

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 18897

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	Source	Air Contaminant	<u>Emission Rates*</u>	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
1,2	CPS/DCU Heater	VOC	1.06	3.56
		NO _x	32.11	108.20
		SO ₂	6.05	20.39
		PM	0.55	1.84
		CO	6.31	21.25
109	VAC Heater	VOC	0.96	3.22
		NO _x	20.75	69.90
		SO ₂	5.48	18.45
		PM	0.49	1.67
		CO	5.71	19.22
3	CRU Heater	VOC	0.53	1.79
		NO _x	11.63	39.20
		SO ₂	3.05	10.27
		PM	0.28	0.93
		CO	3.17	10.70
129	CRU Heater	VOC	0.09	0.29
		NO _x	1.87	6.30
		SO ₂	0.49	1.66
		PM	0.04	0.15
		CO	0.51	1.73
126	FCCU Heater	VOC	0.29	0.97
		NO _x	6.24	21.02
		SO ₂	1.65	5.55
		PM	0.15	0.50
		CO	1.72	5.78
105	SRU Hot Oil Heater	VOC	0.01	0.05
		NO _x	0.31	1.05
		SO ₂	0.08	0.28

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PM	0.01	0.03
CO	0.09	0.29

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates*	
			lb/hr	TPY
6	Boiler 1	VOC	0.74	2.49
		NO _x	44.19	148.90
		SO ₂	4.24	14.29
		PM	0.38	1.29
		CO	4.42	14.89
7	Boiler 2	VOC	0.74	2.49
		NO _x	44.19	148.90
		SO ₂	4.24	14.29
		PM	0.38	1.29
		CO	4.42	14.89
8	Boiler 3	VOC	0.74	2.49
		NO _x	44.19	148.90
		SO ₂	4.24	14.29
		PM	0.38	1.29
		CO	4.42	14.89
111	FCCU/CO Boiler/WGS	VOC	3.7	12.5
		NO _x	103.4	348.5
		SO ₂	205.6	692.7
		PM	22.9	86.7
		CO	183.9	619.7
	FCCU/CO Boiler/WGS (5)	VOC	3.7	12.5
		NO _x	103.4	348.5
		SO ₂	205.6	692.7
		PM	22.9	86.7
		CO	170.9	619.7
	FCCU/CO Boiler/WGS (6)	VOC	3.7	12.5
		NO _x	103.4	348.5
		SO ₂	205.3	691.5
		PM	22.9	86.7
		CO	124.3	544.5

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112	Plant Emergency/AAG Flare Pilot	NO _x	0.10	0.10
		SO ₂	0.10	0.10
		CO	0.10	0.20

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates*	
			lb/hr	TPY
128	SWS Emergency Flare	NO _x	0.10	0.10
		SO ₂	0.10	0.10
		PM	<0.10	<0.10
		CO	0.10	0.20
12	DCU Compressor 660 hp (1460 hr/yr)	VOC	0.21	0.72
		NO _x	7.27	19.30
		SO ₂	<0.01	<0.01
		PM	<0.01	<0.01
		CO	5.81	25.47
13	DCU Compressor 660 hp (5)	VOC	0.21	0.12
		NO _x	47.30	26.56
		SO ₂	<0.01	<0.01
		PM	<0.01	<0.01
		CO	3.25	1.83
14	CRU Compressor	VOC	0.11	0.37
		NO _x	23.65	79.68
		SO ₂	<0.01	<0.01
		PM	<0.01	<0.01
		CO	1.65	5.57
15	CRU Compressor	VOC	0.11	0.37
		NO _x	23.65	79.68
		SO ₂	<0.01	<0.01
		PM	<0.01	<0.01
		CO	1.65	5.57
110	CRU Compressor	VOC	0.21	0.72
		NO _x	8.11	19.60
		SO ₂	<0.01	<0.01
		PM	<0.01	<0.01
		CO	5.81	25.47
16	CPS Compressor	VOC	0.60	0.21

