Emission Sources - Maximum Allowable Emission Rates

Permit Number 46396, PSDTX1073M2, N044

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)
FLARECAP	North Flare Middle Flare South Flare East Flare	NO_X	33.00	30.09
		CO	226.90	159.53
		SO_2	10.67	9.93
		VOC	529.58	310.41
		H_2S	0.13	0.12
Heaters / Boilers				
01ACU1H101	ACU No. 1 Heater H-101	NO_X	5.80	25.40
		CO	5.80	25.40
		SO_2	3.83	6.82
		VOC	0.76	3.35
		PM	1.08	4.73
		PM_{10}	1.08	4.73
01ACU1202A	ACU No. 1 Heater 202A	NO_X	11.22	49.14
		CO	13.25	32.60
		SO_2	4.94	8.80
		VOC	1.01	1.28
		PM	1.39	6.10
		PM_{10}	1.39	6.10
01ACU1202B	ACU No. 1 Heater 202B	NO_X	11.22	49.14
		CO	13.25	32.60
		SO_2	4.94	8.80
		VOC	1.01	1.28
		PM	1.39	6.10
		PM_{10}	1.39	6.10

Emission Sources - Maximum Allowable Emission Rates

01VACTH301	VDU No. 1 Heater H-301	NO_X	3.15	13.80
		CO	4.20	18.40
		SO_2	4.58	12.85
		VOC	0.55	2.42
		PM	0.78	3.43
		PM_{10}	0.78	3.43
02ACU2H201	ACU No. 2 Heater H-201	NO_X	6.66	16.95
		CO	8.88	22.60
		SO_2	5.87	6.07
		VOC	0.77	1.58
		PM	1.37	2.82
		PM_{10}	1.37	2.82
04BTXH-51	BTX Heater H-51	NO_X	1.90	8.20
		CO	1.90	8.40
		SO_2	0.80	3.70
		VOC	0.15	0.66
		PM	0.40	1.90
		PM_{10}	0.40	1.90
04BTXH-52	BTX Heater H-52	NO_X	3.80	16.60
		CO	3.80	16.80
		SO_2	1.70	7.40
		VOC	0.30	1.33
		PM	0.90	3.80
		PM_{10}	0.90	3.80
04BTXH-53	BTX Heater H-53	NO_X	3.90	17.10
		CO	4.00	17.40
		SO_2	1.70	7.70
		VOC	0.31	1.37
		PM	0.90	3.90
		PM_{10}	0.90	3.90

Emission Sources - Maximum Allowable Emission Rates

06VDU2CHTR	VDU No. 2 Heater	NO_X	2.97	11.71
		CO	6.89	13.64
		SO_2	2.37	4.39
		VOC	0.52	2.06
		PM	1.27	5.00
		PM_{10}	1.27	5.00
		$PM_{2.5}$	1.27	5.00
10DEMEXH-2	Demex Heater H-2	NO_X	2.45	10.73
		CO	4.87	10.71
		SO_2	1.68	3.45
		VOC	0.38	1.65
		PM	0.52	2.28
		PM_{10}	0.52	2.28
10DEMEXH-4	Demex Heater H-4	NO_X	3.43	15.02
		CO	6.82	15.00
		SO_2	2.35	4.82
		VOC	0.53	2.31
		PM	0.73	3.20
		PM_{10}	0.73	3.20
		$PM_{2.5}$	0.73	3.20
13UNIBH301	Unibon Heater H-301	NO_X	12.00	52.56
		CO	7.33	32.12
		SO_2	2.64	4.70
		VOC	0.58	2.53
		PM	0.50	2.19
		PM_{10}	0.50	2.19

Emission Sources - Maximum Allowable Emission Rates

17NHTHTRS	NHT Heaters	NO_X	3.77	16.50
		CO	4.40	19.25
		SO_2	3.32	4.55
		VOC	0.68	3.00
		PM	0.94	4.14
		PM_{10}	0.94	4.14
17REFHTRS	Reformer Heaters	NO_X	14.85	65.04
		CO	15.75	68.99
		SO_2	11.90	16.28
		VOC	2.43	10.60
		PM	3.35	14.69
		PM_{10}	3.35	14.69
30CKRHTR1	DCU Heater No. 1	NO_X	2.11	7.18
		CO	14.68	25.10
		SO_2	5.06	8.07
		VOC	1.11	3.78
		PM	3.90	13.28
		PM_{10}	3.90	13.28
		$PM_{2.5}$	3.90	13.28
30CKRHTR2	DCU Heater No. 2	NO_X	2.11	7.18
		CO	14.68	25.10
		SO_2	5.06	8.07
		VOC	1.11	3.78
		PM	1.57	5.35
		PM_{10}	1.57	5.35
31KNHTHTR	KNHT Heater	NO_X	1.26	1.38
		CO	2.92	1.61
		SO_2	1.01	0.52
		VOC	0.22	0.24
		PM	0.31	0.34
		PM_{10}	0.31	0.34
40CSPLTH-1	Condensate Splitter Heater H-1	NO_X	18.40	46.22

