Emission Sources - Maximum Allowable Emission Rates

Permit Number 106921 and N270

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)
ENG-01	Control Room Emergency Generator	VOC	0.41	0.02
		NO_x	0.78	0.04
		CO	1.60	0.08
		SO_2	<0.01	<0.01
		PM	0.02	<0.01
		PM_{10}	0.02	<0.01
		$PM_{2.5}$	0.02	<0.01
ENG-02	Flare Blower Emergency Generator	VOC	0.88	0.05
		NO_x	1.70	0.09
		CO	3.30	0.17
		SO_2	<0.01	<0.01
		PM	0.05	<0.01
		PM_{10}	0.05	<0.01
		$PM_{2.5}$	0.05	<0.01
ENG-03	Emergency Air Compressor	VOC	3.70	0.19
		NO_x	3.70	0.19
		CO	3.20	0.16
		SO_2	<0.01	<0.01
		PM	0.19	<0.01
		PM_{10}	0.19	<0.01
		$PM_{2.5}$	0.19	<0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
ENG-04	Emergency Firewater Pump	VOC	3.60	0.18
		NO_x	3.60	0.18
		CO	3.10	0.16
		SO_2	<0.01	<0.01
		PM	0.18	0.01
		PM_{10}	0.18	0.01
		$PM_{2.5}$	0.18	0.01
ENG-07	Frac-3 & 4 Emergency Air Compressor	VOC	1.40	0.07
		NO_x	2.60	0.13
		CO	5.30	0.27
		SO_2	<0.01	<0.01
		PM	0.09	<0.01
		PM_{10}	0.09	<0.01
		$PM_{2.5}$	0.09	<0.01
ENG-09	Frac-3 & 4 Emergency Generator	VOC	0.86	0.04
		NO_x	1.60	0.08
		CO	3.20	0.16
		SO_2	<0.01	<0.01
		PM	0.05	<0.01
		PM_{10}	0.05	<0.01
		$PM_{2.5}$	0.05	<0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
ENG-10	Emergency Firewater Pump	VOC	3.30	0.17
		NO_x	3.30	0.17
		CO	2.80	0.14
		SO_2	0.01	<0.01
		PM	0.16	0.01
		PM_{10}	0.16	0.01
		$PM_{2.5}$	0.16	0.01
H-5500	Hot Oil Heater H-5500	VOC	0.72	--
		NO_x	1.54	--
		CO	5.76	--
		SO_2	25.26	--
		H_2S	0.07	--
		NH_3	0.71	--
		PM	0.77	--
		PM_{10}	0.77	--
		$PM_{2.5}$	0.77	--
	Heater MSS Emissions	NO_x	7.68	--
		CO	46.10	--

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
H-5501	Hot Oil Heater H-5501	VOC	0.72	--
		NO_x	1.54	--
		CO	5.76	--
		SO_2	25.26	--
		H_2S	0.07	--
		NH_3	0.71	--
		PM	0.77	--
		PM_{10}	0.77	--
		$PM_{2.5}$	0.77	--
	Heater MSS Emissions	NO_x	7.68	--
		CO	46.10	--
H-5502	Hot Oil Heater H-5502	VOC	0.72	--
		NO_x	1.54	--
		CO	5.76	--
		SO_2	25.26	--
		H_2S	0.07	--
		NH_3	0.71	--
		PM	0.77	--
		PM_{10}	0.77	--
		$PM_{2.5}$	0.77	--
	Heater MSS Emissions	NO_x	7.68	--
		CO	46.10	--

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
H-7500	Hot Oil Heater H-7500	VOC	0.72	--
		NO_x	1.54	--
		CO	5.76	--
		SO_2	25.26	--
		H_2S	0.07	--
		NH_3	0.71	--
		PM	0.77	--
		PM_{10}	0.77	--
		$PM_{2.5}$	0.77	--
	Heater MSS Emissions	NO_x	7.68	-
		CO	46.10	-
H-7501	Hot Oil Heater H-7501	VOC	0.72	--
		NO_x	1.54	--
		CO	5.76	--
		SO_2	25.26	--
		H_2S	0.07	--
		NH_3	0.71	--
		PM	0.77	--
		PM_{10}	0.77	--
		$PM_{2.5}$	0.77	--
	Heater MSS Emissions	NO_x	7.68	-
		CO	46.10	-