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NO _x	12.90	43.46
SO ₂	<0.01	<0.01
PM	<0.01	<0.01
CO	0.96	3.23

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates*	
			lb/hr	TPY
127	SRU Incinerator	VOC	0.03	0.10
		NO _x	0.81	2.72
		SO ₂	179.46	604.50
		PM	0.03	0.10
		CO	4.90	16.50
130	Truck Rack Flare	VOC		40.0
		NO _x		2.7
		CO		11.9
97	Fire Water Pump (211 hr/yr)	VOC		0.06
		NO _x		0.77
		SO ₂		0.05
		PM		0.05
		CO		0.17
106	Cooling Water Pump	VOC	0.39	0.90
		NO _x	4.86	11.21
		SO ₂	0.32	0.75
		PM	0.35	0.80
		CO	0.81	2.43
107	Cooling Water Pump	VOC	0.39	0.90
		NO _x	4.86	11.21
		SO ₂	0.32	0.75
		PM	0.35	0.80
		CO	0.81	2.43
F-21	Alkylation Cooling Tower	VOC		4.6
F-7	Cooling Tower	VOC		8.20
F-1 thru F-11, (except F-7 & F10) F-13, F-16 thru	Process Fugitive (4)	VOC		433.4

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F-22 (except F-21)

98	Oil Water Separator	VOC	59.00
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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates*	
			lb/hr	TPY
38, 116, 117	3 Floating Roof Crude Oil Tanks (Total 364,500 BBL Storage Capacity)		VOC	6.5
22, 24-26, 28, 29, 71, 102, 103 39-45, 47, 118, 121, 123, 124	21 Floating Roof Gasoline Tanks (Total 996,000 BBL Storage Capacity)		VOC	37.4
76, 78, 82 92, 93	5 Fixed Roof Reduced Crude, Slop Oil Tanks (Total 5,500 BBL Storage Capacity)		VOC	0.1
90/91	2 Fixed Roof Coker Blowdown Tanks (Total 12,000 BBL Storage Capacity)		VOC	8.8
53-55, 58, 61, 62, 65, 70, 72, 73	10 Fixed Roof Aviation Fuel Tanks (Total 68,300 BBL Storage Capacity)		VOC	7.0
66, 67	2 Fixed Roof Fuel Oil Tanks (Total 23,000 BBL Storage Capacity)		VOC	0.8
52, 119, 120	3 Fixed Roof Diesel Tanks (Total 112,000 BBL Storage Capacity)		VOC	5.9
49-50	2 Fixed Roof Gas Oil Tanks (Total 162,000		VOC	0.3

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BBL Storage Capacity

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates*		
			lb/hr	TPY	
80	1 Fixed Roof Emergency Off-Test Tank (Total 1,500 BBL Storage Capacity)		VOC		1.4
68,69	2 Fixed Roof Wastewater Tanks (Total 10,000 BBL Storage Capacity)		VOC		<0.1
46, 48, 81, 83	4 Fixed Roof Heavy Oil Tanks (Total 99,200 BBL Storage Capacity)		VOC		1.0
131	Tank 607		VOC	0.85	3.39
131	Tank 607		VOC	0.85	3.39
132	Tank 608		VOC	0.83	2.91
F10	FCCU Fugitives (4)		VOC	10.15	44.46
	FCCU Fugitives (4,7)		VOC	7.78	34.08

- (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 General Rule 101.1
 NO_x - total oxides of nitrogen
 SO₂ - sulfur dioxide
 PM - particulate matter
 CO - carbon monoxide
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.

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- (5) Operation of the FCCU regenerator in the enhanced oxidation mode with CO boiler in operation.
- (6) Operation of the FCCU regenerator in the enhanced oxidation mode with CO boiler secured. The FCCU may be operated in one of the three modes at any time and EPN 111 is subject to applicable emission limits.
- (7) Fugitive emissions after January 1, 1997.

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

Hrs/day____Days/week____Weeks/year____or Hrs/year 8,760

Dated _____