

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Numbers 77039 and PSDTX1060

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. 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)	<u>Emission Rates *</u> lb/hr	TPY**
SCENARIO 1: GENERAL ELECTRIC PG7121 (EA) WITH DUCT BURNER				
CTDB1-A	CT/HRSG Unit 1-A 75 MW Gas Turbine 110 MM Btu/hr Duct Burner	NO _x	22.6	--
		CO	70.1	--
		SO ₂	1.87	--
		PM/PM ₁₀ /PM _{2.5}	11.8	--
		VOC	3.2	--
		H ₂ SO ₄	0.21	--
		NH ₃	12.3	--
		HCHO	0.4	--
		Toluene	0.2	--
CTDB1-B	CT/HRSG Unit 1-B 75 MW Gas Turbine 110 MM Btu/hr Duct Burner	NO _x	22.6	--
		CO	70.1	--
		SO ₂	1.87	--
		PM/PM ₁₀ /PM _{2.5}	11.8	--
		VOC	3.2	--
		H ₂ SO ₄	0.21	--
		NH ₃	12.3	--
		HCHO	0.4	--
		Toluene	0.2	--
CTDB2-A	CT/HRSG Unit 2-A 75 MW Gas Turbine 80 MM Btu/hr Duct Burner	NO _x	22.0	--
		CO	67.7	--
		SO ₂	1.82	--
		PM/PM ₁₀ /PM _{2.5}	11.4	--
		VOC	2.9	--
		H ₂ SO ₄	0.3	--
		NH ₃	12.3	--
		HCHO	0.4	--

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
CTDB2-B	CT/HRSG Unit 2-B 75 MW Gas Turbine 80 MM Btu/hr Duct Burner	Toluene	0.2	--
		NO _x	22.0	--
		CO	67.7	--
		SO ₂	1.82	--
		PM/PM ₁₀ /PM _{2.5}	11.4	--
		VOC	2.9	--
		H ₂ SO ₄	0.3	--
		NH ₃	12.3	--
		HCHO	0.4	--
		Toluene	0.2	--
SCENARIO 2: GENERAL ELECTRIC PG7121 (EA) WITHOUT DUCT BURNER				
CTDB1-A	CT/HRSG Unit 1-A 75 MW Gas Turbine	NO _x	20.4	--
		CO	61.3	--
		SO ₂	1.7	--
		PM/PM ₁₀ /PM _{2.5}	10.5	--
		VOC	2.1	--
		H ₂ SO ₄	0.2	--
		NH ₃	10.8	--
		HCHO	0.3	--
		Toluene	0.2	--
CTDB1-B	CT/HRSG Unit 1-B 75 MW Gas Turbine	NO _x	20.4	--
		CO	61.3	--
		SO ₂	1.7	--
		PM/PM ₁₀ /PM _{2.5}	10.5	--
		VOC	2.1	--
		H ₂ SO ₄	0.2	--
		NH ₃	10.8	--
		HCHO	0.3	--
		Toluene	0.2	--
CTDB2-A	CT/HRSG Unit 2-A 75 MW Gas Turbine	NO _x	20.4	--

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			lb/hr	TPY**
CTDB2-B	CT/HRSG Unit 2-B 75 MW Gas Turbine	CO	61.3	--
		SO ₂	1.7	--
		PM/PM ₁₀ /PM _{2.5}	10.5	--
		VOC	2.1	--
		H ₂ SO ₄	0.2	--
		NH ₃	10.8	--
		HCHO	0.3	--
		Toluene	0.2	--
		NO _x	20.4	--
		CO	61.3	--
		SO ₂	1.7	--
		PM/PM ₁₀ /PM _{2.5}	10.5	--
		VOC	2.1	--
		H ₂ SO ₄	0.2	--
		NH ₃	10.8	--
		HCHO	0.3	--
		Toluene	0.2	--
SCENARIO 3: GENERAL ELECTRIC PG7121 (EA) DURING PLANNED MAINTENANCE, STARTUP, OR SHUTDOWN (4)				
CTDB1-A	CT/HRSG Unit 1-A 75 MW Gas Turbine 110 MM Btu/hr Duct Burner	NO _x	500	--
		CO	1,000	--
		SO ₂	60	--
		PM/PM ₁₀ /PM _{2.5}	1.7	--
		VOC	10.5	--
		H ₂ SO ₄	0.2	--
		NH ₃	10.8	--
		HCHO	0.3	--
		Toluene	0.2	--
CTDB1-B	CT/HRSG Unit 1-B 75 MW Gas Turbine 110 MM Btu/hr Duct Burner	NO _x	500	--
		CO	1,000	--
		SO ₂	60	--

