Emission Sources - Maximum Allowable Emission Rates

Permit Number 41008 and PSDTX936

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	TPY (4)
GT-HRSG 1	Combustion Turbine No. 1 (GE PG7241 [7FA]) Combustion Turbine/HRSG Stack	**Combined-Cycle Gas Turbine only operation (Maximum Hourly Limits)**		
		NO_X (5)	60.00	
		CO (5)	29.00	
		VOC (5)	2.80	
		$PM/PM_{10}/PM_{2.5}$ (5)	18.30	
		SO_2 (5)	2.40	
		H_2SO_4 (5)	0.27	
		Gas Turbine MSS Operations (Maximum Hourly Limits)		
		NO_X (5)	250.00	
		CO (5)	2100.00	
		VOC (5)	183.00	
		$PM/PM_{10}/PM_{2.5}$ (5)	21.00	
		SO_2 (5)	2.40	
		H_2SO_4 (5)	0.27	
		Combined-Cycle Gas Turbine with HRSG duct burner (Maximum Hourly Limits)		
		NO_X (5)	82.00	
		CO (5)	51.00	
		VOC (5)	5.60	
		$PM/PM_{10}/PM_{2.5}$ (5)	21.00	
		SO_2 (5)	2.70	

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		H_2SO_4 (5)	0.30		
GT-HRSG 2	Combustion Turbine No. 2 (GE PG7241 [7FA]) Combustion Turbine/HRSG Stack		**Combined-Cycle Gas Turbine only operation (Maximum Hourly Limits**		
		NO_X (5)	60.00		
		CO (5)	29.00		
	VOC (5)	2.80		2.8	
		$PM/PM_{10}/PM_{2.5}$ (5)	18.30		
		SO_2 (5)	2.40		
		H_2SO_4 (5)	0.27		
			Gas Turbine MSS Operations (Maximum Hourly Limits)		
		NO_X (5)	250.00		
		CO (5)	2100.00		
		VOC (5)	183.00		
		$PM/PM_{10}/PM_{2.5}$ (5)	21.00		
		SO_2 (5)	2.40		
		H_2SO_4 (5)	0.27		
			Combined-Cycle Gas Turbine with HRSG duct burner (Maximum Hourly Limits)		
		NO_X (5)	82.00		
		CO (5)	51.00		
		VOC (5)	5.60		
		$PM/PM_{10}/PM_{2.5}$ (5)	21.00		
		SO_2 (5)	2.70		
		H_2SO_4 (5)	0.30		

GT-HRSG 3	Combustion Turbine No. 3 (GE	**Combined-Cycle Gas Turbine only**

Emission Sources - Maximum Allowable Emission Rates

		PG7241 [7FA]) Combustion Turbine/HRSG Stack		**operation (Maximum Hourly Limits)**	
		NO_X (5)	60.00		
		CO (5)	29.00		
		VOC (5)	2.80		
		$PM/PM_{10}/PM_{2.5}$ (5)	18.30		
		SO_2 (5)	2.40		
		H_2SO_4 (5)	0.27		
				Gas Turbine MSS Operations (Maximum Hourly Limits)	
		NO_X (5)	250.00		
		CO (5)	2100.00		
		VOC (5)	183.00		
		$PM/PM_{10}/PM_{2.5}$ (5)	21.00		21
		SO_2 (5)	2.40		
		H_2SO_4 (5)	0.27		
				Combined-Cycle Gas Turbine with HRSG duct burner (Maximum Hourly Limits)	
		NO_X (5)	82.00		
		CO (5)	51.00		
		VOC (5)	5.60		
		$PM/PM_{10}/PM_{2.5}$ (5)	21.00		
		SO_2 (5)	2.70		
		H_2SO_4 (5)	0.30		
GT-HRSG 4		Combustion Turbine No. 4 (GE PG7241 [7FA]) Combustion Turbine/HRSG Stack		**Combined-Cycle Gas Turbine only operation (Maximum Hourly Limits)**	
		NO_X (5)	60.00		

Emission Sources - Maximum Allowable Emission Rates

		CO (5)	29.00	
		VOC (5)	2.80	
		$PM/PM_{10}/PM_{2.5}$ (5)	18.30	
		SO_2 (5)	2.40	
		H_2SO_4 (5)	0.27	
			Gas Turbine MSS Operations (Maximum Hourly Limits)	
		NO_X (5)	250.00	
		CO (5)	2100.00	
		VOC (5)	183.00	
		$PM/PM_{10}/PM_{2.5}$ (5)	21.00	
		SO_2 (5)	2.40	
		H_2SO_4 (5)	0.27	
			Combined-Cycle Gas Turbine with HRSG duct burner (Maximum Hourly Limits)	
		NO_X (5)	82.00	
		CO (5)	51.00	
		VOC (5)	5.60	
		$PM/PM_{10}/PM_{2.5}$ (5)	21.00	
		SO_2 (5)	2.70	
		H_2SO_4 (5)	0.30	
GT-HRSG 1, GT-HRSG 2, GT-HRSG 3, and GT-HRSG 4		(GE PG7241 [7FA]) Combustion Turbine/HRSG Stack No. 1,2, 3, and 4	**Limits for combined emissions from normal, MSS, and reduced load operation**	
		NO_X (5)		1126.00
		NO_X (7)	930.00	--

