EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

Permit Numbers 6825A, PSDTX49, and N65

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

Pollutant (3)	Emission Rates * lb/hr	TPY**
Emission Caps (11) (12)		
SO_2	771.9	2,291
VOC	461.0	1,003
VOC (8)	466.9	1,028
NO_x	842.4	3,344
NO_x (6)	842.4	3,379
NO_x (7)	842.4	3,185
NO_x (8)	842.4	3,212
CO	908.1	3,749
PM	132.6	557.9
Ammonia	0.10	0.20
Ammonia (6)	1.43	4.87
Ammonia (7)	9.33	39.07
Ammonia (8)	10.52	43.64
H_2S	4.64	11.40
Benzene	2.77	9.39
HF	0.33	1.64
MTBE	12.11	27.89

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates * lb/hr	TPY**
Emissions not in permit emission caps:				
E-V54	CCR Regen Vent	HCl	0.02	0.07
		VOC	0.16	0.70
F-20-Flare	Flare 20 MSS	VOC	0.06	0.28
		NO_x	0.87	3.81
		SO_2	0.80	3.50
		CO	2.40	10.50
E-01-1241	Heater 1241-H1 MSS (5)	VOC	0.10	0.40
		NO_x	0.20	0.90
		SO_2	0.01	0.01
		CO	0.20	0.90
		PM	0.10	0.40
E-02-1241	Heater 1241-H2 MSS (5)	VOC	0.10	0.40
		NO_x	0.20	0.90
		SO_2	0.01	0.01
		CO	0.20	0.90
		PM	0.10	0.40
F-PIPE	F-PIPE	VOC	0.18	0.78
E-01-245	Heater 245	NO_x	1.44	6.31
		VOC	0.18	0.77
		SO_2	0.85	3.73
		CO	2.48	10.84
		PM	0.24	1.07

Emissions in permit emission caps:

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

REFFUG Includes: F-1241, F-1242, F-1344, F-146, F-147, F-15BH, F-16BH, F-241, F-242, F-243, F-244, F-245, F-246, F-443, F-545, F-546, F-6341, F-7542, F-7841, F-7842, F-7848, F-843, F-8746, F-8747, F-942, FUAUCT, F-DOCKS, F-544, F-Fueling Station, F-163PH, F-41PH, F-FGMD, F-SRTF, F-Utilities, F-8741, F-543/4, F-NSTF, F-BH-19, F-844, F-7843	Refinery Fugitives VOC Subcap (4)	VOC	180.8	791.7
100, 103, 106, 107, 110, 111, 133, 151, 1848, 1849, 2101, 2105, 2106, 2110, 2111, 2112, 2113, 2117, 2132, 2133, 2137, 2145, 2147, 2148, 2159, 2160, 2161, 2162, 2163, 2164, 2182, 2183, 2588, 2590, 283, 284, 285, 31, 5, 77, 78, 82, 88, 889, 896, 925, 926, 99, T-108, T-109, T-546-1, T-546-2, T-7842-1, T-7842-2	Refinery Tank Subcap	VOC	218.7	153.3
E-05-FLARE, F-13-FLARE, F-15-FLARE, F-18-FLARE, F-19-FLARE, F-20-FLARE, F-22-FLARE, E-23-FLARE, F-103-FLARE, E-26-Flare	Flares Subcap	NO_x VOC SO_2 CO	0.57 1.49 2.32 4.12	2.54 6.51 10.11 18.19

