

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 4802

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**
104	Unit No. 2 Stack	CO	5.70	25.00
		Cl <sub>2</sub>	0.84	0.18
		H <sub>2</sub> SO <sub>4</sub>	6.06	22.67
		HCl	0.28	1.23
		NO <sub>x</sub>	37.20	162.90
		SO <sub>2</sub>	1250.00	5475.00
		VOC	0.01	0.01
120	Vapor Combustor Standby Operation	CO	1.51	3.33
		NO <sub>x</sub>	1.80	3.96
		PM <sub>10</sub>	0.14	0.30
		SO <sub>2</sub>	0.01	0.02
		VOC	0.10	0.22
120	Vapor Combustor (5) (Start-up, Shutdown, and Maintenance 1,314 hours per rolling 12-months)	Cl <sub>2</sub>	0.14	0.09
		CO	0.40	0.27
		HCl	0.06	0.04
		NO <sub>x</sub>	0.48	0.32
		PM <sub>10</sub>	0.04	0.02
		SO <sub>2</sub>	0.01	0.01
		VOC	22.22	3.41
128	Regenerator No. 2 Preheater (1,000 hours per rolling 12-months)	CO	2.07	1.03
		NO <sub>x</sub>	2.46	1.23
		PM <sub>10</sub>	0.19	0.10
		SO <sub>2</sub>	0.02	0.01
		VOC	0.14	0.07

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
170	Vapor Combustor 2 Normal Operation	CO	3.17	1.87
		NO <sub>x</sub>	2.38	1.40
		PM <sub>10</sub>	0.12	0.07
		SO <sub>2</sub>	0.01	0.01
		VOC	0.09	0.05
170	Vapor Combustor 2 (5) (Start-up, Shutdown, and Maintenance 1,314 hours per rolling 12-months)	CO	0.85	0.56
		C <sub>2</sub> H <sub>4</sub>	0.37	0.01
		Cl <sub>2</sub>	0.93	0.03
		HCl	4.76	0.12
		NO <sub>x</sub>	2.85	1.87
		PM <sub>10</sub>	0.08	0.05
		SO <sub>2</sub>	4.56	0.13
170	Vapor Combustor 2 (5) Storage Tanks 48, 49, 53, and 56 Planned Inspection Purge Control Option One 0.01	VOC (6)	28.69	0.81
		CO	3.66	0.51
		C <sub>2</sub> H <sub>4</sub>	0.01	0.01
		NO <sub>x</sub>	1.86	0.32
		SO <sub>2</sub>	0.02	0.02
TKINSPMSS1	Tank 78 Planned Inspection Purge (5)	VOC (6)	0.05	0.01
		CO	3.04	0.75
		C <sub>2</sub> H <sub>4</sub>	0.01	0.01
		NO <sub>x</sub>	1.12	0.35
		SO <sub>2</sub>	0.38	0.09
TKINSPMSS2	Tanks 48, 49, 53, and 56 Planned Inspection Purge (5)	VOC (6)	0.24	0.06
		CO	3.04	0.40
		C <sub>2</sub> H <sub>4</sub>	0.01	0.01
		NO <sub>x</sub>	1.12	0.19
		SO <sub>2</sub>	0.08	0.01
TKINSPMSS2	Tanks 48, 49, 53, and 56 Planned Inspection Purge (5)	VOC (6)	0.05	0.01
		CO	3.04	0.40
		C <sub>2</sub> H <sub>4</sub>	0.01	0.01
		NO <sub>x</sub>	1.12	0.19
		SO <sub>2</sub>	0.08	0.01

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			lb/hr	TPY**
FE2	Process Fugitives (4)	SO <sub>2</sub>	0.05	0.20
FE-12	Fugitives from HW Equipment (4)	VOC	0.04	0.19
FE-13	Fugitives from HW Equipment (4)	VOC	0.02	0.10
FE-14	Fugitives from HW Equipment (4)	VOC	0.01	0.01
FUG-SA1	Spent Acid Process Fugitives (4)	H <sub>2</sub> SO <sub>4</sub>	0.41	1.79
		SO <sub>2</sub>	0.12	0.37
		VOC	0.09	0.35
FUG-SA2	Spent Acid Process Fugitives (4)	H <sub>2</sub> SO <sub>4</sub>	0.07	0.31
		SO <sub>2</sub>	0.03	0.08
		VOC	0.02	0.07
FUG-SA3	Spent Acid Process Fugitives (4)	H <sub>2</sub> SO <sub>4</sub>	0.03	0.11
		SO <sub>2</sub>	0.06	0.18
		VOC	0.03	0.08
FUG-SA4	Spent Acid Process Fugitives (4)	H <sub>2</sub> SO <sub>4</sub>	0.30	1.34
		SO <sub>2</sub>	0.13	0.38
		VOC	0.08	0.30

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

- (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 area name or fugitive source name.
  - (3)  $C_2H_4$  - ethylene  
 $Cl_2$  - chlorine  
 $CO$  - carbon monoxide  
 $HCl$  - hydrogen chloride  
 $NO_x$  - total oxides of nitrogen  
 $PM_{10}$  - particulate matter (PM) equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.  
  
 $SO_2$  - sulfur dioxide  
 $VOC$  - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1.  
 $H_2SO_4$  - sulfuric acid
  - (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
  - (5) Planned startup, shutdown and maintenance emissions
  - (6) Ethylene emissions are not included in the VOC emission total.
- \* 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 April 5, 2007