Emission Sources - Maximum Allowable Emission Rates

		CO (5)		635.60
		VOC (5)		68.00
		$PM/PM_{10}/PM_{2.5}$ (5)		342.40
		SO_2 (5)		40.40
		H_2SO_4 (5)		4.80
Ancillary Sources (Hourly and Annual Limits)				
CT-1	Cooling Tower No. 1	PM/PM_{10} (5)	18.70	81.70
		HOCl	0.04	0.17
		HCl	0.03	0.12
		H_2SO_4	< 0.01	< 0.01
		VOC (5)	0.02	0.07
CT-2	Cooling Tower No. 2	PM/PM_{10} (5)	18.70	81.70
		HOCl	0.04	0.17
		HCl	0.03	0.12
		H_2SO_4	< 0.01	< 0.01
		VOC (5)	0.02	0.07
F-1	Natural Gas, Condensate, Lube Oil, and Seal Oil Piping for Units 1 thru 4	VOC (5)(6)	2.71	11.85
		H_2S (5)	< 0.01	< 0.01
LUBETNKCT1	Unit 1 Combustion Turbine Lube Oil Reservoir Vent	VOC (5)(6)	0.09	0.40
		$PM/PM_{10}/PM_{2.5}$ (5)(6)	0.09	0.40
LUBETNKCT2	Unit 2 Combustion Turbine Lube Oil Reservoir Vent	VOC (5)(6)	0.09	0.40
		$PM/PM_{10}/PM_{2.5}$ (5)(6)	0.09	0.40
LUBETNKCT3	Unit 3 Combustion Turbine Lube Oil Reservoir Vent	VOC (5)(6)	0.09	0.40
		$PM/PM_{10}/PM_{2.5}$ (5)(6)	0.09	0.40

Emission Sources - Maximum Allowable Emission Rates

LUBETNKCT4	Unit 4 Combustion Turbine Lube Oil Reservoir Vent	VOC (5)(6)	0.09	0.40
		$PM/PM_{10}/PM_{2.5}$ (5)(6)	0.09	0.40
LUBETNKST1	Steam Turbine No. 1 Lube Oil Reservoir Vent	VOC (5)(6)	0.09	0.40
		$PM/PM_{10}/PM_{2.5}$ (5)(6)	0.09	0.40
LUBETNKST2	Steam Turbine No. 2 Lube Oil Reservoir Vent	VOC (5)(6)	0.09	0.40
		$PM/PM_{10}/PM_{2.5}$ (5)(6)	0.09	0.40
LUBETNKEG2	Emergency Generator Engine No. 2 Lube Oil Reservoir Vent	VOC (5)(6)	0.13	0.56
		$PM/PM_{10}/PM_{2.5}$ (5)(6)	0.13	0.11
CONDENTK1	Natural Gas Condensate Storage Tank No. 1 in Metering Yard	VOC (5)	0.12	0.50
		H_2S	0.01	0.01
LD-CONDTK1	Natural Gas Condensate Truck Loading from Storage Tank No. 1	VOC (5)	18.10	0.01
		H_2S	0.01	0.01
SCAVTK1	Hydrogen Scavenging Tank Vent for Unit 1 Seal Oil	VOC (5)	0.01	0.01
		$PM/PM_{10}/PM_{2.5}$ (5)	0.01	0.01
SCAVTK2	Hydrogen Scavenging Tank Vent for Unit 2 Seal Oil	VOC (5)	0.01	0.01
		$PM/PM_{10}/PM_{2.5}$ (5)	0.01	0.01
SCAVTK3	Hydrogen Scavenging Tank Vent for Unit 3 Seal Oil	VOC (5)	0.01	0.01
		$PM/PM_{10}/PM_{2.5}$ (5)	0.01	0.01
SCAVTK4	Hydrogen Scavenging Tank Vent for Unit 4 Seal Oil	VOC (5)	0.01	0.01
		$PM/PM_{10}/PM_{2.5}$ (5)	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

Emission Sources - Maximum Allowable Emission Rates

H_2SO_4 - sulfuric acid
HOCl - hypochlorous acid
HCl - hydrogen chloride
H_2S - hydrogen sulfide
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$,
PM_{10} - 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
CO - carbon monoxide

(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) These emissions are authorized under Federal PSD and state permitting regulations.
(6) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
(7) MSS hourly emission limit only. The tpy emission limit represented in the MAERT for these facilities includes combined emissions from the facilities during normal operations, planned MSS activities. and reduced load operation.

Date: July 11, 2012