Emission Sources - Maximum Allowable Emission Rates

		CO	2.36	10.17
		SO_2	6.08	7.22
		VOC	0.58	2.50
		PM	4.02	16.67
		PM_{10}	4.02	16.67
43DHT3CHTR	DHT-3 Heater	NO_X	2.25	7.23
		CO	5.22	8.42
		SO_2	1.80	2.71
		VOC	0.40	1.27
		PM	0.56	1.79
		PM_{10}	0.56	1.79
50TDPH-1	TDP Heater H-1	NO_X	3.90	10.95
		CO	2.76	7.81
		SO_2	1.03	1.18
		VOC	0.21	0.59
		PM	0.29	0.82
		PM_{10}	0.29	0.82
51DHT1H-1	DHT No. 1 Heater H-1	NO_X	2.52	8.14
		CO	4.46	14.41
		SO_2	1.67	2.18
		VOC	0.33	1.07
		PM	0.47	1.52
		PM_{10}	0.47	1.52
51DHT1H-3	DHT No. 1 Heater H-3	NO_X	1.60	5.59
		CO	3.23	11.32
		SO_2	1.20	1.72
		VOC	0.24	0.84
		PM	0.34	1.19
		PM_{10}	0.34	1.19
52DHT2H-1	DHT No. 2 Heater H-1	NO_X	2.03	7.12
		CO	4.11	14.41
		SO_2	1.53	2.18

Emission Sources - Maximum Allowable Emission Rates

		VOC	0.31	1.07
		PM	0.43	1.52
		PM_{10}	0.43	1.52
52DHT2H-2	DHT No. 2 Heater H-2	NO_X	2.30	8.07
		CO	4.66	16.33
		SO_2	1.74	2.48
		VOC	0.35	1.21
		PM	0.49	1.72
		PM_{10}	0.49	1.72
61STACKBLR	Boilers - 61ST301BLR - 61ST351BLR (249 MMBtu/hr each)	NO_X	24.90	63.46
		CO	35.54	64.72
		SO_2	14.24	14.28
		VOC	2.74	9.98
		PM	3.80	13.84
		PM_{10}	3.80	13.84
Cogen				
60COGENSTK	Cogen Unit	NO_X	145.01	472.91
		CO	77.26	336.62
		SO_2	21.74	77.00
		VOC	2.33	7.08
		PM	5.65	19.91
		PM_{10}	5.65	19.91
FCCU				
55RGNFLUGS	Regenerator Flue Gas	NO_X	82.42	235.13
		CO	143.69	180.34
		SO_2	81.91	106.52
		VOC	5.63	18.60
		PM	52.96	186.66
		PM_{10}	52.96	186.66
		NH_3	3.92	15.50
55FCCUHOP	Catalyst Transport	PM	0.02	0.10
		PM_{10}	0.02	0.10

Emission Sources - Maximum Allowable Emission Rates

CCR Reformer				
17REFREGEN	Catalyst Regeneration	CO	1.53	6.72
		VOC	0.04	0.18
		HCl	0.06	0.06
		Cl_2	0.01	0.01
Sulfur Blocks				
15SRUINCIN	SRU No. 1 & 3 Tail Gas Thermal Oxidizer	NO_X	4.50	13.14
		CO	40.37	123.06
		SO_2	37.80	66.20
		VOC	2.00	7.60
		PM	1.08	3.15
		PM_{10}	1.08	3.15
		H_2S	1.06	1.85
25SRUINCIN	SRU No. 4 Incinerator	NO_X	6.40	14.59
		CO	39.53	36.85
		SO_2	55.31	136.66
		VOC	0.43	0.98
		PM	2.50	5.71
		PM_{10}	2.50	5.71
		$PM_{2.5}$	2.50	5.71
		H_2S	0.03	0.07
36SRUINCIN	SRU No. 5 Incinerator	NO_X	6.40	14.59
		CO	39.53	36.85
		SO_2	55.31	136.66
		VOC	0.43	0.98
		PM	2.50	5.71
		PM_{10}	2.50	5.71
		$PM_{2.5}$	2.50	5.71
		H_2S	0.03	0.07

