Emission Sources - Maximum Allowable Emission Rates

Permit Number 22100

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)
S-5A	North Methane Heater	PM	0.01	0.04
		PM_{10}	0.01	0.04
		$PM_{2.5}$	0.01	0.04
		VOC	0.01	0.03
		NO_x	0.12	0.49
		CO	0.10	0.41
		SO_2	0.01	0.01
S-5B	South Methane Heater	PM	0.01	0.04
		PM_{10}	0.01	0.04
		$PM_{2.5}$	0.01	0.04
		VOC	0.01	0.03
		NO_x	0.12	0.49
		CO	0.10	0.41
		SO_2	0.01	0.01
S-6A	North Sulfur Heater	PM	0.06	0.23
		PM_{10}	0.06	0.23
		$PM_{2.5}$	0.06	0.23
		VOC	0.04	0.17
		NO_x	0.67	2.93
		CO	0.57	2.46
		SO_2	0.01	0.02

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S-6B	South Sulfur Heater	PM	0.06	0.23
		PM_{10}	0.06	0.23
		$PM_{2.5}$	0.06	0.23
		VOC	0.04	0.17
		NO_x	0.67	2.93
		CO	0.57	2.46
		SO_2	0.01	0.02
S-14	Unit 196 Reactor Heater	PM	0.01	0.05
		PM_{10}	0.01	0.05
		$PM_{2.5}$	0.01	0.05
		VOC	0.01	0.04
		NO_x	0.14	0.58
		CO	0.12	0.49
		SO_2	0.01	0.01
S-15	196 Unit Driers Regen Heater	PM	0.01	0.03
		PM_{10}	0.01	0.03
		$PM_{2.5}$	0.01	0.03
		VOC	0.01	0.02
		NO_x	0.07	0.30
		CO	0.06	0.26
		SO_2	0.01	0.01
S-17	Thermal Oxidizer	PM	0.11	0.50
		PM_{10}	0.11	0.50
		$PM_{2.5}$	0.11	0.50
		H_2S	0.20	0.88
		H_2S (S&S) (7)	0.34	--
		SO_2	378.96	603.39
		SO_2 (S&S) (7)	640.00	--
		NO_x	0.76	3.33

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		CO	42.22	63.33
		VOC	0.18	0.80
		Organic Sulfur/TRS	0.23	0.36
S-34	North Boiler	PM	0.22	0.93
		PM_{10}	0.22	0.93
		$PM_{2.5}$	0.22	0.93
		VOC	0.16	0.68
		NO_x	2.79	12.21
		CO	2.34	10.25
		SO_2	0.01	0.05
S-35	South Boiler	PM	0.25	1.06
		PM_{10}	0.25	1.06
		$PM_{2.5}$	0.25	1.06
		VOC	0.18	0.77
		NO_x	0.31	1.36
		CO	1.03	4.52
		SO_2	0.02	0.05
S-37	Unit 196 Hot Oil Heater (Volcanic)	PM	0.06	0.25
		PM_{10}	0.06	0.25
		$PM_{2.5}$	0.06	0.25
		VOC	0.05	0.18
		NO_x	0.38	1.64
		CO	0.63	2.75
		SO_2	0.01	0.02

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S-38	Unit 197 Hot Oil Heater	PM	0.07	0.30
		PM_{10}	0.07	0.30
		$PM_{2.5}$	0.07	0.30
		VOC	0.51	0.24
		NO_x	0.90	3.91
		CO	0.75	3.28
		SO_2	1.30	0.04
T-9606	Tank T-9606	VOC	3.96	0.67
T-9635	Tank T-9635	VOC	3.96	1.03
T-9662	Tank T-9662	VOC	2.89	0.64
T-8078	Tank T-8078	H_2S	0.02	0.01
		SO_2	0.33	0.14
V-8001	Sulfur Pit	H_2S	0.04	0.25
		SO_2	1.00	3.78
T-9705	Tank T-9705	VOC	0.20	0.01
P-FLR	Plant Flare	VOC	14.70	6.13
		SO_2	938.02	377.42
		SO_2 (S&S) (7)	500.00	--
		NO_x	4.67	9.16
		CO	20.19	36.49
		H_2S	6.40	27.90
		H_2S (S&S) (7)	5.44	--
F-180	180 Unit Fugitives(5)	VOC	0.23	1.02
		H_2S	0.16	0.68
F-196	196 Unit Fugitives (5)	VOC	0.26	1.13
		H_2S	0.01	0.06
F-197	197 Unit Fugitives (5)	VOC	0.35	1.53
		H_2S	0.09	0.40
F-293	293 Fugitives (5)	VOC	0.01	0.01

