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_x	0.26	1.15
		CO	0.01	0.01
		VOC	0.01	0.01
		PM	0.02	0.10
		PM_{10}	0.02	0.10
		$PM_{2.5}$	0.02	0.10
		SO_2	0.01	0.01
103	Benzene Recovery Column Reboiler HS-103	NO_x	10.95	47.98
		CO	23.30	1.03
		VOC	0.05	0.20
		PM	0.39	1.70
		PM_{10}	0.39	1.70
		$PM_{2.5}$	0.39	1.70
		SO_2	0.17	0.26
104	EB Recovery Column Reboiler HS-104 (5)	NO_x	7.22	25.89
		NO_x (MSS)	14.12	
		CO	43.98	27.52
		VOC	0.02	0.09
		PM	0.57	2.50
		PM_{10}	0.57	2.50
		$PM_{2.5}$	0.57	2.50
		SO_2	0.10	0.43
201/219	Superheaters HS-201 & HS-219 (5)	NO_x	53.12	152.64

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		CO	90.54	56.65
		VOC	0.48	2.11
		PM	0.04	0.19
		PM_{10}	0.04	0.19
		$PM_{2.5}$	0.04	0.19
		SO_2	1.02	4.48
213	Tank MS-213	VOC	0.01	0.01
220	Superheater HS-220 (5) 170 MMBtu/hr	NO_x	2.34	10.23
		NO_x (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_{10}	0.22	1.08
		PM_{10} (MSS)	0.58	
		$PM_{2.5}$	0.22	1.08
		$PM_{2.50}$ (MSS)	0.58	
		SO_2	0.06	0.34
		SO_2 (MSS)	0.44	
		NH_3	0.86	3.79
301-A	Boiler HB-301-A (5)	NO_x	6.15	26.94
		NO_x (MSS)	41.59	
		CO	59.09	36.98
		CO (MSS)	159.50	
		VOC	0.37	1.61
		PM	1.79	7.82
		PM_{10}	1.79	7.82

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	1.79	7.82
		SO_2	0.78	3.40
301-B	Boiler HB-301-B (5)	NO_x	6.15	26.94
		NO_x (MSS)	41.59	
		CO	59.09	36.98
		CO (MSS)	159.50	
		VOC	0.70	3.06
		PM	1.16	5.09
		PM_{10}	1.16	5.09
		$PM_{2.5}$	1.16	5.09
		SO_2	0.63	2.76
301-S	Boiler HB-301-S (5)	NO_x	53.14	187.98
		CO	72.73	10.77
		VOC	0.88	3.83
		PM	0.34	1.47
		PM_{10}	0.34	1.47
		$PM_{2.5}$	0.34	1.47
		SO_2	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_x	1.30	5.68
		CO	3.60	0.04
		VOC	0.02	0.09
		PM	0.19	0.83
		PM_{10}	0.19	0.83
		$PM_{2.5}$	0.19	0.83
		SO_2	0.02	0.03
1301	Boiler HB-1301-P (5)	NO_x	22.33	66.10

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		CO	66.52	36.42
		VOC	0.99	4.33
		PM	0.34	1.47
		PM_{10}	0.34	1.47
		$PM_{2.5}$	0.34	1.47
		SO_2	0.13	0.57
CTOTANK/VENT	Catalytic Thermal Oxidizers CTOTANK and CTOVENT	NO_x	0.81	1.48
		CO	6.95	12.70
		VOC	16.40	2.20
		PM	0.09	0.17
		PM_{10}	0.09	0.17
		$PM_{2.5}$	0.09	0.17
		SO_2	0.01	0.01
Diesel Tanks	Diesel Tanks	VOC	0.11	0.03
Flare	Flare Normal Operations	NO_x	1.47	-
		CO	7.49	-
		VOC	0.60	-
		SO_2	0.01	-
	Flare MSS	NO_x	9.50	-
		CO	68.58	-
		VOC	141.66	-
		SO_2	0.01	-
		C6H6	63.87	-
		Ethylene	70.00	-
	Flare CAP	NO_x	-	6.55
		CO	-	34.30
		VOC	-	5.48
		SO_2	-	0.01
		C_6H_6	-	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_{10}	0.10	0.01
		$PM_{2.5}$	0.10	0.01
		C_6H_6	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_3	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_x	12.09	0.60
		CO	2.61	0.13
		VOC	0.96	0.05
		PM	0.86	0.04
		PM_{10}	0.86	0.04
		$PM_{2.5}$	0.86	0.04
		SO_2	0.80	0.04
802-A	Firewater Pump	NO_x	10.54	0.53
		CO	0.70	0.03
		VOC	0.84	0.04
		PM	0.75	0.04
		PM_{10}	0.75	0.04
		$PM_{2.5}$	0.75	0.04
		SO_2	0.70	0.03
802-B	Firewater Pump	NO_x	10.54	0.53
		CO	0.70	0.03

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		VOC	0.84	0.04
		PM	0.75	0.04
		PM_{10}	0.75	0.04
		$PM_{2.5}$	0.75	0.04
		SO_2	0.70	0.03
802-S	Firewater Pump	NO_x	10.54	0.53
		CO	0.70	0.03
		VOC	0.84	0.04
		PM	0.75	0.04
		PM_{10}	0.75	0.04
		$PM_{2.5}$	0.75	0.04
		SO_2	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_x - 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_{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
SO_2 - sulfur dioxide
NH_3 - ammonia
C_6H_6 - 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: July 13, 2020