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

F-03-DOCK, F-02-DOCK, F-05-DOCK, F-06-DOCK, F-08-DOCK, F-07-DOCK, F-11-DOCK, F-12-DOCK, F-15-DOCK, F-14-DOCK	Uncontrolled Marine Loading	VOC	99.48	75.40
F-943, F-844, F-7843, F-7945, F-8748 SWS, E-26-Flare, T-79, T-286, T-287, T-927, T-2190, T-2191, T-CX2-DIESL-1, T-CX2-RESID-1, T-CX2-RESID-2, T-CX2-Amine-1, T-CX2-Amine-2, E-01-943, E-02-943, F-446CT	COEXII and DCU-844 VOC Subcap (9)	VOC	41.14	124.2
E-01-SCOT, E-02-SCOT, E-03-SCOT, E-04-SCOT	SRUs Subcap	NO_x	49.68	118.40
		VOC	64.24	151.90
		SO_2	345.83	1056.82
		CO	192.20	896.29
		PM	24.58	58.60
E-02-BH 15, E-03-BH 15, E-04-BH 15	Boilerhouse 15 Subcap (10)	NO_x	213.56	314.3
		VOC	12.30	26.99
		SO_2	129.01	211.90
		CO	101.29	222.21
		PM	8.62	37.78
E-06-BH 16, E-07-BH 16, E-08-BH 16	Boilerhouse 16 Subcap	NO_x	200.41	414.5
		VOC	12.55	27.49
		SO_2	98.37	161.58
		CO	103.35	226.36
		PM	8.79	38.49
E-01-146	Heater 146-H101	NO_x	49.56	146.99
		VOC	3.34	12.18
		SO_2	11.36	18.67
		CO	48.78	67.14
		PM	4.34	16.83

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant, Name (3)	Emission Rates * lb/hr	TPY**
E-02-146	Heater 146-H102AB	NO_x	19.88	52.36
		VOC	1.60	5.04
		SO_2	5.43	8.92
		CO	19.59	27.76
		PM	2.08	6.96
E-01-147	Heater 147-F-1100	NO_x	13.86	60.71
		VOC	2.14	9.35
		SO_2	10.59	17.39
		CO	32.61	68.93
		PM	2.77	12.14
E-02-147	Heater 147-F-1200	NO_x	7.80	17.28
		VOC	0.92	3.29
		SO_2	4.10	5.66
		CO	10.89	19.25
		PM	1.28	4.55
E-01-BH 15	Boiler 15-41	NO_x	52.20	228.64
		VOC	2.35	9.97
		SO_2	19.58	21.63
		CO	35.82	72.33
		PM	3.05	13.34
E-03-BH 16	Boiler 16-31	NO_x	50.00	121.43
		VOC	1.35	5.90
		SO_2	11.18	12.52
		CO	20.59	34.88
		PM	1.75	7.67
E-04-BH 16	Boiler 16-32	NO_x	50.00	121.43
		VOC	1.35	5.90
		SO_2	11.18	12.52
		CO	20.59	34.88
		PM	1.75	7.67

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

E-05-BH 16	Boiler 16-33	NO_x	102.66	449.65
		VOC	2.35	10.27
		SO_2	19.58	26.45
		CO	35.82	72.56
		PM	3.05	13.34
E-01-1344	Heater 1344-H1	NO_x	34.09	115.39
		VOC	3.65	14.80
		SO_2	11.95	19.64
		CO	40.45	82.24
		PM	5.05	20.45
E-02-1344	Heater 1344-H33	NO_x	3.82	12.46
		VOC	0.28	1.22
		SO_2	0.85	1.39
		CO	4.26	9.33
		PM	0.36	1.59
E-03-1344	Heater 1344-H2_3_32	NO_x	12.80	43.84
		VOC	0.86	2.41
		SO_2	2.89	4.75
		CO	10.64	13.43
		PM	1.12	3.33
E-01-843	Heater 843-H1	NO_x	16.00	53.40
		VOC	1.44	5.42
		SO_2	6.79	9.32
		CO	21.96	31.76
		PM	1.87	7.50
E-02-843	Heater 843-H2	NO_x	16.00	53.40
		VOC	1.44	5.42
		SO_2	6.79	9.32
		CO	21.96	31.76
		PM	1.87	7.50