Emission Sources - Maximum Allowable Emission Rates

Cooling Towers				
02FWCLGTWR (14)	ACU No. 2 FW Cooling Tower	VOC	0.36	1.60
		PM	7.56	33.13
		PM_{10}	3.32	14.53
		$PM_{2.5}$	0.02	0.07
02HDCLGTWR (14)	ACU No. 2 HD Cooling Tower	VOC	0.42	1.84
		PM	1.25	5.48
		PM_{10}	0.37	1.64
		$PM_{2.5}$	<0.01	<0.01
02HDCLGTWR (15)	ACU No. 2 HD Cooling Tower	VOC	0.63	2.76
		PM	1.38	6.03
		PM_{10}	0.41	1.81
		$PM_{2.5}$	<0.01	0.01
08ALKCLTWR	Alkylation Unit Cooling Tower	VOC	0.38	1.66
		PM	0.23	0.99
		PM_{10}	0.07	0.30
		$PM_{2.5}$	<0.01	<0.01
30DCPCT1	DCP Cooling Tower	VOC	2.31	10.12
		PM	0.50	2.19
		PM_{10}	0.34	1.47
		$PM_{2.5}$	0.01	0.01
60COGENCT	Cogen Unit Cooling Tower	VOC	0.08	0.37
		PM	0.25	1.10
		PM_{10}	0.07	0.33
		$PM_{2.5}$	<0.01	<0.01
67FPMCLTWR	FPM Cooling Tower	VOC	7.56	33.12
67NORTHCT	North Cooling Tower	VOC	0.40	1.80
Storage Tanks				
18ASPHTVRS	Asphalt Vapor Recovery System	VOC	15.05	(8)
		H_2S	0.01	0.02
18TANK0301	VOC Storage Tank No. 0301	VOC	0.94	(8)
18TANK0305	VOC Storage Tank No. 0305	VOC	2.52	(8)

Emission Sources - Maximum Allowable Emission Rates

18TANK0306	VOC Storage Tank No. 0306	VOC	1.60	(8)
18TANKV330	Tank 330	VOC	0.16	(8)
20TANK2000	VOC Storage Tank No. 2000	VOC	2.98	(8)
20TANK2003	VOC Storage Tank No. 2003	VOC	1.57	(8)
22TANK0316	VOC Storage Tank No. 0316	VOC	1.32	(8)
22TANK0317	VOC Storage Tank No. 0317	VOC	1.32	(8)
22TANK0441	VOC Storage Tank No. 0441	VOC	47.53	(8)
22TANK0516	VOC Storage Tank No. 0516	VOC	7.60	(8)
22TANK0522	VOC Storage Tank No. 0522	VOC	2.27	(8)
22TANK0524	VOC Storage Tank No. 0524	VOC	18.75	(8)
22TANK0536	VOC Storage Tank No. 0536	VOC	6.53	(8)
22TANK0537	VOC Storage Tank No. 0537	VOC	0.76	(8)
22TANK0538	VOC Storage Tank No. 0538	VOC	195.33	(8)
22TANK0545	VOC Storage Tank No. 0545	VOC	1.92	(8)
22TANK0558	VOC Storage Tank No. 0558	VOC	0.44	(8)
22TANK0559	VOC Storage Tank No. 0559	VOC	0.84	(8)
22TANK0560	VOC Storage Tank No. 0560	VOC	0.48	(8)
22TANK0561	VOC Storage Tank No. 0561	VOC	0.48	(8)
22TANK0586	VOC Storage Tank No. 0586	VOC	8.50	(8)
22TANK0587	VOC Storage Tank No. 0587	VOC	75.52	(8)
22TANK0589	VOC Storage Tank No. 0589	VOC	0.57	(8)
22TANK0902	VOC Storage Tank No. 0902	VOC	75.52	(8)
22TANK0917	VOC Storage Tank No. 0917	VOC	31.88	(8)
22TANK0918	VOC Storage Tank No. 0918	VOC	31.88	(8)
22TANK0924	VOC Storage Tank No. 0924	VOC	0.39	(8)
22TANK0925	VOC Storage Tank No. 0925	VOC	0.57	(8)
22TANK0933	VOC Storage Tank No. 0933	VOC	20.07	(8)
22TANK0934	VOC Storage Tank No. 0934	VOC	18.75	(8)
22TANK0948	VOC Storage Tank No. 0948	VOC	1.21	(8)
67TANK0636	Solids/Liquids Wastewater Tank No. 0636	VOC	34.33	(8)
67TK660CC	IGF Float Tank No. 0660	VOC	0.01	(8)
FXRTCAP	Fixed Roof Tank Cap	VOC	--	41.82