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
		PM/PM ₁₀ /PM _{2.5}	1.7	--
		VOC	10.5	--
		H ₂ SO ₄	0.2	--
		NH ₃	10.8	--
		HCHO	0.3	--
		Toluene	0.2	--
CTDB2-A	CT/HRSG Unit 2-A 75 MW Gas Turbine 80 MM Btu/hr Duct Burner	NO _x	600	--
		CO	1,000	--
		SO ₂	60	--
		PM/PM ₁₀ /PM _{2.5}	1.7	--
		VOC	10.5	--
		H ₂ SO ₄	0.2	--
		NH ₃	10.8	--
		HCHO	0.3	--
		Toluene	0.2	--
CTDB2-B	CT/HRSG Unit 2-B 75 MW Gas Turbine 80 MM Btu/hr Duct Burner	NO _x	600	--
		CO	1,000	--
		SO ₂	60	--
		PM/PM ₁₀ /PM _{2.5}	1.7	--
		VOC	10.5	--
		H ₂ SO ₄	0.2	--
		NH ₃	10.8	--
		HCHO	0.3	--
		Toluene	0.2	--

ANNUAL EMISSIONS GENERAL ELECTRIC PG7121 (EA) WITH DUCT BURNER

CTDB1-A	CT/HRSG Unit 1-A 75 MW Gas Turbine 110 MM Btu/hr Duct Burner	NO _x	--	81.5
		CO	--	252.5
		SO ₂	--	6.8
		PM/PM ₁₀ /PM _{2.5}	--	49.0
		VOC	--	10.9
		H ₂ SO ₄	--	0.75

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
CTDB1-B	CT/HRSG Unit 1-B 75 MW Gas Turbine 110 MM Btu/hr Duct Burner	NH ₃	--	42.2
		HCHO	--	1.275
		Toluene	--	0.55
		NO _x	--	81.5
		CO	--	252.5
		SO ₂	--	6.8
		PM/PM ₁₀ /PM _{2.5}	--	49.0
		VOC	--	10.9
		H ₂ SO ₄	--	0.75
		NH ₃	--	42.2
		HCHO	--	1.275
		Toluene	--	0.55
CTDB2-A	CT/HRSG Unit 2-A 75 MW Gas Turbine 80 MM Btu/hr Duct Burner	NO _x	--	80.0
		CO	--	246.2
		SO ₂	--	6.6
		PM/PM ₁₀ /PM _{2.5}	--	48.0
		VOC	--	10.1
		H ₂ SO ₄	--	0.75
		NH ₃	--	41.4
		HCHO	--	1.275
		Toluene	--	0.55
CTDB2-B	CT/HRSG Unit 2-B 75 MW Gas Turbine 80 MM Btu/hr Duct Burner	NO _x	--	80.0
		CO	--	246.2
		SO ₂	--	6.6
		PM/PM ₁₀ /PM _{2.5}	--	48.0
		VOC	--	10.1
		H ₂ SO ₄	--	0.75
		NH ₃	--	41.4
		HCHO	--	1.275
		Toluene	--	0.55
AUX1	Auxiliary Boiler Unit 1	NO _x	0.68	1.9

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			lb/hr	TPY**
	17 MMBtu/hr	CO	1.02	2.9
		SO ₂	0.02	0.07
		PM/PM ₁₀ /PM _{2.5}	0.17	0.48
		VOC	0.27	0.76
AUX2	Auxiliary Boiler Unit 2 17 MMBtu/hr	NO _x	0.68	1.9
		CO	1.02	2.9
		SO ₂	0.02	0.07
		PM/PM ₁₀ /PM _{2.5}	0.17	0.48
		VOC	0.27	0.76
EG1	Emergency Generator Unit 1	NO _x	27.3	1.7
		CO	7.25	0.5
		SO ₂	0.43	0.03
		PM	0.59	0.04
		PM ₁₀ /PM _{2.5}	0.49	0.03
		VOC	0.77	0.05
EG2	Emergency Generator Unit 2	NO _x	27.3	1.7
		CO	7.25	0.5
		SO ₂	0.43	0.03
		PM	0.59	0.04
		PM ₁₀ /PM _{2.5}	0.49	0.03
		VOC	0.77	0.05
FWP1	Fire Water Pump Unit 1	NO _x	11.22	0.7
		CO	2.42	0.2
		SO ₂	0.13	0.01
		PM/PM ₁₀ /PM _{2.5}	0.79	0.05
		VOC	0.89	0.05
CD1 through CD 12	Cooling Tower Cells 1 through 12	PM	1.5	6.7
		PM ₁₀ /PM _{2.5}	0.8	3.3

- (1) Emission point identification - either specific equipment designation or emission point number from a plot plan.
- (2) Specific point source names. For fugitive sources, use an area name or fugitive source name.

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			lb/hr	TPY**

- (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 - particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}
 PM₁₀ - particulate matter equal to or less than 10 microns in diameter
 PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
 CO - carbon monoxide
- (4) Startup, shutdown, or maintenance events shall not exceed the time limits of Special Condition No. 2; emissions shall be averaged over the entire event.

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

24 Hrs/day 7 Days/week 52 Weeks/year or 8,760 Hrs/year

** Compliance with annual emission limits is based on a rolling 12-month period.

Dated February 8, 2010