

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Nos. 4682B and PSD-TX-761M1

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

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
1A	USC Furnace A (153 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	12.60	55.18
		NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year) 85.18	CO	4.81	9.06
		NO _x		45.23
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67
		VOC	0.73	1.38
1B	USC Furnace B (153 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	12.60	55.18
		NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year) 85.18	CO	4.81	9.06
		NO _x		45.23
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67
		VOC	0.73	1.38
1C	USC Furnace C (153 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	12.60	55.18
		NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year) 85.18	CO	4.81	9.06
		NO _x		45.23
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67
		VOC	0.73	1.38
1D	USC Furnace D (153 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	12.60	55.18
		NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year) 85.18	CO	4.81	9.06
		NO _x		45.23
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67
		VOC	0.73	1.38
1E	USC Furnace E (153 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	12.60	55.18
		NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year) 85.18	CO	4.81	9.06
		NO _x		45.23
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67
		VOC	0.73	1.38
1F	USC Furnace F	CO	12.60	55.18

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
1G	(153 MMBtu/hr natural gas) (8760 hours per calendar year)	NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year) 85.18	CO	4.81	9.06
		NO _x	45.23	
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67
		VOC	0.73	1.38
	USC Furnace G (153 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	12.60	55.18
		NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year) 85.18	CO	4.81	9.06
		NO _x	45.23	
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67
		VOC	0.73	1.38
1H	USC Furnace H (153 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	12.60	55.18
		NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year) 85.18	CO	4.81	9.06
		NO _x	45.23	
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
		VOC	0.73	1.38
1J	USC Furnace J (153 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	12.60	55.18
		NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year) 85.18	CO	4.81	9.06
		NO _x	45.23	
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67
		VOC	0.73	1.38
1K	USC Furnace K (153 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	12.60	55.18
		NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year) 85.18	CO	4.81	9.06
		NO _x	45.23	
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67
		VOC	0.73	1.38
1L	USC Furnace L (153 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	12.60	55.18
		NO _x	42.00	183.96
		PM ₁₀	1.14	4.99
		SO ₂	0.09	0.39
		VOC	0.83	3.64
	(No. 4 fuel oil and 962 gallons/hr) (3767 hours fired per calendar year)	CO	4.81	9.06
		NO _x	45.23	

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AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
	85.18			
		PM ₁₀	6.74	12.69
		SO ₂	129.91	244.67
		VOC	0.73	1.38
1M	USC Furnace M	CO	21.41	93.78
		NO _x	35.69	156.31
		PM ₁₀	1.94	8.49
		SO ₂	2.70	11.84
		VOC	1.40	6.14
1N	USC Furnace N	CO	21.41	93.78
		NO _x	35.69	156.31
		PM ₁₀	1.94	8.49
		SO ₂	2.70	11.84
		VOC	1.40	6.14
3A	VMR Furnace A (114 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	9.39	41.18
		NO _x	31.29	137.05
		PM ₁₀	0.85	3.72
		SO ₂	0.07	0.31
		VOC	0.61	2.67
	(No. 4 fuel oil and 647 gallons/hour) 6.09 (3767 hours fired per calendar year) 57.27	CO		3.24
		NO _x		30.41
		PM ₁₀	4.53	8.53
		SO ₂	87.35	164.51
		VOC	0.49	0.93
3B	VMR Furnace B (114 MMBtu/hr natural gas) (8760 hours per calendar year)	CO	9.39	41.18
		NO _x	31.29	137.05
		PM ₁₀	0.85	3.72
		SO ₂	0.07	0.31
		VOC	0.61	2.67

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AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
	(No. 4 fuel oil and 647 gallons/hour)		CO	3.24
	6.09			
	(3767 hours fired per calendar year)		NO _x	30.41
	57.27			
		PM ₁₀	4.53	8.53
		SO ₂	87.35	164.51
		VOC	0.49	0.93
4A	HP Steam Boiler A	CO	7.2	31.54
		NO _x	133.70	585.6
		PM ₁₀	32.20	141.04
		SO ₂	324.30	1420.4
		VOC	2.23	9.77

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
4B	HP Steam Boiler B	CO	7.2	31.54
		NO _x	133.70	585.6
		PM ₁₀	32.20	141.04
		SO ₂	324.30	1420.4
		VOC	2.23	9.77
4C	HP Steam Boiler C	CO	7.2	31.54
		NO _x	133.70	585.6
		PM ₁₀	32.20	141.04
		SO ₂	324.30	1420.4
		VOC	2.23	9.77
4D	HP Steam Boiler D	CO	7.2	31.54
		NO _x	133.70	585.6
		PM ₁₀	32.20	141.04
		SO ₂	324.30	1420.4
		VOC	2.23	9.77
5A	Steam S. Heater A	CO	2.6	11.39
		NO _x	39.90	174.80
		PM ₁₀	9.61	42.1
		SO ₂	96.80	423.98
		VOC	0.67	2.93
5B	Steam S. Heater B	CO	2.6	11.39
		NO _x	39.90	174.80
		PM ₁₀	9.61	42.1
		SO ₂	96.80	423.98
		VOC	0.67	2.93
6	HDA Feed Heater	CO	3.75	16.43
		NO _x	18.00	78.80
		PM ₁₀	1.50	6.57
		SO ₂	0.07	0.31
		VOC	1.77	7.75

