

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 6056 and PSDTX1062M2

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)	FIN	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
				lbs/hour	TPY (4)
FCOKE2	COKE 2FE	DCU Coke Handling (5)	PM	0.01	0.01
			PM ₁₀	0.01	0.01
			PM _{2.5}	0.01	0.01
FCOKE X	COKE X FE	Coke Stockpile Surge Pad (5)	PM	0.33	1.45
			PM ₁₀	0.17	0.72
			PM _{2.5}	0.17	0.72
FKCRU5 FE	CRU5 FE	#5 CRU Cooling Tower	VOC	2.31	4.34
			Benzene	0.01	0.01
			Cl ₂	0.28	1.25
FKDCU2 FE	DCU2 FE	DCU 2 Cooling Tower	VOC	1.71	3.21
			Benzene	0.01	0.01
			Cl ₂	0.21	0.92
FKPS 4 FE	PS 4 FE	Power Station Cooling Tower	Cl ₂	0.04	0.17
FKVPS 5 FE	VPS 5 FE	VPS Cooling Tower	VOC	1.64	3.07
			Benzene	0.01	0.01
			Cl ₂	0.20	0.88
FKARU3	ARU 3 FE	ARU No. 3 Cooling Tower (5)	VOC	0.01	0.04
			Benzene	0.01	0.01
			Cl ₂	0.01	0.06

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EDCU2	EDCU2	DCU No. 2 Flare Stack	NO _x	0.03	0.11
			VOC	0.01	0.01
			SO ₂	0.01	0.01
			CO	0.18	0.81
EHCU2	HCU NO2FS	HCU No. 2 Flare Stack	NO _x	0.02	0.09
			VOC	0.01	0.01
			SO ₂	0.01	0.01
			CO	0.15	0.64
EVPS5	VPS NO5 FS	VPS No. 5 Flare Stack	NO _x	0.02	0.07
			VOC	0.01	0.01
			SO ₂	0.01	0.01
			CO	0.11	0.48
ESBU2	SBU2	SBU2 Flare Stack	NO _x	0.02	0.07
			VOC	0.01	0.01
			SO ₂	0.01	0.01
			CO	0.11	0.48
FARU1	ARU 1 FE	ARU No. 1 Fugitive Emissions	VOC	0.14	0.63
			Benzene	0.01	0.01
			H ₂ S	0.22	0.96
FARU2	ARU2 FE	ARU No. 2 Fugitive Emissions	VOC	0.08	0.33
			Benzene	0.01	0.01
			H ₂ S	0.11	0.48
FARU3	ARU 3 FE	ARU No.3 Fugitive Emissions	VOC	0.08	0.36
			Benzene	0.01	0.01
			H ₂ S	0.08	0.37
FSWS1	ARU 3 FE	ARU No.3 Fugitive Emissions	VOC	0.01	0.01
			H ₂ S	0.16	0.72

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			NH ₃	0.01	0.01
FARU4	ARU 4 FE	ARU No.4 Fugitive Emissions	VOC	0.14	0.16
			Benzene	0.01	0.01
			H ₂ S	0.04	0.17
FSRU2	SRU 2 FE	SRU No.2 Fugitive Emissions	SO ₂	0.01	0.04
			H ₂ S	0.01	0.05
FSRU3	SRU 3 FE	SRU No.3 Fugitive Emissions	SO ₂	0.01	0.04
			H ₂ S	0.01	0.05
FSRU4	SRU 4 FE	SRU No.4 Fugitive Emissions	SO ₂	0.06	0.24
			H ₂ S	0.06	0.26
CEP-FUG	Various	Fugitives Group	VOC	33.61	147.66
			SO ₂	0.02	0.28
			CO	0.02	0.09
			Benzene	0.05	0.23
			H ₂ S	0.74	3.26
			NH ₃	0.01	0.01
FTGTU1	TGTU 1 FE	Tail Gas Treating Unit No.1 Incinerator Fugitives	SO ₂	0.01	0.03
			CO	0.01	0.06
			H ₂ S	0.01	0.06
FTGTU2	TGTU 2 FE	Tail Gas Treating Unit No.2 Incinerator Fugitives	SO ₂	0.01	0.03
			CO	0.02	0.07
			H ₂ S	0.01	0.07

