

# Emission Sources - Maximum Allowable Emission Rates

Permit Number 5252

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)
102	Clay Treater Decon. Heater HS102 3 MMBtu/hr	NO <sub>x</sub>	0.26	1.15
		CO	0.01	0.01
		VOC	0.01	0.01
		PM	0.02	0.10
		PM <sub>10</sub>	0.02	0.10
		PM <sub>2.5</sub>	0.02	0.10
		SO <sub>2</sub>	0.01	0.01
103	Benzene Recovery Column Reboiler HS-103	NO <sub>x</sub>	10.95	47.98
		CO	23.30	1.03
		VOC	0.05	0.20
		PM	0.39	1.70
		PM <sub>10</sub>	0.39	1.70
		PM <sub>2.5</sub>	0.39	1.70
		SO <sub>2</sub>	0.17	0.26
104	EB Recovery Column Reboiler HS-104 (5)	NO <sub>x</sub>	7.22	25.89
		NO <sub>x</sub> (MSS)	14.12	
		CO	43.98	27.52
		VOC	0.02	0.09
		PM	0.57	2.50
		PM <sub>10</sub>	0.57	2.50
		PM <sub>2.5</sub>	0.57	2.50
		SO <sub>2</sub>	0.10	0.43
201/219	Superheaters HS-201 & HS-219 (5)	NO <sub>x</sub>	53.12	152.64

Emission Sources - Maximum Allowable Emission Rates

		CO	90.54	56.65
		VOC	0.48	2.11
		PM	0.04	0.19
		PM <sub>10</sub>	0.04	0.19
		PM <sub>2.5</sub>	0.04	0.19
		SO <sub>2</sub>	1.02	4.48
213	Tank MS-213	VOC	0.01	0.01
220	Superheater HS-220 (5) 170 MMBtu/hr	NO <sub>x</sub>	2.34	10.23
		NO <sub>x</sub> (MSS)	10.20	
		CO	7.11	31.14
		CO MSS	42.79	
		VOC	0.95	4.27
		VOC (MSS)	0.54	
		PM	0.22	1.08
		PM (MSS)	0.58	
		PM <sub>10</sub>	0.22	1.08
		PM <sub>10</sub> (MSS)	0.58	
		PM <sub>2.5</sub>	0.22	1.08
		PM <sub>2.50</sub> (MSS)	0.58	
		SO <sub>2</sub>	0.06	0.34
		SO <sub>2</sub> (MSS)	0.44	
		NH <sub>3</sub>	0.86	3.79
301-A	Boiler HB-301-A (5)	NO <sub>x</sub>	6.15	26.94
		NO <sub>x</sub> (MSS)	41.59	
		CO	59.09	36.98
		CO (MSS)	159.50	
		VOC	0.37	1.61
		PM	1.79	7.82
		PM <sub>10</sub>	1.79	7.82

Emission Sources - Maximum Allowable Emission Rates

		PM <sub>2.5</sub>	1.79	7.82
		SO <sub>2</sub>	0.78	3.40
301-B	Boiler HB-301-B (5)	NO <sub>x</sub>	6.15	26.94
		NO <sub>x</sub> (MSS)	41.59	
		CO	59.09	36.98
		CO (MSS)	159.50	
		VOC	0.70	3.06
		PM	1.16	5.09
		PM <sub>10</sub>	1.16	5.09
		PM <sub>2.5</sub>	1.16	5.09
		SO <sub>2</sub>	0.63	2.76
301-S	Boiler HB-301-S (5)	NO <sub>x</sub>	53.14	187.98
		CO	72.73	10.77
		VOC	0.88	3.83
		PM	0.34	1.47
		PM <sub>10</sub>	0.34	1.47
		PM <sub>2.5</sub>	0.34	1.47
		SO <sub>2</sub>	0.55	2.42
302	Tank MT-302	VOC	0.01	0.01
308	Tank MT-308	VOC	0.03	0.01
331	Wastewater Clarifier GV331	VOC	0.01	0.01
601	TDA Reactor Feed Heater HS-601	NO <sub>x</sub>	1.30	5.68
		CO	3.60	0.04
		VOC	0.02	0.09
		PM	0.19	0.83
		PM <sub>10</sub>	0.19	0.83
		PM <sub>2.5</sub>	0.19	0.83
		SO <sub>2</sub>	0.02	0.03
1301	Boiler HB-1301-P (5)	NO <sub>x</sub>	22.33	66.10