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

E-03-843	Heater 843-H3	NO_x	16.00	53.40
		VOC	1.44	5.42
		SO_2	6.79	9.32
		CO	21.96	31.76
		PM	1.87	7.50
E-01-246	Heater 246-H1	NO_x	2.20	7.51
		VOC	0.34	1.06
		SO_2	1.44	1.86
		CO	4.07	6.19
		PM	0.47	1.47
E-01-1241	Heater 1241-H1	NO_x	4.96	1.24
		VOC	0.33	0.08
		SO_2	1.64	0.15
		CO	4.86	0.64
		PM	0.43	0.11
E-02-1241	Heater 1241-H2	NO_x	4.96	1.24
		VOC	0.33	0.08
		SO_2	1.64	0.15
		CO	4.86	0.64
		PM	0.43	0.11
E-01-241	Heater 241-B101AB	NO_x	7.92	34.69
		VOC	0.53	2.34
		SO_2	2.23	3.66
		CO	8.15	13.49
		PM	0.69	3.04
E-01-242	Heater 242-B201AB	NO_x	6.62	18.95
		VOC	0.36	1.04
		SO_2	1.87	2.06
		CO	4.04	5.77
		PM	0.50	1.44
E-01-243	Heater 243	NO_x	7.10	31.08
		VOC	0.48	1.87
		SO_2	1.78	2.92
		CO	6.74	10.31
		PM	0.62	2.58

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

E-01-244	Heater 244 F-101/102	NO_x	7.92	15.60
		VOC	0.36	0.85
		SO_2	1.90	1.97
		CO	5.13	4.85
		PM	0.46	1.19
E-01-942	Heater 942-H1_2_3	NO_x	12.83	45.56
		VOC	1.15	4.55
		SO_2	5.45	7.98
		CO	17.61	26.75
		PM	1.50	6.29
E-01-443	Heater 443	NO_x	24.29	42.83
		VOC	1.09	3.88
		SO_2	3.34	5.49
		CO	16.67	21.44
		PM	1.42	5.35
E-06-843	Two Tank Heaters for Charge Tanks	NO_x	0.73	3.18
		VOC	0.04	0.17
		SO_2	0.01	0.01
		CO	0.61	2.67
		PM	0.07	0.05
E-01-943	HCU - Reactor 1 Furnace	NO_x	2.98	9.86
		VOC	0.22	0.66
		SO_2	2.35	3.89
		CO	5.94	9.84
		PM	0.63	2.10
	HCU - Reactor 2 Furnace	NO_x	2.98	9.81
		VOC	0.22	0.65
		SO_2	2.35	3.87
		CO	5.94	9.80
		PM	0.63	2.09
E-02-943	HCU - Fractionator Feed Furnace	NO_x	3.45	13.14
		VOC	0.60	2.04
		SO_2	6.35	12.08
		CO	16.08	30.62
		PM	1.98	7.03

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

E-01-BH19	Boiler No. 1 (Normal Operation) (10)	NO_x	8.63	37.21
		VOC	0.50	2.16
		SO_2	2.87	12.38
		CO	10.85	46.82
		PM	3.92	16.91
E-01-BH19	Boiler No. 1 (MSS) (10)	NO_x	57.50	3.80
		CO	217.07	14.33
E-02-BH19	Boiler No. 2 (Normal Operation) (10)	NO_x	8.63	37.21
		VOC	0.50	2.16
		SO_2	2.87	12.38
		CO	10.85	46.82
		PM	3.92	16.91
E-02-BH19	Boiler No. 2 (MSS) (10)	NO_x	57.50	3.80
		CO	217.07	14.33
E-03-BH19	Boiler No. 3 (Normal Operation) (10)	NO_x	8.63	37.21
		VOC	0.50	2.16
		SO_2	2.87	12.38
		CO	10.85	46.82
		PM	3.92	16.91
E-03-BH19	Boiler No. 3 (MSS) (10)	NO_x	57.50	3.80
		CO	217.07	14.33
E-01-WGS	FCCU Wet Gas Scrubber	NO_x	327.70	271.93
		VOC	15.70	68.80
		SO_2	114.10	256.08
		CO	498.80	896.29
		PM	63.50	278.13
E-MC-24-25	DOCK-MC	NO_x	49.68	108.80
		VOC	66.66	25.72
		CO	99.18	217.20
F-101CT	Cool Twr 101	VOC	1.30	5.70
F-136ACT	Cool Twr 136A	VOC	2.73	11.96

