

# Emission Sources - Maximum Allowable Emission Rates

Permit Number 20289

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)
104A (8)	Flare 104A	CO	27.88	9.70
		NO <sub>x</sub>	13.97	4.86
		SO <sub>2</sub>	1.20	0.36
		VOC	60.01	31.38
		H <sub>2</sub> S/TRS	0.01	0.01
	MSS	CO	286.01	8.26
		NO <sub>x</sub>	143.44	4.15
		SO <sub>2</sub>	<0.01	<0.01
		VOC	532.30	14.32
104B	Flare 104B	CO	3.02	13.22
		NO <sub>x</sub>	1.51	6.62
		PM <sub>10</sub>	0.01	0.02
		SO <sub>2</sub>	0.01	0.01
		VOC	0.57	2.50
105	Thermal Oxidizing Flare (6)	CO	30.57	22.90
		NO <sub>x</sub>	11.14	10.09
		SO <sub>2</sub>	17.29	12.17
		VOC	48.53	16.22
		MEOH	1.60	0.65

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MVCS 1	Marine Vapor Control System 1 (6)	CO	4.46	----
		NO <sub>x</sub>	11.16	----
		SO <sub>2</sub>	50.52	----
		VOC (7)	3.61	----
		PM	0.42	----
		PM <sub>10</sub>	0.42	----
		PM <sub>2.5</sub>	0.42	----
		H <sub>2</sub> S/TRS	0.03	----
		MEOH (7)	0.32	----
MVCS 2	Marine Vapor Control System 2 (6)	CO	4.46	----
		NO <sub>x</sub>	11.16	----
		SO <sub>2</sub>	50.52	----
		VOC (7)	3.61	----
		PM	0.42	----
		PM <sub>2.5</sub>	0.42	----
		PM <sub>2.5</sub>	0.42	----
		H <sub>2</sub> S/TRS	0.03	----
		MEOH (7)	0.32	----
MVCS 1 & 2	Marine Vapor Control System 1 & 2 Annual Cap (6)	CO	----	8.40
		NO <sub>x</sub>	----	21.01
		SO <sub>2</sub>	----	35.32
		VOC (7)	----	3.71
		PM	----	0.78
		PM <sub>10</sub>	----	0.78
		PM <sub>2.5</sub>	----	0.78

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		H <sub>2</sub> S/TRS	----	0.02
		MEOH (7)	----	0.13
106	Storage Tank	VOC	1.37	3.41
107	Storage Tank	VOC	3.31	5.19
108	Storage Tank	VOC	3.31	5.19
107 & 108	Storage Tanks Annual Cap	VOC	---	5.56
111	Storage Tank	VOC	0.06	0.09
114	CPI Separator	VOC	1.50	0.58
117	OSBL Tank Area Fugitives (5)	VOC	0.43	1.93
119	Wastewater Treatment Area Fugitives (5)	VOC	0.43	1.58
023	Barge Loading Fugitives (5)	VOC	0.30	1.33
TRLoadFug	Truck Rail Load Fugitives	VOC	0.66	0.49
121	Diesel Fired Generator	CO	0.90	0.09
		NO <sub>x</sub>	4.15	0.43
		PM <sub>10</sub>	0.30	0.03
		SO <sub>2</sub>	0.28	0.03
		VOC	0.33	0.03
123	Fire Water Engine	CO	0.43	0.05
		NO <sub>x</sub>	2.01	0.21
		PM <sub>10</sub>	0.14	0.02
		SO <sub>2</sub>	0.13	0.01
		VOC	0.19	0.02
124	Diesel Storage Tank	VOC	0.06	0.01
NGST-FLARE (8)	Natural Gasoline Storage Flare	CO	3.18	7.97

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		NO <sub>x</sub>	1.60	4.00
		SO <sub>2</sub>	0.02	0.04
		VOC	0.90	2.05
	MSS	CO	1.96	0.03
		NO <sub>x</sub>	0.98	0.02
		SO <sub>2</sub>	0.01	<0.01
		VOC	3.64	0.05
MSS-FLARE (8)	Temporary Flare	CO	16.99	0.10
		NO <sub>x</sub>	8.52	0.05
		SO <sub>2</sub>	0.01	0.01
		VOC	31.60	0.17
104A, NGST-FLARE, MSS-FLARE (8)	MSS flare CAP	CO	286.14	9.66
		NO <sub>x</sub>	143.44	4.84
		SO <sub>2</sub>	0.01	<0.01
		VOC	532.32	16.76
MSS-ATM	MSS	VOC	117.50	0.32
<b>Liquid Natural Gas (NGL) Marine Loading Facility</b>				
WSAC1	WSAC System – Train 1	PM	0.57	2.49
		PM <sub>10</sub>	0.27	1.19
		PM <sub>2.5</sub>	0.01	0.01
WSAC2	WSAC System – Train 2	PM	0.57	2.49
		PM <sub>10</sub>	0.27	1.19
		PM <sub>2.5</sub>	0.01	0.01
HTR1	Regeneration Heater No 1 – Train 1	CO	0.77	3.36

