Emission Sources - Maximum Allowable Emission Rates

Permit Number 21101 and 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)
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 (6)	VOC	2.14	9.40
		NO_x	22.36	97.90
		CO	82.54	361.54
		SO_2	10.74	17.14
		PM	2.08	9.12
		PM_{10}	2.08	9.12
		$PM_{2.5}$	2.08	9.12
E-01A-1544	Economizer (6)	VOC	14.05	61.71
		NO_x	143.64	628.92
		CO	508.25	2,226.23
		SO_2	70.51	112.53
		PM	13.66	59.88
		PM_{10}	13.66	59.88
		$PM_{2.5}$	13.66	59.88
E-02-1544	Cracking Furnaces BA-103/104 Common Stack (6)	VOC	2.14	9.40
		NO_x	22.36	97.90
		CO	82.54	361.54
		SO_2	10.74	17.14
		PM	2.08	9.12
		PM_{10}	2.08	9.12
		$PM_{2.5}$	2.08	9.12

Emission Sources - Maximum Allowable Emission Rates

E-02A-1544	Cracking Furnace BA-115	VOC	1.86	8.13
		NO_x	130.00	95.40
		CO	150.00	42.40
		SO_2	9.30	14.85
		PM	1.80	7.90
		PM_{10}	1.80	7.90
		$PM_{2.5}$	1.80	7.90
E-03-1544	Cracking Furnaces BA-105/106 Common Stack (6)	VOC	2.14	9.40
		NO_x	22.36	97.90
		CO	82.54	361.54
		SO_2	10.74	17.14
		PM	2.08	9.12
		PM_{10}	2.08	9.12
		$PM_{2.5}$	2.08	9.12
E-03A-1544	Cracking Furnace BA-116	VOC	1.86	8.13
		NO_x	130.00	95.40
		CO	150.00	42.40
		SO_2	9.30	14.85
		PM	1.80	7.90
		PM_{10}	1.80	7.90
		$PM_{2.5}$	1.80	7.90
E-04-1544	Cracking Furnaces BA-107/108 Common Stack (6)	VOC	2.14	9.40
		NO_x	22.36	97.90
		CO	82.54	361.54
		SO_2	10.74	17.14
		PM	2.08	9.12
		PM_{10}	2.08	9.12
		$PM_{2.5}$	2.08	9.12
E-04A-1544	Cracking Furnace BA-117	VOC	1.86	8.13
		NO_x	130.00	95.40
		CO	150.00	42.40

Emission Sources - Maximum Allowable Emission Rates

		SO_2	9.30	14.85
		PM	1.80	7.90
		PM_{10}	1.80	7.90
		$PM_{2.5}$	1.80	7.90
E-05-1544	Cracking Furnaces BA-109/110 Common Stack (6)	VOC	2.14	9.40
		NO_x	22.36	97.90
		CO	82.54	361.54
		SO_2	10.74	17.14
		PM	2.08	9.12
		PM_{10}	2.08	9.12
		$PM_{2.5}$	2.08	9.12
E-05A-1544	Cracking Furnace BA-118	VOC	1.86	8.13
		NO_x	130.00	95.40
		CO	150.00	42.40
		SO_2	9.30	14.85
		PM	1.80	7.90
		PM_{10}	1.80	7.90
		$PM_{2.5}$	1.80	7.90
E-06-1544	Cracking Furnaces BA-111/112 Common Stack (6)	VOC	2.14	9.40
		NO_x	22.36	97.90
		CO	82.54	361.54
		SO_2	10.74	17.14
		PM	2.08	9.12
		PM_{10}	2.08	9.12
		$PM_{2.5}$	2.08	9.12
E-06A-1544	Decoke Drum	CO	114.00	35.08
		PM	10.17	0.96
		PM_{10}	10.17	0.96
		$PM_{2.5}$	10.17	0.96