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SCRU5-1	CRU5INTHT1	#5 CRU Platformer No.1 Intermediate Heater	NO _x	17.33	42.66
			VOC	2.67	2.30
			SO ₂	18.44	37.82
			CO	16.94	58.41
			PM	3.69	12.71
			PM ₁₀	3.69	12.71
			PM _{2.5}	3.69	12.71
SCRU5-2	CRU5INTHT2	#5 CRU Platformer No.2 Intermediate Heater	NO _x	12.39	27.51
			VOC	1.91	1.48
			SO ₂	13.19	24.39
			CO	12.12	37.67
			PM	2.64	8.20
			PM ₁₀	2.64	8.20
			PM _{2.5}	2.64	8.20
SCRU5-2	CRU5INTHT3	#5 CRU Platformer No.3 Intermediate Heater	NO _x	7.70	21.04
			VOC	1.19	1.13
			SO ₂	8.20	18.65
			CO	7.53	28.81
			PM	1.64	6.27
			PM ₁₀	1.64	6.27
			PM _{2.5}	1.64	6.27

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SNHTU2-1	NHTU2CHT	Naphtha Hydrotreater CHG Heater	NO _x	7.25	19.88
			VOC	1.12	2.14
			SO ₂	7.71	17.63
			CO	7.09	27.22
			PM	1.54	5.93
			PM ₁₀	1.54	5.93
			PM _{2.5}	1.54	5.93
SCRU5-1	CRU5PLATHT	#5 CRU Platformer Heater	NO _x	13.93	38.15
			VOC	2.15	2.06
			SO ₂	14.83	33.82
			CO	13.62	52.23
			PM	2.97	11.37
			PM ₁₀	2.97	11.37
			PM _{2.5}	2.97	11.37
SHCU2-1	HCU2H1A	HCU No.2 1 st Stage Charge Set A Heater	NO _x	2.32	6.66
			VOC	0.36	0.72
			SO ₂	2.47	5.91
			CO	2.27	9.12
			PM	0.49	1.99
			PM ₁₀	0.49	1.99
			PM _{2.5}	0.49	1.99

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SHCU2-2	HCU2H1B	HCU No.2 1 st Stage Charge Set B Heater	NO _x	2.32	6.66
			VOC	0.36	0.72
			SO ₂	2.47	5.91
			CO	2.27	9.12
			PM	0.49	1.99
			PM ₁₀	0.49	1.99
			PM _{2.5}	0.49	1.99
SHCU2-3	HCU2H2	HCU No.2 2 nd Charge Heater	NO _x	2.94	8.46
			VOC	0.45	0.91
			SO ₂	3.13	7.50
			CO	2.88	11.58
			PM	0.63	2.52
			PM ₁₀	0.63	2.52
			PM _{2.5}	0.63	2.52
SHTU6-1	HTU6CHGH1	HTU No.6 Charge Heater	NO _x	3.29	9.46
			VOC	0.51	1.02
			SO ₂	3.51	8.39
			CO	3.22	12.96
			PM	0.70	2.82
			PM ₁₀	0.70	2.82
			PM _{2.5}	0.70	2.82

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SHTU6-2	HTU6CHGH2	HTU No.6 Fractionator Reboiler	NO _x	2.51	7.22
			VOC	0.39	0.78
			SO ₂	2.67	6.40
			CO	2.46	9.88
			PM	0.53	2.15
			PM ₁₀	0.53	2.15
			PM _{2.5}	0.53	2.15
SHCU2-6	HCU2DHHT1	HCU No.2 DHT Charge Heater	NO _x	3.13	9.00
			VOC	0.48	0.97
			SO ₂	3.34	7.98
			CO	3.07	12.33
			PM	0.67	2.68
			PM ₁₀	0.67	2.68
			PM _{2.5}	0.67	2.68
SHCU2-5	SCHCU2-5	HCU No.2 Fractionator Heater	NO _x	15.59	62.69
			VOC	2.40	4.83
			SO ₂	16.59	39.70
			CO	15.25	61.31
			PM	3.32	13.35
			PM ₁₀	3.32	13.35
			PM _{2.5}	3.32	13.35

