

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Flexible Permit Number 18897

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)	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY**</u>

VOC Cap:

Flare 112 (7), Boilers, Furnaces, Heaters,
Compressors, Incinerator,
Thermal Oxidizer, FCCU/WGS,
Fire Water Pump, Thermal Combustors,
Cooling Towers (4), Fugitive Emissions (4),
Loading Racks, Fixed Roof Tanks,
Floating Roof Tanks, and
Carbon Canister Systems

Initial VOC Cap	697	1114
Final VOC Cap (6)	403	930

NO_x Cap:

Flare 112 (7), Boilers, Furnaces, Heaters,
Compressors, Incinerator,
Thermal Oxidizer, FCCU/WGS,
Fire Water Pump, and Thermal Combustors

Initial NO _x Cap	603	1346
Final NO _x Cap (6)	205	535

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			<u>lb/hr</u>	<u>TPY**</u>

CO Cap:

Flare 112 (7), Boilers, Furnaces, Heaters,
Compressors, Incinerator,
Thermal Oxidizer, FCCU/WGS,
Fire Water Pump, Thermal Combustors,
and Absorber

Initial CO Cap	266	613
Final CO Cap (6)	171	479

PM Cap:

Boilers, Furnaces, Heaters,
Compressors, Incinerator,
Thermal Oxidizer,
FCCU/WGS, Fire Water Pump,
Thermal Combustors,
and Solid Waste Loading

Initial PM Cap	53	99
Final PM Cap (6)	53	99

SO₂ Cap:

Flare 112 (7), Boilers, Furnaces, Heaters,
Compressors, Incinerator,
Thermal Oxidizer, FCCU/WGS,
Fire Water Pump,
and Thermal Combustors

Initial SO ₂ Cap	227	521
Final SO ₂ Cap (6)	157	375

H₂S Cap:

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			lb/hr	TPY**
Flare 112 (7), Boilers, Furnaces, Heaters, Absorber, Incinerator, Thermal Oxidizer, Thermal Combustors, Carbon Canister EPN PK-854, Fugitive Emission EPNs F-16N, F-39, F-71-72, F-1/2, F-11, and F-13 (4), and Sulfur Loading and Storage				
		Initial H ₂ S Cap	3	6
		Final H ₂ S Cap (6)	2	4
<u>COS Cap:</u> Absorber				
		Initial COS Cap	1	5
		Final COS Cap (6)	1	5
<u>H₂SO₄ Cap:</u> FFCU/WGS				
		Initial H ₂ SO ₄ Cap	4	18
		Final H ₂ SO ₄ Cap (6)	4	18
<u>NH₃ Cap:</u> Carbon Canister EPN PK-854				
		Initial NH ₃ Cap	0.01	0.06
		Final NH ₃ Cap (6)	0.01	0.06
<u>HCl Cap:</u> pH Neutralization				

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			lb/hr	TPY**
		Initial HCl Cap	0.77	0.15
		Final HCl Cap (6)	0.10	0.02
<u>Benzene Cap:</u>				
Fugitive Emissions EPNs LE-FUG, F-16N, F-39, F-41, TNK-FUG, F-1/2, F-3/4, F-8, F-11, F-16S, F-22, and FUG (4), Thermal Oxidizer, Carbon Canister PK-854, Fixed-Roof Tanks, and Floating Roof Tanks				
		Initial Benzene Cap	1.75	5.90
		Final Benzene Cap (6)	1.60	5.24
D-2914	Relief Gas Emergency Flare (5)	VOC	0.01	0.06
		NO _x	0.16	0.68
		CO	0.80	3.48
		SO ₂	0.01	0.01
R-2911	Rheniformer Emergency Flare (5)	VOC	0.01	0.01
		NO _x	0.02	0.10
		CO	0.11	0.49
		SO ₂	0.01	0.01
128	Sour Water Stripper Emergency Flare (5)	VOC	0.01	0.01
		NO _x	0.05	0.21
		CO	0.10	0.43
		SO ₂	0.01	0.01
XF7104	Standby SRU Tailgas Incinerator (5)	VOC	0.01	0.04
		NO _x	0.23	0.67
		CO	0.08	0.24

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			lb/hr	TPY**
		PM	0.02	0.05
		SO ₂	0.01	0.01
		H ₂ S	0.01	0.01
112	Plant Emergency/AAG/ Main South Flare (5, 7)	VOC	0.01	0.01
		NO _x	0.02	0.07
		CO	0.11	0.49
		SO ₂	0.01	0.01

- (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 an area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 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 PM greater than 10 microns is emitted.
CO - carbon monoxide
H₂S - hydrogen sulfide
HCl - hydrochloric acid
H₂SO₄ - sulfuric acid
COS - carbonyl sulfide
NH₃ - ammonia
- (4) Emission rates are an estimate and enforceable through compliance with the applicable special condition(s) and permit application representations.
- (5) Only pilot emissions are authorized for these combustion sources.
- (6) The final caps will be implemented eight years after permit issuance.
- (7) EPN 112 will be authorized for use as a process flare through September 2007. After that, only pilot emissions will be authorized for the flare, and the flare will no longer be included in the pollutant caps.

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- * Emission rates are based on and the facilities are limited by the following maximum operating schedule:
- ** Compliance with annual emission limits is based on a calendar year basis for the first eight years after this permit was issued, and a rolling 12-month basis thereafter.

24 Hrs/day 7 Days/week 52 Weeks/year or _____ Hrs/year

Dated April 4, 2005