Emission Sources - Maximum Allowable Emission Rates

20TANK2001	Gasoline Storage Tank	VOC	0.79	(9)
20TANK2002	Gasoline Storage Tank	VOC	0.79	(9)
22TANK0452	VOC Storage Tank No. 0452	VOC	1.75	(9)
22TANK0453	VOC Storage Tank No. 0453	VOC	1.77	(9)
22TANK0454	VOC Storage Tank No. 0454	VOC	1.77	(9)
22TANK0455	VOC Storage Tank No. 0455	VOC	1.75	(9)
22TANK0475	VOC Storage Tank No. 0475	VOC	13.19	(9)
22TANK0476	VOC Storage Tank No. 0476	VOC	1.94	(9)
22TANK0477	VOC Storage Tank No. 0477	VOC	1.66	(9)
22TANK0478	VOC Storage Tank No. 0478	VOC	11.36	(9)
22TANK0479	VOC Storage Tank No. 0479	VOC	1.80	(9)
22TANK0480	VOC Storage Tank No. 0480	VOC	1.28	(9)
22TANK0481	VOC Storage Tank No. 0481	VOC	1.26	(9)
22TANK0482	VOC Storage Tank No. 0482	VOC	8.89	(9)
22TANK0502	VOC Storage Tank No. 0502	VOC	0.80	(9)
22TANK0503	Water Draw Collection Tank No. 0503	VOC	0.29	(9)
22TANK0506	VOC Storage Tank No. 0506	VOC	0.89	(9)
22TANK0525	VOC Storage Tank No. 0525	VOC	1.61	(9)
22TANK0530	VOC Storage Tank No. 0530	VOC	1.53	(9)
22TANK0532	VOC Storage Tank No. 0532	VOC	4.30	(9)
22TANK0540	Water Draw Collection Tank No. 0540	VOC	0.09	(9)
22TANK0541	VOC Storage Tank No. 0541	VOC	3.10	(9)
22TANK0542	VOC Storage Tank No. 0542	VOC	3.17	(9)
22TANK0543	VOC Storage Tank No. 0543	VOC	0.68	(9)
22TANK0562	VOC Storage Tank No. 0562	VOC	0.55	(9)
22TANK0563	VOC Storage Tank No. 0563	VOC	1.38	(9)
22TANK0574	VOC Storage Tank No. 0574	VOC	1.07	(9)
22TANK0800	VOC Storage Tank No. 0800	VOC	3.84	(9)
22TANK0801	VOC Storage Tank No. 0801	VOC	3.84	(9)
22TANK0802	VOC Storage Tank No. 0802	VOC	3.84	(9)
22TANK0805	VOC Storage Tank No. 0805	VOC	4.26	(9)
22TANK0906	VOC Storage Tank No. 0906	VOC	1.01	(9)
22TANK0907	VOC Storage Tank No. 0907	VOC	0.98	(9)

