

# Emission Sources - Maximum Allowable Emission Rates

Permit Number 5452

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)
B-08	Boiler-Normal Operations	CO	6.49	28.41
		NO <sub>x</sub>	4.10	17.96
		PM	1.59	6.96
		PM <sub>10</sub>	1.59	6.96
		PM <sub>2.5</sub>	1.59	6.96
		SO <sub>2</sub>	0.12	0.53
		VOC	1.15	5.04
B-09	Boiler-Normal Operations	CO	7.95	34.82
		NO <sub>x</sub>	4.30	18.83
		PM	1.60	7.02
		PM <sub>10</sub>	1.60	7.02
		PM <sub>2.5</sub>	1.60	7.02
		SO <sub>2</sub>	0.13	0.55
		VOC	1.16	5.08
B-08	Boiler-MSS operations (8)	CO	12.97	0.93
		NO <sub>x</sub>	12.30	0.89

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			lbs/hour	TPY (4)
F-B	Furnace B (8)	CO	5.34	23.40
		NO <sub>x</sub>	6.85	30.00
		PM	1.14	4.98
		PM <sub>10</sub>	1.14	4.98
		PM <sub>2.5</sub>	1.14	4.98
		SO <sub>2</sub>	0.09	0.39
		VOC	0.82	3.61
F-CD	Hydrotreater Oil and Feed Heaters (6) (8)	CO	7.29	31.93
		NO <sub>x</sub>	4.59	20.10
		PM	1.05	4.59
		PM <sub>10</sub>	1.05	4.59
		PM <sub>2.5</sub>	1.05	4.59
		SO <sub>2</sub>	0.08	0.36
		VOC	0.76	3.32
GLY-1	Glycol Unit Vent	VOC	1.41	6.16
FLR-LSNG	Flare Emissions for normal operations	CO	0.57	2.51
		H <sub>2</sub> S	0.01	0.01
		NO <sub>x</sub>	0.03	1.26
		SO <sub>2</sub>	0.01	0.01
		VOC	0.07	0.29

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FLR-LSNG	Flare Emissions for MSS operations (7)	CO	4.07	0.01
		H <sub>2</sub> S	0.10	0.01
		NO <sub>x</sub>	2.04	0.01
		SO <sub>2</sub>	0.18	0.01
		VOC	9.93	0.01
GS-MSS	Planned MSS Atmospheric Emissions (7)	H <sub>2</sub> S	4.87	0.01
		VOC	493.64	0.57
FUG-FRAC	Frac Plant Fugitives (5)	VOC	2.60	11.39
FUG-IMP	Imports Unit Fugitives (5)	VOC	0.52	2.29
FUG-HYDRO	Hydrotreater Unit Fugitives (5)	H <sub>2</sub> S	0.01	0.01
		VOC	1.85	8.11
FUG-C6	Stabilizer Project Process Fugitives (5)	VOC	0.33	1.45
FUG-FGRU	FGRU Fugitives (5)	VOC	0.11	0.50
FUG	Fugitives (5)	VOC	0.04	0.16
AU-3	Amine Unit	VOC	0.33	1.45
		H <sub>2</sub> S	0.05	0.10
F-04	Hot Oil Heater	VOC	0.09	0.38
		NO <sub>x</sub>	0.72	3.16
		CO	5.34	23.40
		SO <sub>2</sub>	0.08	0.37
		PM	0.58	2.53
		PM <sub>10</sub>	0.58	2.53
		PM <sub>2.5</sub>	0.58	2.53
		NH <sub>3</sub>	0.45	1.99
F-04	Hot Oil Heater MSS	NO <sub>x</sub>	2.63	0.09

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		CO	42.73	1.54
F-05	Hot Oil Heater	VOC	0.09	0.38
		NO <sub>x</sub>	0.72	3.16
		CO	5.34	23.40
		SO <sub>2</sub>	0.08	0.37
		PM	0.58	2.53
		PM <sub>10</sub>	0.58	2.53
		PM <sub>2.5</sub>	0.58	2.53
		NH <sub>3</sub>	0.45	1.99
F-05	Hot Oil Heater MSS	NO <sub>x</sub>	2.63	0.09
		CO	42.73	1.54
FUG-FRAC2	Equipment Fugitives (5)	VOC	0.92	4.02
FUG-CT-8	Cooling Tower 8	VOC	0.81	3.56
		PM	0.55	2.43
		PM <sub>10</sub>	0.17	0.74
		PM <sub>2.5</sub>	<0.01	<0.01
Shutdown	Shutdown Emissions to Atmosphere	VOC	10.52	0.22
Maintenance	Maintenance Emissions to Atmosphere	VOC	1.15	0.02
TK-1	Ucarsol Storage Tank	VOC	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) CO - carbon monoxide

H<sub>2</sub>S - hydrogen sulfide

NO<sub>x</sub> - total oxides of nitrogen

PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>

PM<sub>10</sub> - particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>

PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter

SO<sub>2</sub> - sulfur dioxide

NH<sub>3</sub> - Ammonia

VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

(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.

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- (6) The Hydrotreater Oil and Feed Heater Stack (EPN F-CD) is a combined stack for Heater F-C (97 MMBtu/hr) and Heater F-D (38 MMBtu/hr).
- (7) Planned maintenance, startup, and shutdown (MSS) activities and emissions are authorized from these facilities. The MSS emissions are based on one process vessel cleaned per rolling 12-month period.
- (8) Related MSS emissions are included. They are based on 1 event per month, and 12 hours per event, for a total of 144 hours per year for each combustion device.

Date: August 19, 2019