Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 22038 and PSDTX815

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)	Emission Rates	
			lbs/hour	TPY (4)
CASE I: TURBINE WITH DUCT BURNER FIRED				
CG1	GE Frame 7 Turbine (75 MW) 265-MMBTU/HR Duct burner (6)(7)(8)	NO_X	89.8	---
		CO	85.5	343.8
		SO_2	7.9	19.5
		PM_{10}	12.3	53.9
		VOC	5.2	21.8
		SO_3	0.3	0.73
CG2	GE Frame 7 Turbine (75 MW) 265-MMBTU/HR Duct burner (6)(7)(8)	NO_X	89.8	367.0
		CO	85.5	343.8
		SO_2	7.9	19.5
		PM_{10}	12.3	53.9
		VOC	5.2	21.8
		SO_3	0.3	0.73
FECG	Fugitives (5)	VOC	0.33	1.45

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CASE II: TURBINE ONLY - DUCT BURNER UNFIRED				
CG1	GE frame 7 Turbine (75 MW) 265 MMBTU/HR Duct burner (6)(8)	NO_X	58.0	227.8
		CO	59.0	227.8
		SO_2	0.7	2.8
		PM_{10}	7.0	30.7
		VOC	2.0	7.9
		SO_3	0.03	0.1
CG2	GE frame 7 Turbine (75 MW) 265 MMBTU/HR Duct burner (6)(8)	NO_X	58.0	227.8
		CO	59.0	227.8
		SO_2	0.7	2.8
		PM_{10}	7.0	30.7
		VOC	2.0	7.9
		SO_3	0.03	0.1
EMISSIONS RELATED TO THE CCU BOILER				
H600	CCU CO Boiler	NO_X	56.88	124.56
		CO	346.32	1381.92
		SO_2	593.48	216.62
		PM	66.00	289.08
		VOC	3.20	14.02
		NH_3	5.25	23.02
FUGCCU	CCU Fugitives (5)	VOC	5.35	23.37
		Benzene	0.02	0.06
		NH_3	0.01	0.01

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		H_2S	0.10	0.42
FUGCCUSCR	FCCU SCR Fugitives (5)	NH_3	0.06	0.25
MSSCOGEN	MSS Cogen Emissions	VOC	1.27	0.02
		CO	<0.01	<0.01
		NO_X	<0.01	<0.01
		PM_{10}	0.15	0.05
		$PM_{2.5}$	0.14	0.05
		NH_3	17.76	0.02
Standard Permit (SP) sources incorporated by reference. Sources remain authorized by the SP(s) as listed below:				
Standard Permit Number 81971				
CG1	GE Frame 7 Turbine (75 MW) 265-MMBTU/HR Duct burner (7)(8)	NO_X	----	317.00
		NH_3	20.66	90.50
COGENFUGITIVES	Fugitives	NH_3	0.09	0.38
Standard Permit Number 77952				
CG2	GE Frame 7 Turbine (75 MW) 265-MMBTU/HR Duct burner	NH_3	0.06	0.30

Emission Sources - Maximum Allowable Emission Rates

(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
NH_3 - ammonia
NO_X - total oxides of nitrogen
SO_2 - sulfur dioxide
SO_3 - sulfur trioxide
PM - 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
$PM_{2.5}$ - total particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
H_2S - hydrogen sulfide
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
(6) Maximum hourly emission based on 20*F ambient temperature.
(7) Annual emissions based on 70*F ambient temperature with duct burners in operation.
(8) Maximum hourly emissions include planned maintenance, startup, and shutdown (MSS) emissions. Annual emissions include planned MSS emissions.

* The SO_2 lb/hr emission rates (ERs) are based on 100 percent conversion of .25 grain of hydrogen sulfide (H_2S) per 100 dscf in the refinery fuel gas to SO_2. The SO_2 TPY ERs are based on 100 percent conversion of 10 grains of H_2S per 100 dscf in the refinery fuel gas to SO_2.

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

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

Date: February 23, 2012