Emission Sources - Maximum Allowable Emission Rates

22TANK0909	VOC Storage Tank No. 0909	VOC	0.67	(9)
22TANK0910	VOC Storage Tank No. 0910	VOC	1.43	(9)
22TANK0919	VOC Storage Tank No. 0919	VOC	1.00	(9)
22TANK0920	VOC Storage Tank No. 0920	VOC	0.68	(9)
22TANK0935	VOC Storage Tank No. 0935	VOC	2.37	(9)
22TANK0938	VOC Storage Tank No. 0938	VOC	1.38	(9)
22TANK0939	VOC Storage Tank No. 0939	VOC	1.39	(9)
37TANK1002	VOC Storage Tank No. 1002	VOC	0.19	(9)
38TANK1000	VOC Storage Tank No. 1000	VOC	0.14	(9)
		H_2S	0.01	0.05
		NH_3	0.01	0.01
		HCN	0.01	0.01
38TANK1001	VOC Storage Tank No. 1001	VOC	0.03	(9)
		H_2S	0.02	0.04
		NH_3	0.01	0.02
		HCN	0.01	0.01
45TANK0474	Dock Wastewater Tank No. 0474	VOC	0.72	(9)
67TANK500A	Storm Water Storage Tank No. 500A	VOC	2.84	(9)
67TANK500B	Storm Water Storage Tank No. 500B	VOC	2.84	(9)
67TANK500C	Storm Water Storage Tank No. 500C	VOC	4.26	(9)
67TANK0504	Recovered Oil Tank No. 0504	VOC	0.40	(9)
67TANK0505	NESHAP Wastewater Tank No. 0505	VOC	0.43	(9)
EFRTCAP	External Floating Roof Tank Cap	VOC	--	144.29
04TANK0941	VOC Storage Tank No. 0941	VOC	0.19	(10)
04TANK0946	VOC Storage Tank No. 0946	VOC	0.36	(10)
22TANK0517	VOC Storage Tank No. 0517	VOC	0.85	(10)
22TANK0526	VOC Storage Tank No. 0526	VOC	0.79	(10)
22TANK0531	VOC Storage Tank No. 0531	VOC	3.39	(10)
22TANK0572	VOC Storage Tank No. 0572	VOC	0.34	(10)
22TANK0588	VOC Storage Tank No. 0588	VOC	0.61	(10)
22TANK0591	VOC Storage Tank No. 0591	VOC	1.03	(10)

Emission Sources - Maximum Allowable Emission Rates

22TANK0597	VOC Storage Tank No. 0597	VOC	1.88	(10)
22TANK0598	VOC Storage Tank No. 0598	VOC	1.88	(10)
22TANK0599	VOC Storage Tank No. 0599	VOC	1.06	(10)
22TANK0650	VOC Storage Tank No. 0650	VOC	0.34	(10)
22TANK0651	VOC Storage Tank No. 0651	VOC	0.34	(10)
22TANK0807	VOC Storage Tank No. 0807	VOC	2.17	(10)
22TANK0811	VOC Storage Tank No. 0811	VOC	0.68	(10)
22TANK0812	VOC Storage Tank No. 0812	VOC	0.56	(10)
22TANK0813	VOC Storage Tank No. 0813	VOC	0.56	(10)
22TANK0814	VOC Storage Tank No. 0814	VOC	0.49	(10)
22TANK0815	VOC Storage Tank No. 0815	VOC	0.65	(10)
22TANK0913	VOC Storage Tank No. 0913	VOC	2.88	(10)
22TANK0921	VOC Storage Tank No. 0921	VOC	1.41	(10)
22TANK0922	VOC Storage Tank No. 0922	VOC	1.41	(10)
22TANK0940	VOC Storage Tank No. 0940	VOC	0.71	(10)
67TANK0595	Recovered Oil Tank No. 0595	VOC	0.37	(10)
67TANK0596	Recovered Oil Tank No. 0596	VOC	0.49	(10)
67TANK0905	NESHAP Wastewater Tank No. 0905	VOC	0.40	(10)
67TANK0927	North Storm Water Tank	VOC	0.68	(10)
IFRTCAP	Internal Floating Roof Tank CAP	VOC	--	30.82
08TANK0668	Spent Sulfuric Acid Tank No. 668	VOC	0.91	--
08TANK0923	Spent Sulfuric Acid Tank No. 923	VOC	0.91	--
08TANK0668 and 08TANK0923	Spent Sulfuric Acid Tank Cap	VOC	--	3.18
Enclosed Benzene Flares				
22BZNTKFLR	Storage Tank Nos. 808, 809, 810 Flare	NO_X	0.30	1.22
		CO	0.29	1.28
		VOC	0.04	0.06

