

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 3956B

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 *	Source	Air Contaminant	<u>Emission Rates</u>	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
**ALLTUR	Existing (10) Turbines Solar Saturn T-1200 (T-1 through T-8, T-11, 148.0 and T-12)	VOC	0.52	2.29
		NO _x	32.62	142.9
		CO		33.8
		SO ₂	3.94	17.26
		PM ₁₀	5.49	24.04
T-13	New Turbine Solar Centaur T-4700	VOC	0.17	0.73
		NO _x	8.06	35.32
		CO	5.86	25.65
		SO ₂	1.44	6.32
		PM ₁₀	2.01	8.81
T-14	New Turbine Solar Centaur T-4700	VOC	0.17	0.73
		NO _x	8.06	35.32
		CO	5.86	25.65
		SO ₂	1.44	6.32
		PM ₁₀	2.01	8.81
E-1 E	Process Heater No. 1 East Stack (137.5 MMBtu/hr)	VOC	0.09	0.39
		NO _x	2.19	9.61
		CO	1.25	5.49
		SO ₂	3.68	16.12
		PM ₁₀	0.31	1.37
E-1 M	Process Heater No. 1 Middle Stack (137.5 MMBtu/hr)	VOC	0.09	0.39
		NO _x	2.19	9.61
		CO	1.25	5.49
		SO ₂	2.81	12.31
		PM ₁₀	0.31	1.37
E-1 W	Process Heater No. 1	VOC	0.09	0.39

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
	West Stack (137.5 MMBtu/hr)	NO _x	2.19	9.61
		CO	1.25	5.49
		SO ₂	2.43	10.64
		PM ₁₀	0.31	1.37
E-2 E	Process Heater No. 2 East Stack (137.5 MMBtu/hr)	VOC	0.09	0.39
		NO _x	2.19	9.61
		CO	1.25	5.49
		SO ₂	1.55	6.79
		PM ₁₀	0.31	1.37
E-2 M	Process Heater No. 2 Middle Stack (137.5 MMBtu/hr)	VOC	0.09	0.39
		NO _x	2.19	9.61
		CO	1.25	5.49
		SO ₂	1.3	5.69
		PM ₁₀	0.31	1.37
E-2 W	Process Heater No. 2 West Stack (137.5 MMBtu/hr)	VOC	0.09	0.39
		NO _x	2.19	9.61
		CO	1.25	5.49
		SO ₂	1.05	4.6
		PM ₁₀	0.31	1.37
**E-3E	Process Heater No. 3 East Stack (34 MMBtu/hr)	VOC	0.05	0.21
		NO _x	2.38	10.43
		CO	0.6	2.61
		SO ₂	0.01	0.045
		PM ₁₀	0.24	1.04
**E-3W	Process Heater No. 3 West Stack (34 MMBtu/hr)	VOC	0.05	0.21
		NO _x	2.38	10.43
		CO	0.6	2.61
		SO ₂	0.01	0.045
		PM ₁₀	0.24	1.04
FL-1	Flare	VOC	2.51	10.98
		NO _x	3.54	15.5
		CO	13.09	57.34
		PM ₁₀	2.49	10.92

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Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
**EFWN	Fire Water Engine (5) North Stack	VOC	0.17	0.04
		NO _x	2.1	0.53
		CO	0.45	0.11
		SO ₂	0.014	0.04
		PM/PM ₁₀	0.15	0.04
**EFWS	Fire Water Engine (5) South Stack	VOC	0.17	0.14
		NO _x	2.1	0.53
		CO	0.45	0.11
		SO ₂	0.014	0.04
		PM/PM ₁₀	0.15	0.04
**ESPNOAH	Spent Caustic Tank Vent	VOC	0.77	3.37
**EHOTOIL	Hot Oil Storage Tank	VOC	<0.001	<0.01
**EMEABG	Methy Di-Ethanol Amine Storage Tank	VOC	<0.001	<0.01
**EDEGBG	Di-Ethylene Glycol Storage Tank <0.01	VOC		<0.001
EDEABG	Di-Ethanol Amine Storage Tank <0.01	VOC		<0.001
**EDSO	Di-Sulfide Oil Storage Tank <0.01	VOC		<0.001
**EMEROXI	Process Tank	VOC	0.02	0.098
**EMINALK	Process Tank	VOC	0.02	0.098
**EMEOH	Methanol Storage Tank	VOC	<0.001	<0.01
**ETEGBG	Triethylene Glycol Storage Tank	VOC		0.002

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	0.007		
**EMOTOR	Unleaded Gasoline Tank	VOC	0.032 0.14
AMINE-FUG	Amine Area Fugitives (4)	VOC	0.032 0.14
STOR-FUG	Storage Area Fugitives (4)	VOC	0.28
	1.21		
**DEBUT-FUG	Debutanizer Addition Fugitives	VOC	0.075
	0.33		
	Project Fugitives (4)		
PROC-FUG	Plant Process Fugitives (4)	VOC	0.82
	3.58		
		H ₂ S	<0.04 <0.14
TURBIN-FUG	New Turbine Fugitives (4)	VOC	0.77
	3.37		
	(T-13 and T-14)		

- (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 General Rule 101.1
 - NO_x - total oxides of nitrogen
 - CO - carbon monoxide
 - 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.

 - H₂S - hydrogen sulfide
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) These engines are limited to 500 hours of operation per year.

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* Emission rates are based on and the facilities are limited by the following maximum operating schedule except as specified in note (5):

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

** These emissions sources are exempted changes incorporated into this permit pursuant to 30 TAC Section 116.116.(d). Dates and standard exemption/exemption numbers are represented by the company in Attachment A to this table.

Dated _____