activities (6)	NO _x	0.01	0.01
		CO	0.01	0.01
		PM	0.05	0.01
		PM ₁₀	0.05	0.01
		PM _{2.5}	0.05	0.01
		VOC	3.13	0.04

Emission Sources - Maximum Allowable Emission Rates

		SO ₂	0.01	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) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- NO_x - total oxides of nitrogen
- SO₂ - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
- PM₁₀ - 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
- NH₃ - ammonia
- H₂SO₄ - sulfuric acid mist
- (NH₄)₂SO₄ - ammonium sulfate
- HAPs - hazardous air pollutants as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
- MSS - maintenance, startup, and shutdown
- SUSD - startup, shutdown
- (4) Planned maintenance, startup, and shutdown (MSS) lbs/hour emissions 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.
- (5) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period. Annual limits include MSS activities.
- (6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: April 28, 2017

Emission Sources - Maximum Allowable Emission Rates

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Permit Number GHGPSDTX141

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)
SCCT1	Simple Cycle Combustion Turbine 1 (Siemens SCC6-5000F(5))	CH ₄ (5)	46.46
		N ₂ O (5)	6.59
		CO ₂ (5)	261,129
		CO ₂ e	264,255
SCCT2	Simple Cycle Combustion Turbine 2 (Siemens SCC6-5000F(5))	CH ₄ (5)	46.46
		N ₂ O (5)	6.59
		CO ₂ (5)	261,129
		CO ₂ e	264,255
SCCT3	Simple Cycle Combustion Turbine 3 (Siemens SCC6-5000F(5))	CH ₄ (5)	46.46
		N ₂ O (5)	6.59
		CO ₂ (5)	261,129
		CO ₂ e	264,255
SCCT4	Simple Cycle Combustion Turbine 4 (Siemens SCC6-5000F(5))	CH ₄ (5)	46.46
		N ₂ O (5)	6.59
		CO ₂ (5)	261,129
		CO ₂ e	264,255
HRSG1	Combined Cycle Combustion Turbine 1 (Siemens SCC6-5000F(5) and 700 MMBtu/hr Duct burners)	CH ₄ (5)	229.30
		N ₂ O (5)	32.02
		CO ₂ (5)	1,268,546

Emission Sources - Maximum Allowable Emission Rates

		CO ₂ e	1,283,820
HRSG2	Combined Cycle Combustion Turbine 2 (Siemens SCC6-5000F(5) and 700 MMBtu/hr Duct burners)	CH ₄ (5)	229.30
		N ₂ O (5)	32.02
		CO ₂ (5)	1,268,546
		CO ₂ e	1,283,820
HRSG3	Combined Cycle Combustion Turbine 3 (Siemens SCC6-5000F(5) and 700 MMBtu/hr Duct burners)	CH ₄ (5)	229.30
		N ₂ O (5)	32.02
		CO ₂ (5)	1,268,546
		CO ₂ e	1,283,820
HRSG4	Combined Cycle Combustion Turbine 4 (Siemens SCC6-5000F(5) and 700 MMBtu/hr Duct burners)	CH ₄ (5)	229.30
		N ₂ O (5)	32.02
		CO ₂ (5)	1,268,546
		CO ₂ e	1,283,820
HRSG1, HRSG2, HRSG3, HRSG4, SCCT1, SCCT2, SCCT3, SCCT4	Annual Emissions Cap 2 2x1 CCCTs	CH ₄ (5)	1,031
		N ₂ O (5)	128.1
		CO ₂ (5)	5,074,183
		CO ₂ e	5,138,130
FPENG	Fire Pump Engine	CH ₄ (5)	<0.01
		N ₂ O (5)	<0.01
		CO ₂ (5)	13.72
		CO ₂ e	13.77
EGEN	Emergency Generator	CH ₄ (5)	<0.01
		N ₂ O (5)	<0.01
		CO ₂ (5)	80.89
		CO ₂ e	81.17
BOILER	Auxiliary Boiler	CH ₄ (5)	0.07

Emission Sources - Maximum Allowable Emission Rates

		N ₂ O (5)	<0.01
		CO ₂ (5)	3,820
		CO ₂ e	3,824
GHG-FUG	Fugitive Emissions – GHG (6), including SF ₆ from Circuit Breakers	SF ₆ (5)	<0.01
		CO ₂ e	37.4
NG-FUG	Fugitives: Methane from Natural Gas (6)	CH ₄ (5)	0.85
		CO ₂ e	21.37
ILE-MSS	Inherently Low Emitting Maintenance Activities (6)	CH ₄ (5)	0.45
		CO ₂ e	11.21

- (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
SF₆ - sulfur hexafluoride
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) Emission rate is given for informational purposes only and does not constitute enforceable limit.
- (6) Emission rate is an estimate and is enforceable through compliance with the applicable special conditions and permit application representations.

Date: April 28, 2017