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22TK926FLR	Storage Tank No. 926 Flare	NO_X	0.38	1.66
		CO	0.69	2.74
		VOC	0.01	0.02
50BZTNKFLR	Storage Tank Nos. 928, 929, 930 Flare	NO_X	1.19	5.22
		CO	1.67	7.32
		VOC	0.06	0.04
Loading				
14SRU1LOAD	SRU No. 1 Truck Loading Rack	H_2S	0.01	0.01
18RAILLOAD	Rail Car Loading Rack	VOC	0.27	0.11
18TRKLOAD	Tank Truck Loading Rack	VOC	0.15	0.68
20GASFLARE	Gasoline Loading Flare	NO_X	1.01	1.13
		CO	8.72	9.60
		VOC	7.18	7.15
28LPGHOSE	LPG Loading Rack Hose	VOC	0.07	0.29
		H_2S	0.01	0.01
30CKRTRKLD	Coke Handling	PM	1.78	2.49
		PM_{10}	0.84	1.18
		$PM_{2.5}$	0.13	0.18
33SRU3LOAD	SRU No. 3 Truck Loading Rack	H_2S	0.01	0.01
45DOCK1LDG	Dock 1 Loading Losses	VOC	29.54	(7)
45DOCK2LDG	Dock 2 Loading Losses	VOC	29.54	(7)
45DOCK3LDG	Dock 3 Loading Losses	VOC	29.54	(7)
45DCKLDCAP	Annual Dock Loading CAP	VOC	--	14.99
45DOCKTO1	Marine Terminal Thermal Oxidizer 1	NO_X	10.08	(6)
		CO	15.42	(6)
		SO_2	0.14	(6)
		VOC	5.82	(6)
45DOCKTO2	Marine Terminal Thermal Oxidizer 2	NO_X	19.51	(6)
		CO	29.84	(6)
		SO_2	0.16	(6)
		VOC	11.63	(6)
45DCKTOCAP	45DOCKTOCAP 45DOCKTO1 45DOCKTO2	NO_X	--	4.95
		CO	--	14.67
		SO_2	--	0.02
		VOC	--	3.40

Emission Sources - Maximum Allowable Emission Rates

Carbon Adsorption Systems				
14FL106CC	Amine Unit Carbon Absorption System	VOC	0.01	0.02
14V103CC	ARU1 Amine Sump	VOC	0.02	0.04
20TRKRCKCC	Truck Rack Sump	VOC	0.14	0.04
25TK601CC	25TK-601 MDEA Tank	VOC	0.02	0.04
38V107	Skimmed Oil Vessel No. 38V-107	VOC	0.01	0.01
40CSOWSCC	Condensate Splitter Oily Water Sump Carbon Canisters	VOC	0.01	0.01
42TK301CC	ARU-2 Lean Amine Tank (TK-301)	VOC	0.02	0.04
		H_2S	0.01	0.01
45V104CC	Dock 2 Spill Back Tank Carbon Canisters	VOC	0.01	0.01
45V1CC	Dock 1 Spillback Collection Sump	VOC	0.01	0.01
45V3ACC	Dock 3A Spillback Collection Sump	VOC	0.01	0.01
45V3BCC	Dock 3B Spillback Collection Sump	VOC	0.01	0.01
51DHT1ASCC	DHT No. 1 Amine Sump	H_2S	0.01	0.01
52DHT2ASCC	DHT No. 2 Amine Sump	H_2S	0.01	0.01
52DHT2OSCC	Lift Station East End of Unit 813	VOC	0.08	0.19
52FLORPWCC	Florida Unit Process Water Sump Carbon Canisters	VOC	0.01	0.04
54GHTCC	GHT Unit Sump	VOC	0.01	0.02
55JETTRCC	Jet Treater Sump Carbon Canisters	VOC	0.01	0.01
60CGNPWCC	Cogen Unit Process Water Sump Carbon Canisters	VOC	0.01	0.01
60CGNSWCC	Cogen Unit Storm Water Sump Carbon Canisters	VOC	0.02	0.05
67DCUOWSCC	DCU OWS Sump	VOC	0.04	0.05
67DCUSWSCC	DCU Stormwater Sump	VOC	0.11	0.46
67NBPCC	North Barrel Pump Sump Carbon Canisters	VOC	0.01	0.01
67NCPICC	North CPI Carbon Canisters	VOC	0.03	0.12
67NSWCC	North Storm Water Sump Carbon Canisters	VOC	0.10	0.14
67PHADJCC	pH Adjuster/Splitter Tank (TK-402) Carbon Canisters	VOC	0.01	0.01
67SBOWSCC	Sulfur Block OWS	VOC	0.02	0.05
67SBPCC	South Barrel Pump Sump Carbon	VOC	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

