

# Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 42179, PSDTX955M1, N021M1

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/hr (6)	TPY (4)
Hourly Emission Rates - Turbines and Duct Burners				
GTG/HRSG1	Turbine/HRSG No. 1 Siemens 501F (180 MW) + 475 MMBtu/hr DB	NO <sub>x</sub> (5)	32.1	-
		NO <sub>x</sub> (MSS)	350.0	-
		CO	346.0	-
		CO (MSS)	3200.0	-
		VOC	26.9	-
		VOC (MSS)	183.5	-
		PM <sub>10</sub>	29.4	-
		SO <sub>2</sub>	31.4	-
		NH <sub>3</sub>	28.0	-
		NH <sub>3</sub> (MSS)	50.0	-
		H <sub>2</sub> SO <sub>4</sub>	4.8	-
GTG/HRSG2	Turbine/HRSG No. 2 Siemens 501F (180MW) + 475 MMBtu/hr DB	NO <sub>x</sub> (5)	32.1	-
		NO <sub>x</sub> (MSS)	350.0	-
		CO	346.0	-
		CO (MSS)	3200.0	-
		VOC	26.9	-
		VOC (MSS)	183.5	-
		PM <sub>10</sub>	29.4	-
		SO <sub>2</sub>	31.4	-

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GTG/HRSG2	Turbine/HRSG No. 2 Westinghouse 501F + 475 MMBtu/hr DB	NH <sub>3</sub>	28.0	-
		NH <sub>3</sub> (MSS)	50.0	-
		H <sub>2</sub> SO <sub>4</sub>	4.8	-
Hourly Emission Rates - Auxiliary Boilers				
AUXBOIL 1	Auxiliary Steam Boiler No. 1 430 MMBtu/hr	NO <sub>x</sub> (5)	22.8	-
		CO	26.2	-
		CO (MSS)	31.4	-
		VOC	7.6	-
		VOC (MSS)	9.1	-
		PM <sub>10</sub>	7.6	-
		SO <sub>2</sub>	6.2	-
		NH <sub>3</sub>	1.4	-
		H <sub>2</sub> SO <sub>4</sub>	1.0	-
AUXBOIL 2	Auxiliary Steam Boiler No. 2 430 MMBtu/hr	NO <sub>x</sub> (5)	22.8	-
		CO	26.2	-
		CO (MSS)	31.4	-
		VOC	7.6	-
		VOC (MSS)	9.1	-
		PM <sub>10</sub>	7.6	-
		SO <sub>2</sub>	6.2	-
		NH <sub>3</sub>	1.4	-
		H <sub>2</sub> SO <sub>4</sub>	1.0	-
AUXBOIL 3	Auxiliary Steam Boiler No. 3 430 MMBtu/hr	NO <sub>x</sub> (5)	22.8	-
		CO	26.2	-
		CO (MSS)	31.4	-

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		VOC	7.6	-
		VOC (MSS)	9.1	-
		PM <sub>10</sub>	7.6	-
		SO <sub>2</sub>	6.2	-
		NH <sub>3</sub>	1.4	-
		H <sub>2</sub> SO <sub>4</sub>	1.0	-
<b>Combined Annual Emission Rates - Turbines, Duct Burners, and Auxiliary Boilers</b>				
GTG/HRSG 1, GTG/HRSG 2, AUXBOIL1, AUXBOIL2, & AUXBOIL3	Turbine/HRSG 1 - 2 and Auxiliary Boilers 1-3	NO <sub>x</sub>	-	268.0
		CO	-	937.0
		VOC	-	102.0
		PM <sub>10</sub>	-	180.0
		SO <sub>2</sub>	-	22.5
		NH <sub>3</sub>	-	237.8
		H <sub>2</sub> SO <sub>4</sub>	-	3.4
GTG/HRSG3	Turbine/HRSG No. 3 Siemens 501F (180 MW) + 475 MMBtu/hr DB  FD2 Option	NO <sub>x</sub>	18.0	61.5
		NO <sub>x</sub> (MSS)	350.0	-
		CO	236.0	231
		CO (MSS)	3200.0	-
		VOC	19.3	22.1
		VOC (MSS)	183.5	-
		PM	27.0	72.4
		PM <sub>10</sub>	27.0	72.4
		PM <sub>2.5</sub>	27.0	72.4
		SO <sub>2</sub>	33.6	
		NH <sub>3</sub>	23.3	61.9

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		NH <sub>3</sub> (MSS)	50.0	-
		H <sub>2</sub> SO <sub>4</sub>	5.14	0.92
GTG/HRSG3	Turbine/HRSG No. 3 Siemens 501F (180 MW) + 475 MMBtu/hr DB  FD3 Option	NO <sub>x</sub>	18.0	62.7
		NO <sub>x</sub> (MSS)	350.0	-
		CO	246.9	232.1
		CO (MSS)	3200.0	-
		VOC	19.6	22.3
		VOC (MSS)	183.5	-
		PM	28.4	72.5
		PM <sub>10</sub>	28.4	72.5
		PM <sub>2.5</sub>	28.4	72.5
		SO <sub>2</sub>	33.6	5.9
		NH <sub>3</sub>	23.3	63.4
		NH <sub>3</sub> (MSS)	50.0	-
		H <sub>2</sub> SO <sub>4</sub>	5.14	0.94
Additional Sources				
COOLTWR1	Cooling Tower 1 (7)	PM <sub>10</sub>	1.33	3.50
LUBEOILFUG	Lubricating Oil Systems Fugitives (7, 8)	VOC	0.11	0.47
FUELGASFUG	Fuel Gas System (7, 8)	VOC	0.50	2.18
NH3FUG	Ammonia Fugitives (7, 8)	NH <sub>3</sub>	0.25	1.08
OILDEMIST	Oil Mist Eliminator (All turbines) (7)	VOC	0.03	0.11
TK-004	Americor 1,000-Gallon Storage Tank (7)	VOC	<0.01	<0.01
TK-004AX	Americor 1,000-Gallon Storage Tank (7)	VOC	<0.01	<0.01
MSSFUG	MSS-Related Fugitives (8)	NO <sub>x</sub>	<0.01	<0.01

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		CO	<0.01	<0.01
		VOC	4.25	0.03
		PM <sub>10</sub>	0.22	0.03
		PM <sub>2.5</sub>	0.22	0.03
		NH <sub>3</sub>	2.66	<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<sub>x</sub> - total oxides of nitrogen  
 SO<sub>2</sub> - sulfur dioxide  
 PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented  
 PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter  
 CO - carbon monoxide  
 NH<sub>3</sub> - ammonia  
 H<sub>2</sub>SO<sub>4</sub> - sulfuric acid  
 MSS - maintenance, startup, and shutdown
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) The maximum pound per hour (lb/hr) NO<sub>x</sub> emission rate is based on a rolling three-hour average.
- (6) Planned MSS lb/hr 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 activities, that pollutant's maximum hourly emission rate shall apply during that clock hour.

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- (7) The lb/hr and tpy emission limits specified in the table entitled "Emission Sources - Maximum Allowable Emission Rates" for this facility include emission from the facility during both normal operations and planned MSS activities.
- (8) Fugitive emissions are an estimate only and should not be considered as maximum allowable emission rates.

Date: April 13, 2016