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SDCU2-1	SDCU2-1	Coker Heater No.1	NO _x	9.42	36.58
			VOC	1.45	1.41
			SO ₂	10.02	23.16
			CO	9.21	35.77
			PM	2.00	7.79
			PM ₁₀	2.00	7.79
			PM _{2.5}	2.00	7.79
SDCU2-2	SDCU2-2	Coker Heater No.2	NO _x	9.42	36.58
			VOC	1.45	1.41
			SO ₂	10.02	23.16
			CO	9.21	35.77
			PM	2.00	7.79
			PM ₁₀	2.00	7.79
			PM _{2.5}	2.00	7.79
SDCU2-3	SDCU2-3	Coker Heater No.3	NO _x	9.42	36.58
			VOC	1.45	1.41
			SO ₂	10.02	23.16
			CO	9.21	35.77
			PM	2.00	7.79
			PM ₁₀	2.00	7.79
			PM _{2.5}	2.00	7.79

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SVPS5-1	VPS5H1/2	VPS No.5, No.1/2 Atmospheric Heater	NO _x	14.32	9.65
			VOC	2.21	4.63
			SO ₂	15.24	38.02
			CO	14.00	58.72
			PM	3.05	12.78
			PM ₁₀	3.05	12.78
			PM _{2.5}	3.05	12.78
			NH ₃	1.53	6.42
SVPS5-1	VPS5H3/4	VPS No.5, No.3/4 Atmospheric Heater	NO _x	14.32	9.65
			VOC	2.21	4.63
			SO ₂	15.24	38.02
			CO	14.00	58.72
			PM	3.05	12.78
			PM ₁₀	3.05	12.78
			PM _{2.5}	3.05	12.78
			NH ₃	1.53	6.42
SVPS5-2	VPS5VAC1HT	VPS No.5, No.1 Vacuum Heater	NO _x	7.56	5.10
			VOC	1.16	2.44
			SO ₂	8.05	20.09
			CO	7.39	31.02
			PM	1.61	6.75
			PM ₁₀	1.61	6.75
			PM _{2.5}	1.61	6.75
			NH ₃	0.81	3.39

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SVPS5-2	VPS5VAC2HT	VPS No.5, No.2 Vacuum Heater	NO _x	7.56	5.10
			VOC	1.16	2.44
			SO ₂	8.05	20.09
			CO	7.39	31.02
			PM	1.61	6.75
			PM ₁₀	1.61	6.75
			PM _{2.5}	1.61	6.75
			NH ₃	0.81	3.39
SNHTU2-2	NHTU2STRP	Naphtha Hydrotreater Stripper Reboiler	NO _x	6.51	17.92
			VOC	1.00	1.93
			SO ₂	6.93	15.89
			CO	6.37	24.53
			PM	1.39	5.34
			PM ₁₀	1.39	5.34
			PM _{2.5}	1.39	5.34
SNHTU2-3	NHTU2SPLT	Naphtha Hydrotreater Stripper Reboiler	NO _x	10.40	28.32
			VOC	1.60	3.05
			SO ₂	11.06	25.11
			CO	10.17	38.78
			PM	2.21	8.44
			PM ₁₀	2.21	8.44
			PM _{2.5}	2.21	8.44

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STGTU1-2	STGTU1-2	Hot Oil Heater	NO _x	0.53	1.21
			VOC	0.03	0.07
			SO ₂	0.20	0.27
			CO	0.43	1.00
			PM	0.04	0.09
			PM ₁₀	0.04	0.09
			PM _{2.5}	0.04	0.09
STGTU2-2	STGTU2-2	Hot Oil Heater	NO _x	3.12	13.67
			VOC	0.17	0.74
			SO ₂	1.16	3.03
			CO	2.57	11.25
			PM	0.23	1.02
			PM ₁₀	0.23	1.02
			PM _{2.5}	0.23	1.02
SCRU5-3	CRU5-CCR	Regen Vent Scrubber Emissions	NO _x	2.28	10.00
			SO ₂	1.59	6.96
			PM	0.13	0.59
			PM ₁₀	0.13	0.59
			PM _{2.5}	0.13	0.59
			HCl	0.07	0.30
			Cl ₂	0.01	0.06
SSSCRUB	SLD	Sulfur Loading	H ₂ S	0.16	0.71
			SO ₂	0.31	1.34

