Emission Sources - Maximum Allowable Emission Rates

Permit Number 106921

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

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	0.19	<0.01
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	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
ENG-08	Frac-3 & 4 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

Emission Sources - Maximum Allowable Emission Rates

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
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 (6)	NO_x	7.68	--
		CO	46.10	--
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	--

Emission Sources - Maximum Allowable Emission Rates

		PM_{10}	0.77	--
		$PM_{2.5}$	0.77	--
	Heater MSS Emissions (6)	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 (6)	NO_x	7.68	--
		CO	46.10	--
H-7500	Hot Oil Heater H-7500 (6)	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 (6)	NO_x	7.68	-

Emission Sources - Maximum Allowable Emission Rates

		CO	46.10	-
H-7501	Hot Oil Heater H-7501 (6)	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 (6)	NO_x	7.68	-
		CO	46.10	-
H-7502	Hot Oil Heater H-7502 (6)	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 (6)	NO_x	7.68	-
		CO	46.10	-
H-5500/H-5501/H-5502/H-7500/H-7501/H-7502	Hot Oil Heater Cap	VOC	-	8.82
		NO_x	-	35.13

Emission Sources - Maximum Allowable Emission Rates

		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

H-07	Hot Oil Heater	VOC	0.65	---
		NO_x	1.54	---
		CO	5.76	---
		SO_2	20.51	---
		H_2S	0.04	---
		NH_3	0.71	---
		PM	0.77	---
		PM_{10}	0.77	---
		$PM_{2.5}$	0.77	---
	Heater MSS Emissions (6)	NO_x	7.68	---
		CO	46.10	---
H-08	Hot Oil Heater 8 (6)	VOC	0.65	---
		NOx	1.54	---
		CO	5.76	---
		SO2	20.51	---
		H2S	0.04	---
		NH3	0.71	---
		PM	0.77	---
		PM10	0.77	---
		PM2.5	0.77	---
	Heater MSS Emissions (6)	NOx	7.68	---
		CO	46.10	---
H-09		VOC	0.65	---
		NOx	1.54	---

Emission Sources - Maximum Allowable Emission Rates

		CO	5.76	---
		SO2	20.51	---
		H2S	0.04	---
		NH3	0.71	---
		PM	0.77	---
		PM10	0.77	---
		PM2.5	0.77	---
	Heater MSS Emissions (6)	NOx	7.68	---
		CO	46.10	---
H-10	Hot Oil Heater 10 (6)	VOC	0.65	---
		NOx	1.54	---
		CO	5.76	---
		SO2	20.51	---
		H2S	0.04	---
		NH3	0.71	---
		PM	0.77	---
		PM10	0.77	---
		PM2.5	0.77	---
	Heater MSS Emissions (6)	NOx	7.68	---
		CO	46.10	---

Emission Sources - Maximum Allowable Emission Rates

H-11	Hot Oil Heater 11 (6)	VOC	0.65	---
		NOx	1.54	---
		CO	5.76	---
		SO2	20.51	---
		H2S	0.04	---
		NH3	0.71	---
		PM	0.77	---
		PM10	0.77	---
		PM2.5	0.77	---
	Heater MSS Emissions (6)	NOx	7.68	---
		CO	46.10	---
H-12	Hot Oil Heater 12 (6)	VOC	0.65	---
		NOx	1.54	---
		CO	5.76	---
		SO2	20.51	---
		H2S	0.04	---
		NH3	0.71	---
		PM	0.77	---
		PM10	0.77	---
		PM2.5	0.77	---
	Heater MSS Emissions (6)	NOx	7q.68	---
		CO	46.10	---
H-07/H-08/H-09/H-10/H-11/H-12	Hot Oil Heater Cap	VOC	---	8.88
		NOx	---	22.14
		CO	---	97.74

Emission Sources - Maximum Allowable Emission Rates

		SO2	---	69.44
		H2S	---	0.19
		NH3	---	16.98
		PM	---	18.42
		PM10	---	18.42
		PM2.5	---	18.42
	Hot Oil Heater MSS Emissions	NOx	---	0.67
		CO	---	4.04
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 (Frac-3 & Frac-4)	VOC	0.01	0.06
		NOx	0.35	1.50
		CO	1.40	6.10
		SO2	<0.01	0.01
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
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-05	Frac-3 Cooling Tower	VOC	2.01	3.76

Emission Sources - Maximum Allowable Emission Rates

		PM	1.20	5.26
		PM_{10}	0.48	2.10
		$PM_{2.5}$	0.12	0.53
CT-06	Frac-4 Cooling Tower	VOC	2.01	3.76
		PM	1.20	5.26
		PM_{10}	0.48	2.10
		$PM_{2.5}$	0.12	0.53
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-3, -4)	VOC	0.09	<0.01
FUG-01	EPS and Frac-1 Equipment Leak	VOC	2.18	9.53

Emission Sources - Maximum Allowable Emission Rates

		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	0.71	3.12
FUG-04	Frac-4 Equipment Leak Fugitives (5)	VOC	0.71	3.12
FL-5600	MSS Flaring	VOC	263.87	4.24
		NO_x	78.33	1.49
		CO	450.40	8.66
		SO_2	<0.01	0.02
FL-02	MSS-Flaring (Frac-3 & -4 Contribution)	VOC	350.01	8.41
		NO_x	117.35	2.80
		CO	672.40	16.12
MSS-FUG	MSS Degassing	VOC	176.80	3.43
		NH_3	0.47	<0.01
MSS-FUG-3	MSS De-gassing (Frac-3 & 4 Contribution)	VOC	92.50	6.50
		NH_3	0.47	<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
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.

Emission Sources - Maximum Allowable Emission Rates

(6) Annual Emissions represent combined annual emissions from heaters H-5500, H-5501, H-5502, H-7500, H-7501, and H-7502.

Date: November 9, 2018