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
H-7502	Hot Oil Heater H-7502	VOC	0.72	--
		NO_x	1.54	--
		CO	5.76	--
		SO_2	25.26	--
		H_2S	0.07	--
		NH_3	0.71	--
		PM	0.77	--
		PM_{10}	0.77	--
		$PM_{2.5}$	0.77	--
	Heater MSS Emissions	NO_x	7.68	-
		CO	46.10	-
H-5500/H-5501/H-5502/H-7500/H-7501/H-7502	Hot Oil Heater Cap (6)	VOC	-	8.82
		NO_x	-	35.13
		CO	-	93.09
		SO_2	-	104.71
		H_2S	-	0.29
		NH_3	-	11.25
		PM	-	17.55
		PM_{10}	-	17.55
		$PM_{2.5}$	-	17.55
	Heater MSS Emissions (6)	NO_x	-	0.74
		CO	-	4.42

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
H-41500	Hot Oil Heater H-41500	VOC	2.24	---
		NO_x	1.92	---
		CO	7.20	---
		SO_2	13.73	---
		H_2S	0.07	---
		NH_3	0.88	---
		PM	0.96	---
		PM_{10}	0.96	---
		$PM_{2.5}$	0.96	---
	Heater MSS Emissions	NO_x	9.60	---
		CO	57.60	---
H-41501	Hot Oil Heater H-41501	VOC	2.24	---
		NO_X	1.92	---
		CO	7.20	---
		SO_2	13.73	---
		H_2S	0.07	---
		NH_3	0.88	---
		PM	0.96	---
		PM_{10}	0.96	---
		$PM_{2.5}$	0.96	---
	Heater MSS Emissions	NO_X	9.60	---
		CO	57.60	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
H-51500	Hot Oil Heater H-51500	VOC	2.24	---
		NO_X	1.92	---
		CO	7.20	---
		SO_2	13.73	---
		H_2S	0.07	---
		NH_3	0.88	---
		PM	0.96	---
		PM_{10}	0.96	---
		$PM_{2.5}$	0.96	---
	Heater MSS Emissions	NO_X	9.60	---
		CO	57.60	---
H-51501	Hot Oil Heater H-51501	VOC	2.24	---
		NO_X	1.92	---
		CO	7.20	---
		SO_2	13.73	---
		H_2S	0.07	---
		NH_3	0.88	---
		PM	0.96	---
		PM_{10}	0.96	---
		$PM_{2.5}$	0.96	---
	Heater MSS Emissions	NO_X	9.60	---
		CO	57.60	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
H-41500/H-41501/H-51500/H-51501	Hot Oil Heater Cap (7)	VOC	---	13.37
		NO_X	---	18.28
		CO	---	80.80
		SO_2	---	57.24
		H_2S	---	0.28
		NH_3	---	10.76
		PM	---	15.24
		PM_{10}	---	15.24
		$PM_{2.5}$	---	15.24
	Hot Oil Heater MSS Emissions (7)	NO_X	---	0.56
		CO	---	3.34
H-EP2	Hot Oil Heater H-EP2	VOC	0.30	1.31
		NO_X	1.50	3.94
		CO	5.63	17.41
		SO_2	0.26	1.13
		NH_3	0.69	2.10
		PM	0.75	3.29
		PM_{10}	0.75	3.29
		$PM_{2.5}$	0.75	3.29
	Heater MSS Emissions	NO_X	7.50	0.12
		CO	45.00	0.72