	Canisters			
67SBSWCC	Sulfur Block Stormwater	VOC	1.05	4.60
67SCALCC	Contract ScalFuel Dewatering Carbon Canisters	VOC	0.01	0.01
67SKIMCC	Sour Water Skimmer	VOC	0.01	0.03
67SSWCC	South Storm Water Sump Carbon Canisters	VOC	0.05	0.14
67VDUOWSCC	VDU-2 Sump	VOC	0.02	0.09
67WSHSLBCC	Wash Slab Sump	VOC	0.01	0.01
75LABCC	Lab Sump Carbon Canisters	VOC	0.01	0.01
Wastewater				
08LSWALKY	Lift Station West End of Alky	VOC	0.16	0.42
20LSTRKRCK	Truck Rack Drain Sump and Lift Station	VOC	0.09	0.06
45DOCK45V1	Dock Spill Back Collection Sump	VOC	0.08	0.01
45DOCK45V2	Dock Spill Back Collection Sump	VOC	0.08	0.01
45DOCK45V3	Dock Spill Back Collection Sump	VOC	0.08	0.01
52LS811SMP	811 Sump East of East End Complex	VOC	0.22	0.66
67AERTKA	Aeration Tank (TK-403A)	VOC	13.11	(11)
67AERTKB	Aeration Tank (TK-403B)	VOC	13.11	(11)
67AERTKC	Aeration Tank (TK-403C)	VOC	13.11	(11)
67AERTKD	Aeration Tank (TK-403D)	VOC	13.11	(11)
67AERTKCAP	Aeration Tanks Cap (TK-403A, B, C & D)	VOC	--	88.05
67BSMNT	Bar Screen Maintenance	VOC	0.07	0.01
67CLAR405A	Clarifier	VOC	0.12	0.24
67CLAR405B	Clarifier	VOC	0.12	0.24
67CLAR405C	Clarifier	VOC	0.12	0.24
67CLAREFTK	Clarifier Effluent Tank	VOC	0.41	0.99
67CLARFLTK	Clarifier Float/Scum Tank	VOC	0.01	0.01
67EQTK401A	Waste Water Equalization Tank No. 401A	VOC	0.01	0.01
67EQTK401B	Waste Water Equalization Tank No. 401B	VOC	0.01	0.01
67EQTK401C	Waste Water Equalization Tank No. 401C	VOC	0.01	0.01
67FLSPTK	Flocculator/Splitter Tank (TK-404)	VOC	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

67LS61P20	Old DI Unit Lift Station	VOC	0.10	0.30
67LSBIOTRT	Biological Unit Process Area Sump	VOC	0.05	0.14
67LSEDAF	Lift Station East of DAF	VOC	0.15	0.14
67LSN560	Lift Station North of TK-560	VOC	0.15	0.02
67LSN595	Lift Station North of TK-595	VOC	0.08	0.01
67LSN905	Lift Station North of TK-905	VOC	0.15	0.13
67LSNE660	Lift Station Northeast of TK-660	VOC	0.14	0.11
67LSS602	Lift Station South of TK-602	VOC	0.08	0.02
67LSWSHOUT	Washout Slab Lift Station	VOC	0.22	0.82
67NCPIMNT	North Corrugated Plate Interceptor (CPI) Maintenance	VOC	0.01	0.01
67SCALBIO	Contract Biosludge Dewatering	VOC	0.01	0.01
67SCPIMNT	South Corrugated Plate Interceptor (CPI) Maintenance	VOC	0.01	0.01
Fugitives				
LAERCNQFUG	LAER CNQ LDAR Program Fugitives (5)	VOC	12.67	55.41
		H_2S	0.77	3.34
		NH_3	0.13	0.43
LAERCNAFUG	LAER CNA LDAR Program Fugitives (5)	VOC	15.85	69.35
		H_2S	0.07	0.28
		PM	0.41	1.80
		PM_{10}	0.41	1.80
28MIDFUG	28MID LDAR Program Fugitives (5)	VOC	0.08	0.35
		H_2S	0.12	0.54
28VHPFUG	28VHP LDAR Program Fugitives (5)	VOC	87.84	385.01
		H_2S	0.89	3.46
		NH_3	0.07	0.11