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
7	HDA Recycle Heater	CO	0.16	0.70
		NO _x	1.30	5.69
		PM ₁₀	0.09	0.39
		SO ₂	0.01	0.02
		VOC	0.03	0.13
8	Dryer Regeneration Heater	CO	0.99	4.34
		NO _x	4.70	20.59
		PM ₁₀	0.40	1.75
		SO ₂	0.02	0.09
		VOC	0.08	0.35
8A	Catalyst Reactivation Furnace	CO	1.65	7.21
		NO _x	1.96	8.59
		PM ₁₀	0.15	0.65
		SO ₂	0.01	0.03
		VOC	0.11	0.47
9A	Decoking Cyclone	CO	29.2	4.5
		PM	9.0	3.7
9B	Decoking Cyclone	CO	29.2	5.1
		TSP	9.0	3.9
10	Hot Flare	Benzene	2.23	0.60
		CO	257.00	12.84
		NO _x	53.99	2.61
		SO ₂	0.09	0.33
		VOC	197.33	1.23
11	Cold Flare	Benzene	2.23	0.60
		CO	257.00	12.84
		NO _x	54.05	2.79
		SO ₂	0.09	0.33
		VOC	197.33	1.23

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
12	Cooling Tower	VOC	0.68	3.00
13A	Oily Separator	VOC	0.12	0.53
13B	Wastewater Separator	VOC	<0.01	0.02
16	Naptha Feedstock Day Tank+	VOC	4.10	8.77
17	Kerosene Feedstock Day Tank+	VOC	4.10	8.77
18	Light Fuel Oil Tank+	VOC	2.73	3.80
19	Raw Pyrolysis Gasoline Tank+	VOC	4.44	13.47
20A	Heavy Oil Fuel Tank+	VOC	5.43	3.88
20B	Heavy Oil Fuel Tank+	VOC	5.43	3.88
23A	Benzene Tank+	VOC	0.14	0.32
23B	Benzene Tank+	VOC	0.14	0.32
24	HDA Tank+	VOC	1.08	2.92
30A	Feedstock Tank+	VOC	8.04	19.71
30B	Feedstock Tank+	VOC	8.04	19.71
30C	Feedstock Tank+	VOC	8.04	19.71
31	Second Stage Feed Heater	CO	0.68	2.98
		NO _x	3.3	14.45
		PM ₁₀	0.27	1.18
		SO ₂	0.01	0.05
		VOC	0.05	0.24

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AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
32	Lube Oil Tank+	VOC	17.85	0.07
33	Wash Oil Tank+	VOC	0.27	0.4339A
	Spent Caustic Gasoline Wash Tank+	VOC	0.54	0.86
39B	Spent Caustic Gasoline Wash Tank+	VOC	0.54	0.86
40	Recovered Oil Tank+	VOC	0.54	0.84
41	Froth Holding Tank+	VOC	0.04	0.01
42	Methanol Tank+	VOC	21.08	0.05
43	Fuel Oil Truck Loading+	VOC	1.12	4.90
50	Spent Caustic Wastewater+	VOC	<0.01	<0.01
51	Spent Caustic Wastewater+	VOC	<0.01	<0.01
52	Wastewater Tank+	VOC	3.68	8.33
53	Slop Oil Tank+	VOC	0.11	0.27
54	Oily Water Hold Tank+	VOC	1.60	21.16
55	Hot Water Belt Tank+	VOC	2.13	6.45
AC-1	Air Compressor Engine No. 1	CO	0.83	1.55
		NO _x	6.64	12.43
		PM ₁₀	0.11	0.21
		SO ₂	0.61	1.14
		VOC	0.21	0.39

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			lb/hr	TPY
AC-2	Air Compressor Engine No. 2	CO	0.83	1.55
		NO _x	6.64	12.43
		PM ₁₀	0.11	0.21
		SO ₂	0.61	1.14
		VOC	0.21	0.39
AC-3	Air Compressor Engine No. 3	CO	0.83	1.55
		NO _x	6.64	12.43
		PM ₁₀	0.11	0.21
		SO ₂	0.61	1.14
		VOC	0.21	0.39
FU-1	Olefins Unit Fugitive	VOC	19.27	84.40
FU-2	Olefins Fugitive - HON	VOC	1.49	6.53
FU-3	Olefins Fugitive - NESHAPS	VOC	14.28	62.54
FU-4	M&N Furnace Fugitive	VOC	0.12	0.51
FU-5	NESHAPS Stripper Fugitive	VOC	0.04	0.18
WWT-1	Wastewater Tank A+	VOC	0.19	0.83
WWT-2	Wastewater Tank B+	VOC	0.12	0.52
WWC-1	Wastewater Collection+	VOC	<0.01	0.02
PAINT	Painting	VOC	7.39	4.81

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

- (1) Emission point identification - either specific equipment designation or emission point number from a plot plan.
 - (2) Specific point source names. For fugitive sources use area name or fugitive source name.
 - (3) CO - carbon monoxide
NO_x - total oxides of nitrogen
PM₁₀ - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
SO₂ - sulfur dioxide
TSP - total suspended particulate
VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1
 - (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- + The individual ton per year (TPY) emission rates for each storage tank may be exceeded by such tank so long as the aggregate emissions from all storage tanks do not exceed 145.96 TPY.
- * 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