Emission Sources - Maximum Allowable Emission Rates

POSCEPMN	POSCEPMN	Maintenance Group After CEP (6)	NO _x	899.31	18.37
			VOC	3149.82	75.97
			SO ₂	359.64	3.86
			CO	2755.98	52.40
			PM	66.98	1.51
			PM ₁₀	66.98	1.51
			PM _{2.5}	66.98	1.51
			Benzene	4.15	0.30
			H ₂ SO ₄	8.00	0.32
			H ₂ S	29.09	0.35
			NH ₃	13.81	0.43
CGNGRP	CGNGRP	Cogen Unit Group(6)	NO _x	74.21	272.81
			VOC	10.64	39.55
			SO ₂	78.68	161.45
			CO	117.82	516.03
			PM	101.87	391.33
			PM ₁₀	101.87	391.33
			PM _{2.5}	101.87	391.33
			H ₂ SO ₄	32.00	58.69
			NH ₃	29.83	113.39
TNKGRP	TNKGRP	Tank Group (6)	VOC	69.00	40.20
			Benzene	0.03	0.07

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SRUGRP	SRUGRP	SRU Incinerators Group (6)	NO _x	29.15	109.56
			VOC	1.86	7.08
			SO ₂	324.90	1351.64
			CO	56.86	236.54
			PM	2.58	9.78
			PM ₁₀	2.58	9.78
			PM _{2.5}	2.58	9.78
SPS-LOV1	GTG41-LOV	Power Station No.4 Lube Oil Vent 1 (5)	PM	0.05	0.22
			PM ₁₀	0.05	0.22
			PM _{2.5}	0.05	0.22
SPS4-1	GTG41	Power Station No.4 Cogen Unit 1	NO _x	15.22	62.87
			VOC	2.12	8.75
			SO ₂	16.60	32.48
			CO	27.80	114.81
			PM	26.62	100.65
			PM ₁₀	26.62	100.65
			PM _{2.5}	26.62	100.65
			H ₂ SO ₄	9.41	18.40
			NH ₃	7.88	27.88
SPS-LOV2	GTG42-LOV	Power Station No.4 Lube Oil Vent 2 (5)	PM	0.05	0.22
			PM ₁₀	0.05	0.22
			PM _{2.5}	0.05	0.22

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SPS4-2	GTG42	Power Station No.4 Cogen Unit 2	NO _x	15.22	62.87
			VOC	2.12	8.75
			SO ₂	16.60	32.48
			CO	27.80	114.81
			PM	26.62	100.65
			PM ₁₀	26.62	100.65
			PM _{2.5}	26.62	100.65
			H ₂ SO ₄	9.41	18.40
			NH ₃	7.88	27.88
SPS-LOV3	GTG43-LOV	Power Station No.4 Lube Oil Vent 3 (5)	PM	0.05	0.22
			PM ₁₀	0.05	0.22
			PM _{2.5}	0.05	0.22
SPS4-3	GTG43	Power Station No.4 Cogen Unit 3	NO _x	15.22	62.87
			VOC	2.12	8.75
			SO ₂	16.60	32.48
			CO	27.80	114.81
			PM	26.62	100.65
			PM ₁₀	26.62	100.65
			PM _{2.5}	26.62	100.65
			H ₂ SO ₄	9.41	18.40
			NH ₃	7.88	27.88
SPS-LOV4	GTG44-LOV	Power Station No.4 Lube Oil Vent 4 (5)	PM	0.05	0.22
			PM ₁₀	0.05	0.22
			PM _{2.5}	0.05	0.22