Emission Sources - Maximum Allowable Emission Rates

E-07-1544	Steam Superheater BA-113 (6)	VOC	1.21	5.31
		NO_x	9.48	41.52
		CO	13.01	56.99
		SO_2	6.07	9.69
		PM	1.18	5.16
		PM_{10}	1.18	5.16
		$PM_{2.5}$	1.18	5.16
E-CAP	Emission Cap (6) Includes: E-01-1544 E-02-1544 E-03-1544 E-04-1544 E-05-1544 E-06-1544 E-07-1544 E-01A-1544	VOC	14.05	61.71
		NO_x	143.64	628.92
		CO	508.25	2,226.23
		SO_2 (7)	70.51	112.53
		PM	13.66	59.88
		PM_{10}	13.66	59.88
		$PM_{2.5}$	13.66	59.88
E-08-1544	Heater BA-301	VOC	0.13	0.57
		NO_x	1.68	7.35
		CO	1.41	6.17
		SO_2	0.66	1.05
		PM	0.13	0.56
		PM_{10}	0.13	0.56
		$PM_{2.5}$	0.13	0.56
E-09-1544	Heater BA-401	VOC	0.14	0.59
		NO_x	1.73	7.56
		CO	1.45	6.35
		SO_2	0.68	1.08
		PM	0.13	0.57
		PM_{10}	0.13	0.57
		$PM_{2.5}$	0.13	0.57
E-10-1544	Diesel Engine – Primary	VOC	0.08	0.34
		NO_x	2.99	13.07

Emission Sources - Maximum Allowable Emission Rates

		CO	2.45	10.74
		SO_2	0.01	0.04
		PM	0.10	0.42
		PM_{10}	0.10	0.42
		$PM_{2.5}$	0.10	0.42
E-11-1544	Diesel Engine - Secondary	VOC	0.08	0.34
		NO_x	2.99	13.07
		CO	2.45	10.74
		SO_2	0.01	0.04
		PM	0.10	0.42
		PM_{10}	0.10	0.42
		$PM_{2.5}$	0.10	0.42
E-24-FLARE	Process Flare - Normal Operation	VOC	416.50	33.47
		NO_x	90.68	35.24
		CO	362.11	136.37
		SO_2	0.33	0.07
	Process Flare - Normal Operation Contribution from Acetylene Converter Regeneration (7)	VOC	83.54	0.48
		NO_x	20.98	2.98
		CO	83.99	11.90
		SO_2	0.01	0.01
E-137-CT	Cooling Tower (5)	VOC	5.73	25.10
		PM	3.42	15.00
		PM_{10}	1.37	6.00
		$PM_{2.5}$	0.34	1.50
E-AN-1544	EU-1544 Analyzer Vents Routed to Atmosphere	VOC	0.15	0.64
E-AN-1740	Flame Ionization Detector	VOC	0.01	0.01
		NO_x	0.01	0.01
		CO	0.01	0.01
E-TNK-1544	EU-1544 Miscellaneous Storage Tanks	VOC	7.69	0.01
EU-CATSTACK	Silencer Stack	VOC	1.00	0.24

Emission Sources - Maximum Allowable Emission Rates

		CO	6.00	1.44
		SO_2	5.83	1.40
		PM	0.25	0.06
		PM_{10}	0.25	0.06
		$PM_{2.5}$	0.25	0.06
J-3	Firewater Pump Engine J-3	VOC	0.27	0.01
		NO_x	9.82	0.49
		CO	2.02	0.10
		SO_2	0.01	0.01
		PM	0.21	0.01
		PM_{10}	0.21	0.01
		$PM_{2.5}$	0.21	0.01
J-4	Firewater Pump Engine J-4	VOC	0.27	0.01
		NO_x	9.82	0.49
		CO	2.02	0.10
		SO_2	0.01	0.01
		PM	0.21	0.01
		PM_{10}	0.21	0.01
		$PM_{2.5}$	0.21	0.01
J-3-TNK	Firewater Engine J-3 Diesel Fuel Tank	VOC	0.11	0.01
J-4-TNK	Firewater Engine J-4 Diesel Fuel Tank	VOC	0.11	0.01
T-500	Gate 45 - Gasoline Storage Tank	VOC	1.29	0.74
T-502	Gate 45 - Gasoline Storage Tank	VOC	0.11	0.01
T-FB-203	Wash Oil Tank	VOC	2.31	0.24
EU-1544	Process Fugitives (5)	VOC	27.34	119.74
		BD	0.46	2.00

(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_x - total oxides of nitrogen
SO_2 - sulfur dioxide

Emission Sources - Maximum Allowable Emission Rates

PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
BD - butadiene

(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) Emission Cap (EPN E-CAP) includes 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.
(7) Routine emissions attributed to acetylene converter regeneration activities. These emissions were previously referred to as maintenance, startup, and shutdown (MSS) emissions. MSS activities from the Port Arthur Plant Ethylene Unit are authorized under NSR Permit No. 83741.

Date: February 17, 2015