EMISSION SOURCES – MAXIMUM ALLOWABLE EMISSION RATES

Permit Number 21101/PSDTX1248

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, sources, and related activities. 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)
AV-FLARE-24	Analyzer Vent	CO NO_x VOC	0.01 0.01 0.01	0.01 0.01 0.01
DEG-1	Degreaser 1	VOC	0.08	0.33
DEG-2	Degreaser 2	VOC	0.08	0.33
E-01-1544	Cracking Furnaces BA-101/102 Common Stack	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	82.54 22.35 2.08 3.91 10.74 2.14	361.54 97.90 9.12 17.14 14.52 9.39
E-01A-1544	Economizer (6)	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	508.27 143.29 13.67 25.69 70.53 10.21	2226.24 629.00 59.87 112.53 95.34 44.72
E-02-1544	Cracking Furnaces BA-103/104 Common Stack	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	82.54 22.35 2.08 3.91 10.74 2.14	361.54 97.90 9.12 17.14 14.52 9.39
E-02A-1544	Cracking Furnace BA-115	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	150.00 130.00 1.80 3.39 9.30 1.86	42.40 95.40 7.90 14.85 12.58 8.13
E-03-1544	Cracking Furnaces BA-105/106 Common Stack	CO NO_x PM_{10} SO_2 (7) SO_2 (8)	82.54 22.35 2.08 3.91 10.74 2.14	361.54 97.90 9.12 17.14 14.52 9.39

Emission Sources – Maximum Allowable Emission Rates

		VOC		
E-03A-1544	Cracking Furnace BA-116	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	150.00 130.00 1.80 3.39 9.30 1.86	42.40 95.40 7.90 14.85 12.58 8.13
E-04-1544	Cracking Furnaces BA-107/108 Common Stack	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	82.54 22.35 2.08 3.91 10.74 2.14	361.54 97.90 9.12 17.14 14.52 9.39
E-04A-1544	Cracking Furnace BA-117	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	150.00 130.00 1.80 3.39 9.30 1.86	42.40 95.40 7.90 14.85 12.58 8.13
E-05-1544	Cracking Furnaces BA-109/110 Common Stack	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	82.54 22.35 2.08 3.91 10.74 2.14	361.54 97.90 9.12 17.14 14.52 9.39
E-05A-1544	Cracking Furnace BA-118	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	150.00 130.00 1.80 3.39 9.30 1.86	42.40 95.40 7.90 14.85 12.58 8.13
E-06-1544	Cracking Furnaces BA-111/112 Common Stack	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	82.54 22.35 2.08 3.91 10.74 2.14	361.54 97.90 9.12 17.14 14.52 9.39
E-06A-1544	Decoke Drum	CO PM_{10}	114.00 13.67	35.08 1.29
E-07-1544	Steam Superheater BA-113 (158 MMBtu/hr heat input)	CO NO_x PM_{10} SO_2 (7)	13.01 9.48 1.18 2.21	56.99 41.52 5.16 9.69

Emission Sources – Maximum Allowable Emission Rates

		SO_2 (8) VOC	6.08 1.21	8.21 5.31
E-08-1544	Heater BA-301 (17.1 MMBtu/hr heat input)	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	1.41 1.68 0.13 0.24 0.66 0.14	6.17 7.35 0.56 1.05 0.89 0.58
E-09-1544	Heater BA-401 (17.6 MMBtu/hr heat input)	CO NO_x PM_{10} SO_2 (7) SO_2 (8) VOC	1.45 1.73 0.13 0.25 0.68 0.14	6.35 7.56 0.57 1.08 0.92 0.59
E-10-1544	Diesel Engine – Primary	CO NO_x PM_{10} SO_2 VOC	1.08 6.59 0.14 0.16 0.40	4.72 28.87 0.59 0.72 1.74
E-11-1544	Diesel Engine - Secondary	CO NO_x PM_{10} SO_2 VOC	0.58 6.31 0.08 0.15 0.09	2.56 27.65 0.35 0.66 0.39
E-24-FLARE	Process Flare (normal operation)	CO (9) NO_x SO_2 VOC	278.11 69.70 0.02 21.80	136.37 35.24 0.07 33.47
	(startup, shutdown and maintenance operation)	CO NO_x SO_2 VOC	83.99 20.98 0.01 5.47	11.90 2.98 0.01 0.48
E-137-CT	Cooling Tower	VOC	5.73	25.04
E-AN-1544	Eleven Analyzer Vents	VOC	0.15	0.64
E-AN-1740	Flame Ionization Detector	CO NO_x VOC	0.01 0.01 0.01	0.01 0.01 0.01
E-TNK-1544	Several Storage Tanks	VOC	7.67	0.01
EU-CATSTACK	Silencer Stack (maintenance operation)	CO PM_{10} SO_2	6.00 0.25 5.83 1.00	1.44 0.05 1.40 0.24

Emission Sources – Maximum Allowable Emission Rates

		VOC		
J-3	Firewater Pump Engine J-3	CO NO_x PM_{10} SO_2 VOC	1.27 7.76 0.16 0.01 0.47	0.40 2.45 0.05 0.01 0.15
J-4	Firewater Pump Engine J-4	CO NO_x PM_{10} SO_2 VOC	1.27 7.76 0.16 0.01 0.47	0.40 2.45 0.05 0.01 0.15
J-3-TNK	Diesel Fixed Roof Tank	VOC	0.11	0.01
J-4-TNK	Diesel Fixed Roof Tank	VOC	0.11	0.01
T-500	Gasoline Storage Tank	VOC	1.29	0.74
T-502	Diesel Storage Tank	VOC	0.11	0.01
T-FB-203	Wash Oil Tank	VOC	2.31	0.24
1544-ANV	EU-1544 Ammonia Analyzer	VOC	0.12	0.55
F-1544	Process Fugitives (5)	BD VOC	0.21 17.95	0.89 78.68

(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) BD - butadiene
CO - carbon monoxide
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 or equal to 10 microns is emitted.
SO_2 - sulfur dioxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1. Butadiene is not included as a VOC.
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.

(5)Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s)
and permit application representations.
(6) Total emissions from any combination of EPNs E-01-1544, E-02-1544, E-03-1544, E-04-1544, E-05-1544, E-06-1544, E-07-1544 and E-01A-1544 shall not exceed the following after the staged combustion burner retrofit on the BA-113 Steam Superheater:

	lbs/hr	TPY
CO	508.27	2226.24
NO_x	143.59	629.00

Emission Sources – Maximum Allowable Emission Rates

PM_{10}	13.67	59.87
SO_2 (7)	25.69	112.53
SO_2 (8)	70.53	95.34
VOC	10.21	44.72

(7) Natural gas
(8) Refinery fuel gas.
(9) PSDTX1248 pollutant

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

Date: _____