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
H-61500	Hot Oil Heater H-61500	VOC	2.47	---
		NO_X	1.92	---
		CO	7.20	---
		SO_2	51.21	---
		H_2S	0.07	---
		NH_3	0.88	---
		PM	0.96	---
		PM_{10}	0.96	---
		$PM_{2.5}$	0.96	---
	Heater MSS Emissions	NO_X	9.60	---
		CO	57.60	---
H-61501	Hot Oil Heater H-61501	VOC	2.47	---
		NO_X	1.92	---
		CO	7.20	---
		SO_2	51.21	---
		H_2S	0.07	---
		NH_3	0.88	---
		PM	0.96	---
		PM_{10}	0.96	---
		$PM_{2.5}$	0.96	---
	Heater MSS Emissions	NO_X	9.60	---
		CO	57.60	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
H-71500	Hot Oil Heater H-71500	VOC	2.47	---
		NO_X	1.92	---
		CO	7.20	---
		SO_2	51.21	---
		H_2S	0.07	---
		NH_3	0.88	---
		PM	0.96	---
		PM_{10}	0.96	---
		$PM_{2.5}$	0.96	---
	Heater MSS Emissions	NO_X	9.60	---
		CO	57.60	---
H-71501	Hot Oil Heater H-71501	VOC	2.47	---
		NO_X	1.92	---
		CO	7.20	---
		SO_2	51.21	---
		H_2S	0.07	---
		NH_3	0.88	---
		PM	0.96	---
		PM_{10}	0.96	---
		$PM_{2.5}$	0.96	---
	Heater MSS Emissions	NO_X	9.60	---
		CO	57.60	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
H-61500/H-61501/H-71500/H-71501	Hot Oil Heater Cap (9)	VOC	---	14.33
		NO_X	---	18.29
		CO	---	80.78
		SO_2	---	205.80
		H_2S	---	0.28
		NH_3	---	9.76
		PM	---	15.24
		PM_{10}	---	15.24
		$PM_{2.5}$	---	15.24
	Hot Oil Heater MSS Emissions (9)	NO_X	---	0.56
		CO	---	3.34
Fl-5600	Flare	VOC	0.01	0.06
		NO_X	0.35	1.50
		CO	1.40	6.10
		SO_2	<0.01	0.02
FL-02	Flare	VOC	0.01	0.06
		NOx	0.35	1.50
		CO	1.40	6.10
		SO2	<0.01	0.02
CT-5601	Cooling Tower CT-5601	VOC	2.52	3.15
		PM	1.50	6.57
		PM_{10}	0.60	2.63
		$PM_{2.5}$	0.15	0.66

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
CT-7601	Cooling Tower CT-7601	VOC	2.53	4.71
		PM	1.50	6.57
		PM_{10}	0.60	2.63
		$PM_{2.5}$	0.15	0.66
CT-41601	Cooling Tower CT-41601	VOC	3.01	3.15
		PM	1.80	6.58
		PM_{10}	0.72	2.63
		$PM_{2.5}$	0.18	0.66
CT-51601	Cooling Tower CT-51601	VOC	3.70	4.05
		PM	2.20	8.44
		PM_{10}	0.88	3.38
		$PM_{2.5}$	0.22	0.84
CT-EP2	Cooling Tower CT-EP2	VOC	4.49	8.44
		PM	2.68	11.73
		PM_{10}	1.07	4.69
		$PM_{2.5}$	0.27	1.17
CT-61601	Cooling Tower CT-61601	VOC	3.73	6.95
		PM	2.20	9.64
		PM_{10}	0.88	3.86
		$PM_{2.5}$	0.22	0.96