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		NO <sub>x</sub>	0.32	1.40
		SO <sub>2</sub>	0.02	0.08
		VOC	0.07	0.30
		PM <sub>10</sub>	0.10	0.42
		PM <sub>2.5</sub>	0.10	0.42
	Regeneration Heater No 1 – Start-up and shutdown	CO	1.54	0.02
		NO <sub>x</sub>	0.64	0.01
HTR2	Regeneration Heater No 2 – Train 2	CO	0.77	3.36
		NO <sub>x</sub>	0.32	1.40
		SO <sub>2</sub>	0.02	0.08
		VOC	0.07	0.30
		PM <sub>10</sub>	0.10	0.42
		PM <sub>2.5</sub>	0.10	0.42
	Regeneration Heater No 2 – Start-up and shutdown	CO	1.54	0.02
		NO <sub>x</sub>	0.64	0.01
FUG-1	Process Fugitives Train 1 (5)	VOC	0.23	1.03
FUG-2	Process Fugitives Train 2 (5)	VOC	0.23	1.03
TO-1	Thermal Oxidizer Fuel Gas Emissions (9)	CO	5.05	0.05
		NO <sub>x</sub>	6.01	0.06
		SO <sub>2</sub>	0.04	0.01
		VOC	0.33	0.01
		PM <sub>10</sub>	0.46	0.01
		PM <sub>2.5</sub>	0.46	0.01

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	Thermal Oxidizer Dry Dock Vessel Purging (9)	CO	20.57	0.12
		NO <sub>x</sub>	15.32	0.11
		VOC	0.68	0.03
		PM <sub>10</sub>	1.63	1.63
		PM <sub>2.5</sub>	1.63	1.63
TO-PORT	Thermal Oxidizer Fuel Gas Emissions (9)	CO	5.05	0.05
		NO <sub>x</sub>	6.01	0.06
		SO <sub>2</sub>	0.04	0.01
		VOC	0.33	0.01
		PM <sub>10</sub>	0.46	0.01
		PM <sub>2.5</sub>	0.46	0.01
	Thermal Oxidizer Dry Dock Vessel Purging (9)	CO	20.57	0.12
		NO <sub>x</sub>	15.32	0.11
		VOC	0.68	0.03
		PM <sub>10</sub>	1.63	0.02
		PM <sub>2.5</sub>	1.63	0.02
TO-1, TO-PORT	Thermal Oxidizer Dry Dock Vessel Purging Annual Emissions CAP (9)	CO	----	0.12
		NO <sub>x</sub>	----	0.11
		VOC	----	0.03
		PM <sub>10</sub>	----	0.02
		PM <sub>2.5</sub>	----	0.02

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Flare-1	Flare Pilot Gas Emissions	CO	0.04	0.15
		NO <sub>x</sub>	0.04	0.18
		SO <sub>2</sub>	0.01	0.01
		VOC	0.01	0.01
		PM <sub>10</sub>	0.01	0.01
		PM <sub>2.5</sub>	0.01	0.01
	NGL Facility Maintenance, Startup, and Shutdown Activities	CO	621.55	1.75
		NO <sub>x</sub>	311.34	0.88
		VOC	443.38	1.09
MSS-ATM2	NGL Facility Maintenance, Startup, and Shutdown Activities	VOC	23.16	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
- NO<sub>x</sub> - total oxides of nitrogen
- SO<sub>2</sub> - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented
- PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented
- PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter
- CO - carbon monoxide
- Cl<sub>2</sub> - chlorine
- HCl - hydrogen chloride
- H<sub>2</sub>S/TRS - hydrogen sulfide/total reduced sulfur
- MEOH - methanol
- (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) All non- isobutylene marine loading emissions shall be controlled by either the TOF or the MVCSSs. Once the MVCSSs are fully operational the TOF will be removed from service.
- (7) MEOH emissions are included in the VOC emission rates.
- (8) Total MSS emissions from 104A, NGST-FLARE and MSS-FLARE may not exceed the hourly and annual flare MSS CAP.
- (9) Thermal Oxidizers TO-1 and TO-PORT shall not operate at the same time. Combined annual emissions from both TOs shall not exceed the CAP.

Date: March 31, 2016