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		H_2S	0.06	0.28
F-HZWST	Hazardous Storage/Handling Fugitives (5)	VOC	0.07	0.31
		H_2S	0.01	0.02
F-WST-WTR	Wastewater	VOC	0.01	0.01
S-PYRO	Pyrolysis Furnace	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
		NO_x	0.03	0.03
		VOC	0.02	0.02
		SO_2	0.01	0.01
		CO	0.05	0.05
CT1, CT2, and CT3	Cooling Tower 1, 2, and 3	VOC	0.91	1.44
		H_2S	0.91	1.44
P-DEGR	Degreaser	VOC	0.47	1.02
P-REFRIG	Refrigerant Losses	non-VOC	0.34	0.75
TANKMAINT	Plant Maintenance (Storage Tank Degassing)	VOC	3.70	0.18
MSS	Maintenance	VOC	0.08	0.06
P-1	Painting and Blasting Area	VOC	6.59	2.10
		PM	0.78	0.59
		PM_{10}	0.03	0.17
		$PM_{2.5}$	0.03	0.17
P-2	Painting Operation	VOC	19.81	4.90
B-1	Abrasive Blasting	PM	2.54	0.46
		PM_{10}	0.60	0.11
		$PM_{2.5}$	0.60	0.11
PUMPDIESEL1	Firewater Pump No.1	NO_x	9.30	0.47
		CO	2.00	0.10

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		PM	0.66	0.03
		PM_{10}	0.66	0.03
		$PM_{2.5}$	0.66	0.03
		VOC	0.75	0.04
		SO_2	0.62	0.03
PUMPDIESEL2	Firewater Pump No. 2	NO_x	9.30	0.47
		CO	2.00	0.10
		VOC	0.75	0.04
		PM	0.66	0.03
		PM_{10}	0.66	0.03
		$PM_{2.5}$	0.66	0.03
		SO_2	0.62	0.03
T-DIESEL1	Diesel Tank	VOC	0.88	<0.01
T-DIESEL 2	Diesel Tank	VOC	0.44	0.01
T-DIESEL 3	Diesel Tank	VOC	0.09	<0.01
T-GASOLINE	Gasoline Tank	VOC	16.48	0.06
VC-9781	Vacuum Oil Storage Tank	VOC	0.78	<0.01
VH-0362	Brine Storage Tank	VOC	2.49	0.01
VH-9676	Hot Oil Storage Tank (6)	VOC	0.01	0.99
VH-9677	Hot Oil Storage Tank (6)	VOC	0.12	0.99
VH-9678	Hot Oil Storage Tank (6)	VOC	0.12	0.99
VH-9749	Hot Oil Storage Tank (6)	VOC	0.01	0.99
VH-9792	Hot Oil Storage Tank (6)	VOC	0.60	0.99
VH-9794	Hot Oil Storage Tank (6)	VOC	0.22	0.99
TTOTES1-4	Tote 1 - 4 Loading	VOC	1.22	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_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

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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
H_2S	-	hydrogen sulfide
TRS	-	total reduced sulfur

(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) Only 1 (one) hot oil tank shall be loaded at any given time.
(7) The short-term Start-up and Shutdown limits will apply only during planned Start-up and Shutdown.

Date: August 13, 2019