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
CT-71601	Cooling Tower CT-71601	VOC	3.73	6.95
		PM	2.20	9.64
		PM_{10}	0.88	3.86
		$PM_{2.5}$	0.22	0.96
T-2421	Spent Caustic Tank T-2421	VOC	0.99	0.01
		H_2S	<0.01	<0.001
T-3421	Spent Caustic Tank T-3421	VOC	0.99	0.01
		H_2S	<0.01	<0.001
T-5631	Wastewater Tank T-5631	VOC	1.69	0.02
T-7631	Wastewater Tank T-7631	VOC	1.69	0.02
CAS-2421	Controlled Emissions from Spent Caustic Tank (EPN T-2421)	VOC	0.05	<0.01
CAS-3421	Controlled Emissions from Spent Caustic Tank (EPN T-3421)	VOC	0.05	<0.01
LOAD-2421	Spent Caustic Loading (T-2421)	VOC	0.09	<0.01
LOAD-5631	Wastewater Loading (T-5631)	VOC	0.09	<0.01
LOAD-3421	Spent Caustic Loading (T-3421)	VOC	0.09	<0.01
LOAD-7631	Wastewater Loading (T-7631)	VOC	0.09	<0.01
LOAD-SC-3	Spent Caustic Loading (Frac-4, -5, and -6)	VOC	0.09	<0.01
LOAD-C3-3	Pressurized Loading (Frac-3 & 4 Contribution)	VOC	0.47	<0.01
LOAD-C3	Pressurized Loading (EP-2, Frac-5 & 6 Contribution)	VOC	0.47	<0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FUG-01	EPS and Frac-1 Equipment Leak Fugitives (5)	VOC	2.18	9.53
		NH_3	0.13	0.55
FUG-02	Frac-2 Equipment Leak Fugitives (5)	VOC	1.19	5.22
FUG-03	Frac-3 Equipment Leak Fugitives (5)	VOC	1.22	5.32
		H_2S	0.01	0.02
FUG-04	Frac-4 Equipment Leak Fugitives (5)	VOC	1.22	5.32
		H_2S	0.01	0.02
		NH_3	0.02	0.10
FUG-EP2	EP-2 Equipment Leak Fugitives (5)	VOC	0.24	1.03
		NH_3	0.20	0.10
FUG-05	Frac-5 Equipment Leak Fugitives (5)	VOC	1.22	5.32
		H_2S	0.01	0.02
		NH_3	0.02	0.10
FUG-06	Frac-6 Equipment Leak Fugitives (5)	VOC	1.22	5.32
		H_2S	0.01	0.02
		NH_3	0.02	0.10
MSS FL-5600/FL-2	MSS Flaring Cap (8)	VOC	620.88	12.79
		NO_x	246.65	5.52
		CO	1531.80	34.60
		SO_2	0.25	0.03
		H_2S	<0.01	<0.001

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
MSS FL-5600/FL-2	MSS Flaring Cap (EP-2 Contribution) (8)	VOC	76.88	1.85
		NO_x	69.46	1.67
		CO	406.00	9.75
MSS FL-5600/FL-2	MSS Flaring Cap (Frac-5 & 6 Contribution) (8)	VOC	384.00	9.24
		NO_x	175.00	4.20
		CO	1079.00	25.91
		SO_2	0.19	<0.01
		H_2S	<0.01	<0.01
MSS-FUG	MSS Degassing	VOC	176.80	3.43
		NH_3	0.47	<0.01
MSS-FUG-E2	MSS De-gassing (EP-2 Contribution)	VOC	14.50	0.57
		NH_3	0.10	<0.01
MSS-FUG-3	MSS De-gassing (Frac-3 & 4 Contribution)	VOC	169.00	1.44
		NH_3	0.07	<0.01
		H_2S	<0.01	<0.001
MSS-FUG-5	MSS De-gassing (Frac-5 & 6 Contribution)	VOC	149.00	1.36
		NH_3	0.07	<0.01
		H_2S	<0.01	<0.01

(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
H_2S - Hydrogen Sulfide
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
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

Emission Sources - Maximum Allowable Emission Rates

NH_3 - 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) Annual Emissions represent combined annual emissions from heaters H-5500, H-5501, H-5502, H-7500, H-7501, and H-7502.
(7) Annual Emissions represent combined annual emissions from heaters H-41500, H-41501, H-51500, and H-51501.
(8) Emissions represent total combined emission rates from EPNs FL-5600 and FL-02.
(9) Annual Emissions represent combined annual emissions from heaters H-61500, H-61501, H-71500, and H-71501.

Date: March 31, 2020