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		CO	66.52	36.42
		VOC	0.99	4.33
		PM	0.34	1.47
		PM <sub>10</sub>	0.34	1.47
		PM <sub>2.5</sub>	0.34	1.47
		SO <sub>2</sub>	0.13	0.57
CTOTANK/VENT	Catalytic Thermal Oxidizers  CTOTANK and CTOVENT	NO <sub>x</sub>	0.81	1.48
		CO	6.95	12.70
		VOC	16.40	2.20
		PM	0.09	0.17
		PM <sub>10</sub>	0.09	0.17
		PM <sub>2.5</sub>	0.09	0.17
		SO <sub>2</sub>	0.01	0.01
Diesel Tanks	Diesel Tanks	VOC	0.11	0.03
Flare	Flare Normal Operations	NO <sub>x</sub>	1.47	-
		CO	7.49	-
		VOC	0.60	-
		SO <sub>2</sub>	0.01	-
	Flare MSS	NO <sub>x</sub>	9.50	-
		CO	68.58	-
		VOC	141.66	-
		SO <sub>2</sub>	0.01	-
		C6H6	63.87	-
		Ethylene	70.00	-
	Flare CAP	NO <sub>x</sub>	-	6.65
		CO	-	34.30
		VOC	-	5.48
		SO <sub>2</sub>	-	0.01
		C <sub>6</sub> H <sub>6</sub>	-	1.22

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		Ethylene	-	1.51
FUG-MSS	Fugitive MSS (6)	VOC	11.95	0.61
		PM	0.10	0.01
		PM <sub>10</sub>	0.10	0.01
		PM <sub>2.5</sub>	0.10	0.01
		C <sub>6</sub> H <sub>6</sub>	4.02	0.28
BZ- FUG	Benzene Fugitives (6)	VOC	1.10	4.81
FUG-HRVOC	Ethylene Fugitives (6)	VOC	0.50	2.18
		Ethylene	0.46	2.00
FUG-NH3	Ammonia Fugitives (6)	NH <sub>3</sub>	0.14	0.60
FUG-VOC	VOC Fugitives (6)	VOC	2.18	9.56
GY308	GY308 Condensate Deaerator	VOC	0.22	0.97
LR-1	Loading Rack	VOC	0.03	0.01
115	Emergency Generator	NO <sub>x</sub>	12.09	0.60
		CO	2.61	0.13
		VOC	0.96	0.05
		PM	0.86	0.04
		PM <sub>10</sub>	0.86	0.04
		PM <sub>2.5</sub>	0.86	0.04
		SO <sub>2</sub>	0.80	0.04
802-A	Firewater Pump	NO <sub>x</sub>	10.54	0.53
		CO	0.70	0.03
		VOC	0.84	0.04
		PM	0.75	0.04
		PM <sub>10</sub>	0.75	0.04
		PM <sub>2.5</sub>	0.75	0.04
		SO <sub>2</sub>	0.70	0.03
802-B	Firewater Pump	NO <sub>x</sub>	10.54	0.53
		CO	0.70	0.03

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		VOC	0.84	0.04
		PM	0.75	0.04
		PM <sub>10</sub>	0.75	0.04
		PM <sub>2.5</sub>	0.75	0.04
		SO <sub>2</sub>	0.70	0.03
802-S	Firewater Pump	NO <sub>x</sub>	10.54	0.53
		CO	0.70	0.03
		VOC	0.84	0.04
		PM	0.75	0.04
		PM <sub>10</sub>	0.75	0.04
		PM <sub>2.5</sub>	0.75	0.04
		SO <sub>2</sub>	0.70	0.03

- (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)
  - NO<sub>x</sub> - total oxides of nitrogen
  - CO - carbon monoxide
  - VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
  - 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
  - SO<sub>2</sub> - sulfur dioxide
  - NH<sub>3</sub> - ammonia
  - C<sub>6</sub>H<sub>6</sub> - Benzene
- (4) Compliance with annual emission limits (tons per year) is based on a 12- month rolling period.
- (5) Planned maintenance, startup and shutdown (MSS) for all pollutants are authorized even if not specifically identified as MSS. During any clock hour that includes one or more minutes of planned MSS that pollutant's maximum hourly emission rate shall apply during that clock hour.
- (6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: September 22, 2020

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