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SPS4-4	GTG44	Power Station No.4 Cogen Unit 4	NO _x	15.22	62.87
			VOC	2.12	8.75
			SO ₂	16.60	32.48
			CO	27.80	114.81
			PM	26.62	100.65
			PM ₁₀	26.62	100.65
			PM _{2.5}	26.62	100.65
			H ₂ SO ₄	9.41	18.40
			NH ₃	7.88	27.88
SPS4-6	Boiler 46	Power Boiler 46	NO _x	20.86	39.16
			VOC	3.21	7.04
			SO ₂	22.20	57.86
			CO	20.40	89.36
			PM	4.44	19.45
			PM ₁₀	4.44	19.45
			PM _{2.5}	4.44	19.45
			NH ₃	2.23	9.77
TK2073	TK2073	Storage TK2073	VOC	8.41	0.11
			Benzene	0.01	0.01
TK2074	TK2074	Storage TK2074	VOC	8.41	0.11
			Benzene	0.01	0.01
TK2093	TK2093	Storage TK2093	VOC	11.89	9.03
TK2094	TK2094	Storage TK2094	VOC	6.55	6.32
TK2085	TK2085	Storage TK2085	VOC	8.68	0.06
			Benzene	0.01	0.01
TK2097	TK2097	Storage TK2097	VOC	1.64	6.26
			Benzene	0.01	0.03

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TK2096	TK2096	Storage TK2096	VOC	1.64	6.26
			Benzene	0.01	0.03
TK2069	TK2069	Storage TK2069	VOC	4.60	11.39
			Benzene	0.01	0.02
TK2067	TK2067	Storage TK 2067	VOC	4.60	11.39
			Benzene	0.01	0.02
TK2068	TK2068	Storage TK 2068	VOC	4.60	11.39
			Benzene	0.01	0.02
TK2110	TK2110	DCU Quench Water Tank	VOC	0.01	0.10
			Benzene	<0.01	<0.01
TK2111	TK2111	Refinery Waste Tank	VOC	0.70	0.19
TK2113	TK2113	Storage TK 2113	VOC	0.07	0.05
TK2115	TK2115	Storage TK 2115	VOC	0.07	0.05
TK2145	TK2145	Storage TK2145	VOC	1.14	4.17
			Benzene	0.01	0.01
TK1928	TK1928	Molten Sulfur Storage Tank	H ₂ S	0.05	0.22
			SO ₂	1.15	5.03
TK1930	TK1930	Amine Surge Tank 1930	VOC	0.07	0.01
TK1937	TK1937	Resid Tank	VOC	14.13	0.97
004TK001	004TK001	Storage Tank 004TK	VOC	0.03	0.01

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STGTU5-1	STGTU5-1	SRU5/TGTU5 Incinerator	NO _x	5.22	22.85
			VOC	0.35	1.54
			SO ₂	71.11	311.47
			CO	12.44	54.51
			PM	0.49	2.13
			PM ₁₀	0.49	2.13
			PM _{2.5}	0.49	2.13
STGTU6-1	STGTU6-1	SRU6/TGTU6 Incinerator	NO _x	5.22	22.85
			VOC	0.35	1.54
			SO ₂	71.11	311.47
			CO	12.44	54.51
			PM	0.49	2.13
			PM ₁₀	0.49	2.13
			PM _{2.5}	0.49	2.13
STGTU7-1	STGTU7-1	SRU7/TGTU7 Incinerator	NO _x	5.22	22.85
			VOC	0.35	1.54
			SO ₂	71.11	311.47
			CO	12.44	54.51
			PM	0.49	2.13
			PM ₁₀	0.49	2.13
			PM _{2.5}	0.49	2.13
FPS3	PS No 3 FE	Power Station No.3 Fugitive Emissions	VOC	2.20	9.50

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STGTU1-1	TGTUINCINR	SRU1/TGTU1 Incinerator	NO _x	6.00	18.22
			VOC	0.40	1.23
			SO ₂	62.22	236.83
			CO	10.89	41.45
			PM	0.56	1.70
			PM ₁₀	0.56	1.70
			PM _{2.5}	0.56	1.70
STGTU2-1	STGTU2-1	SRU2/TGTU1 Incinerator	NO _x	7.50	22.78
			VOC	0.40	1.23
			SO ₂	62.22	236.83
			CO	10.89	41.45
			PM	0.56	1.70
			PM ₁₀	0.56	1.70
			PM _{2.5}	0.56	1.70

- (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
 SO₂ - sulfur dioxide
 PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 PM₁₀ - 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
 Cl₂ - chlorine
 H₂S - hydrogen sulfide
 NH₃ - ammonia
- (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) Refer to Attachment 10 – Emission Groups for the specific EPNs, Facility Identification Numbers and source names included in each group.

Emission Sources - Maximum Allowable Emission Rates

Date: February 1, 2017