Emission Sources - Maximum Allowable Emission Rates

Maintenance Start-Up and Shutdown				
30CKRH1MSS	DCU Heater No. 1 MSS	NO_X	13.72	1.15
		CO	14.68	1.23
		SO_2	5.06	0.42
		VOC	1.11	0.09
		PM	1.57	0.13
30CKRH2MSS	DCU Heater No. 2 MSS	NO_X	13.72	1.15
		CO	14.68	1.23
		SO_2	5.06	0.42
		VOC	1.11	0.09
		PM	1.57	0.13
43DHT3CMSS	DHT-3 Heater MSS (13)	CO	3.50	--
MSS_ATM	MSS Atmospheric Bubble	NO_X	0.19	0.03
		CO	0.19	0.03
		SO_2	0.19	0.03
		VOC	724.17	24.75
		PM	0.25	0.01
		H_2S	5.18	0.08
		S_2	1.26	0.17
MSS_INCIN	SRU Incinerator Emissions during SRU MSS	NO_X	4.78	6.56
		CO	92.19	51.95
		SO_2	519.44	50.64
		VOC	2.13	2.92
		PM	1.15	1.58
		H_2S	1.13	1.55
MSS_FLR	MSS T/A Flaring (12)	NO_X	178.70	11.17
		CO	1,044.00	59.23
		SO_2	14,941.00	116.00
		VOC	1,293.00	64.53
		H_2S	161.90	1.53
MSS_TANK	Tank MSS	NO_X	3.10	0.32
		CO	0.67	0.15

Emission Sources - Maximum Allowable Emission Rates

		SO_2	0.21	0.01
		VOC	688.60	21.66
		PM	0.60	0.04
MSS_TKFLR	Benzene Tank Emissions during Flare MSS	VOC	3.50	0.41
MSS_WGS	Wet Gas Scrubber Emissions during FCCU Start Up	CO	97.59	0.18
		SO_2	674.30	8.30
Permit by rule (PBR) sources incorporated by reference. Sources remain authorized by the PBR(s) as listed below:				
30 TAC § 106.371				
67805CLTWR	805 Reformer Cooling Tower	VOC	0.07	0.30
Registration No. 35330				
22TANK0484	Tank 484	VOC	565.21	1.24
Registration No. 55631				
10GRUHTRB1	GRU Heater B-1	NO_X	3.90	13.14
		CO	4.50	15.14
		SO_2	1.15	1.57
		VOC	0.22	0.71
		PM	0.30	0.98
		PM_{10}	0.30	0.98
SE 11273				
16ISOMHTR	ISOM Heater	NO_X	8.40	36.82
		CO	3.27	14.31
		SO_2	2.50	10.99
		VOC	0.26	1.14
		PM	0.47	2.05
		PM_{10}	0.47	2.05

(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
H_2S - hydrogen sulfide
NH_3 - ammonia
HCl - hydrogen chloride
HCN - hydrogen cyanide
Cl_2 - chlorine
S_2 - disulfide

(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) Annual emission rates shown with 45DCKTOCAP are the summed emission caps for 45DOCKTO1 and 45DOCKTO2.
(7) Annual emission rates shown with 45DCKLDCAP are the summed emission cap for 45DOCK1LDG, 45DOCK2LDG and 45DOCK3LDG.
(8) Annual VOC emission rate shown with FXRTCAP are the summed emission cap for all fixed roof tanks.
(9) Annual VOC emission rate shown with EFRTCAP are the summed emission cap for all external floating roof tanks.
(10) Annual VOC emission rate shown with IFRTCAP are the summed emission cap for all internal floating roof tanks.
(11) Annual VOC emission rate shown with 67AERTKCAP are the summed emission cap for all Aeration Tanks (TK-403A, B, C & D).
(12) The EPN MSS_FLR incorporates turnaround emissions from North Flare, Middle Flare, South Flare East Flare, and temporary flare systems.
(13) Hourly CO emissions from the DHT-3 Charge Heater during periods of MSS (EPN 43DHT3CMSS). Annual MSS emissions are covered by the annual emission limit for normal operations (EPN 43DHTCHTR).
(14) Cooling tower emissions prior to startup of phase 2 of the cooling tower upgrade project, as represented in the August 1, 2014 updates to the permit amendment application, PI-1 dated June 21, 2012. These emission rates cease to be authorized on January 31, 2016, as stated in the Special Conditions.
(15) Cooling tower emissions after startup of phase 2 of the cooling tower upgrade project represented in the permit amendment application, PI-1 dated June 21, 2012. These emissions become authorized upon start of operation of the new cell on the Hudson Cooling Tower, EPN 02HDCLGTWR.

Date: December 30, 2015