

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 40039 and PSD-TX-925

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 *	Source	Air Contaminant	<u>Emission Rates</u>	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY

Case I: Turbine and Duct Burner firing Natural Gas

A. Hourly Emissions

GTDB1	Turbine/HRSG No. 1 (GE Frame 7FA Turbine with 550 MMBtu/hr Duct Burner)	NO _x	106.0	106.0
		CO	106.0	
		PM ₁₀	24.8	
		VOC	16.2	
		SO ₂	33.5	
		H ₂ SO ₄	3.3	
GTDB2	Turbine/HRSG No. 2 (GE Fram 7FA Turbine with 550 MMBtu/hr Duct Burner)	NO _x	106.0	106.0
		CO	106.0	
		PM ₁₀	24.8	
		VOC	16.2	
		SO ₂	33.5	
		H ₂ SO ₄	3.3	
GTDB3	Turbine/HRSG No. 3 (GE Frame 7FA Turbine with 550 MMBtu/hr Duct Burner)	NO _x	106.0	106.0
		CO	106.0	
		PM ₁₀	24.8	
		VOC	16.2	
		SO ₂	33.5	
		H ₂ SO ₄	3.3	

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AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY

B. Annual Emissions

GTDB 1, 2, and 3	Turbines/HRSG Nos. 1, 2, and 3			
	NO _x	1143.2		
	(Three GE Frame 7FA Turbines	CO		
	1097.2			
	with Duct Burner firing)	PM ₁₀		
	300.9			
	VOC		155.1	
	Annual rates based on total	SO ₂		
	152.4			
	combined turbine/HRSGUs H ₂ SO ₄			15.8
	emissions.			

Case II: Turbine firing No. 2 Fuel Oil (720 Hours) and Duct Burner firing Natural Gas**A. Hourly Emissions**

GTDB1	Turbine/HRSG No. 1	NO _x	379.0	
	(GE Frame 7FA Turbine with	CO		150.5
	550 MMBtu/hr Duct Burner)	PM ₁₀		49.8
	VOC	27.3		
	SO ₂	106.4		
	H ₂ SO ₄	10.3		
GTDB2	Turbine/HRSG No. 2	NO _x	379.0	
	(GE Frame 7FA Turbine with	CO		150.5
	550 MMBtu/hr Duct Burner)	PM ₁₀		49.8
	VOC	27.3		
	SO ₂	106.4		
	H ₂ SO ₄	10.3		
GTDB3	Turbine/HRSG No. 3	NO _x	379.0	
	(GE Frame 7FA Turbine with	CO		150.5

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Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
	550 MMBtu/hr Duct Burner)		PM ₁₀	49.8
		VOC	27.3	
		SO ₂	106.4	
		H ₂ SO ₄	10.3	

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Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>

B. Annual Emissions

GTDB 1, 2, and 3	Turbines/HRSG Nos. 1, 2, and 3		
NO _x	1414.2		
(Three GE Frame 7FA Turbines	CO		
1134.8			
with Duct Burner firing)	PM ₁₀		
328.0			
VOC	164.4		
Annual rates based on total	SO ₂		
244.8			
combined turbine HRSGUs H ₂ SO ₄			
emission.	25.5		

Black Start Generators (Annual Emissions Based on 100 Hours per Year Operation)

GEN 1	Black Start Generator No. 1	NO _x	58.7
2.94			
(Caterpillar 3516A 1,750kW)	CO	7.60	
0.38			
	PM ₁₀	0.43	0.022
	VOC	0.29	0.01
	SO ₂	0.86	0.04
GEN 2	Black Start Generator No. 2	NO _x	58.7
2.94			
(Caterpillar 3516A 1,750kW)	CO	7.60	
0.38			
	PM ₁₀	0.43	0.022
	VOC	0.29	0.01
	SO ₂	0.86	0.04
GEN 3	Black Start Generator No. 3	NO _x	58.7

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AIR CONTAMINANTS DATA

Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
	2.94 (Caterpillar 3516A 1,750 kW)		CO	7.60
	0.38	PM ₁₀	0.43	0.022
		VOC	0.29	0.01
		SO ₂	0.86	0.04
GEN 4	Black Start Generator No. 4		NO _x	58.7
	2.94 (Caterpillar 3516A 1,750 kW)		CO	7.60
	0.38	PM ₁₀	0.43	0.022
		VOC	0.29	0.01
		SO ₂	0.86	0.04
GEN 5	Black Start Generator No. 5		NO _x	58.7
	2.94 (Caterpillar 3516A 1,750 kW)		CO	7.60
	0.38	PM ₁₀	0.43	0.022
		VOC	0.29	0.01
		SO ₂	0.86	0.04
GEN 6	Black Start Generator No. 6		NO _x	58.7
	2.94 (Caterpillar 3516A 1,759 kW)		CO	7.60
	0.38	PM ₁₀	0.43	0.022
		VOC	0.29	0.01
		SO ₂	0.86	0.04
OILTNK	Fuel Oil Tank	VOC	1.15	5.05
FUELFUG	Fugitives (4)	VOC	5.68	1.18

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<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>

(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 30 Texas Administrative Code Section 101.1

NO_x - total oxides of nitrogen

SO₂ - sulfur dioxide

PM - particulate matter, suspended in the atmosphere, including PM₁₀.

PM₁₀ - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.

CO - carbon monoxide

H₂SO₄ - sulfuric acid

(4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.

* 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

Dated _____