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

F-136BCT	Cool Twr 136B	VOC	2.77	11.96
F-233PS	Cool Twr 233	VOC	0.53	1.24
F-314PS	Cool Twr 314	VOC	0.01	0.01
F-316PS	Cool Twr 316	VOC	0.01	0.01
F-354CT	Cool Twr 354	VOC	0.25	1.10
F-360PS	Cool Twr 360	VOC	0.92	4.05
F-363CT	Cool Twr 363	VOC	0.42	0.89
F-366CT	Cool Twr 366	VOC	2.10	2.45
CT-100	Cool Twr 100	VOC	1.05	4.60
E-432-CT	Cool Twr 432	VOC	0.84	3.68
E-433-CT	Cool Twr 433	VOC	1.26	0.69
CT0244	Cool Twr 244	VOC	1.18	5.15
F-446CT	Cooling Tower 446	VOC	1.89	8.28
E-01-844	DCU 844 Coker Furnace No. 1	NO_x VOC SO_2 CO PM	3.30 0.57 6.73 17.59 2.20	13.14 2.04 9.06 35.01 7.25
E-02-844	DCU 844 Coker Furnace No. 2	NO_x VOC SO_2 CO PM	3.30 0.57 6.73 17.59 2.20	13.14 2.04 9.06 35.01 7.25
F843-1 to 17	Coke Handling	PM	2.41	10.27
F-843PM	Coke Handling Fugitives	PM	2.41	10.56

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

F-844-1 to 7	DCU 844 Coke Handling	PM	0.27	0.30

(1) Emission point identification - either specific equipment designation or emission point number (EPN) from a plot plan per Attachment 1.
(2) Specific point source names. 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
CO - carbon monoxide
PM - particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5.}$
PM_{10} - particulate matter equal to or less than 10 microns in diameter.
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
H_2S - hydrogen sulfide
HCl - hydrogen chloride
HF - hydrogen fluoride
MTBE - methyl-tertiary-butyl ether
(4) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
(5) Cap contributions for FCCU-1241 Heaters B-103A (EPN E-01-1241) and B-103B (EPN E-02-1241) were removed from the permit caps and individual emission limits for these heaters were established because FCCU-1241 Heaters B-103A and B-103B are used for start-up only.
(6) Caps effective after sources associated with COEX II Project are operating.
(7) Caps effective after sources associated with COEX II Project and EPNs E-01-19BH, E 02 19BH, and E-03-19BH are operating and EPNs E 02-15BH and EPN E-03-15BH are shutdown.
(8) Caps effective after sources associated with COEX II Project, Delayed Coker Unit 844 (DCU-844), and EPNs E-01-19BH, E 02 19BH, and E-03-19BH are operating.
(9) The VOC emissions from COEX II and DCU-844 sources are subject to a separate emission limit in order to establish enforceable emission limits for these sources which are authorized by Nonattainment Permit Number 65.
(10) The Boilerhouse 15 units must be shutdown prior to the start of operation of Boilerhouse 19 Boilers 1, 2, and 3.

EMISSION SOURCES - EMISSIONS CAPS AND INDIVIDUAL EMISSION LIMITATIONS

(11) The maintenance, startup, and shutdown (MSS) emissions authorized in Permit Number 80812 must be added to Permit Number 6825A, PSDTX49, and N65 operating emissions to determine compliance with these emission caps.

(12) These emission caps have been carried forward from the flexible permit. The only emission caps that are not limiting (greater than the sum of the subcaps and individual emission rate limits for that air contaminant) are the annual caps for CO and SO_2.

* Emission rates are based on operating 8,760 hrs/year.

** Compliance with annual emission limits is based on a rolling 12-month period

Dated December 28, 2010