

# EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 51A

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 *	
			lb/hr	TPY**
04CHRGHTR	Naphtha HDS Charge Heater	SO <sub>2</sub>	0.67	0.61
		VOC	0.11	0.50
		PM	0.16	0.70
		NO <sub>x</sub>	2.09	9.15
		CO	1.75	7.68
04DEC5HTR	Naphtha HDS Dependent Reboiler	SO <sub>2</sub>	2.23	2.44
		VOC	0.46	2.03
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.64	2.8
		NO <sub>x</sub>	2.73	11.96
		CO	7.07	30.96
05CHRGHTR	Reformer Charge Heater	SO <sub>2</sub>	1.43	1.48
		VOC	0.27	1.11
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.37	1.54
		NO <sub>x</sub>	5.00	33.00
		NO <sub>x</sub> (5)	4.25	
		CO	1.77	7.31
	Reformer No. 1 Reactor Reheater	SO <sub>2</sub>	1.17	1.28
		VOC	0.22	0.97
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.31	1.34
		NO <sub>x</sub>	4.10	28.83
		NO <sub>x</sub> (5)	3.48	
		CO	1.45	6.36
		NO <sub>x</sub> (5)	7.72	
		CO	3.22	10.50

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
	Reformer No. 3 Reactor Reheater	SO <sub>2</sub>	0.98	0.85
		VOC	0.18	0.64
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.25	0.88
		NO <sub>x</sub>	3.42	18.52
		NO <sub>x</sub> (5)	2.91	
		CO	1.21	4.19
05DEC5HTR	Reformer Depent Reboiler	SO <sub>2</sub>	1.66	1.81
		VOC	0.34	1.51
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.48	2.08
		NO <sub>x</sub>	2.03	8.89
		CO	5.26	23.02
05REFMRFLR	Flare	SO <sub>2</sub>	<0.01	<0.01
		VOC	<0.01	0.02
		NO <sub>x</sub>	0.03	0.14
		CO	<0.01	0.06
37TANKTP07	Tank	VOC	1.64	5.05
05REFRMFUG	Fugitive (4)	VOC	4.03	15.02
		H <sub>2</sub> S	0.01	0.39
37TANK0326	Tank 326	VOC	0.25	0.25

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- (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 - particulate matter including PM<sub>10</sub> and PM<sub>2.5</sub>  
CO - carbon monoxide  
H<sub>2</sub>S - hydrogen sulfide
- (4) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
- (5) Hourly limit is applicable when the reformer charge heater waste heat steam generator is fired at 215.97 MMBtu/hr as allowed by Special Condition 9.

\* 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

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

Dated March 7, 2011