Emission Sources - Maximum Allowable Emission Rates

Permit Number 150465

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)
FLARE-1	Flare-1 (Pilot Gas and Truck Venting)	NO_X	1.37	1.11
		CO	11.11	6.58
		SO_2	0.01	0.05
		VOC	20.44	10.71
		H_2S	0.01	0.01
FLARE-2	Flare 2 Pilot Gas	NO_X	0.11	0.49
		CO	0.22	0.97
		SO_2	0.01	0.05
		VOC	0.01	0.01
		H_2S	0.01	0.01
H-101	Regen Gas Heater	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		NO_X	0.17	0.76
		CO	0.35	1.53
		SO_2	<0.01	0.02
		VOC	<0.01	<0.01
H-102	Heat Medium Heater	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		NO_X	0.42	1.85
		CO	0.84	3.70
		SO_2	0.01	0.04
		VOC	<0.01	<0.01

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H-103	Amine Regen Hot Oil Heater 1	PM	0.29	1.27
		PM_{10}	0.29	1.27
		$PM_{2.5}$	0.29	1.27
		NO_X	1.26	5.52
		CO	2.59	11.34
		SO_2	0.02	0.09
		VOC	0.21	0.92
H-104	Amine Regen Hot Oil Heater 2	PM	0.32	1.40
		PM_{10}	0.32	1.40
		$PM_{2.5}$	0.32	1.40
		NO_X	1.39	6.08
		CO	2.85	12.48
		SO_2	0.02	0.10
		VOC	0.23	1.01
H-105	Glycol Dehydrator Heater	PM	0.03	0.15
		PM_{10}	0.03	0.15
		$PM_{2.5}$	0.03	0.15
		NO_X	0.14	0.63
		CO	0.37	1.61
		SO_2	<0.01	0.01
		VOC	0.02	0.11
H-106	Amine Heater	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		NO_X	0.16	0.72
		CO	0.33	1.44
		SO_2	<0.01	0.02
		VOC	<0.01	<0.01
FUG-1	Fugitives (5)	VOC	4.43	19.39
		H_2S	0.21	0.91

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FUG-2	Pressurized Loading Fugitives (5)	VOC	1.76	1.85
EG-1	Generac SG230	PM	0.05	<0.01
		PM_{10}	0.05	<0.01
		$PM_{2.5}$	0.05	<0.01
		NO_X	0.02	<0.01
		CO	0.43	0.02
		SO_2	<0.01	<0.01
		VOC	0.31	0.02
EG-2	Generac SG400	PM	0.09	<0.01
		PM_{10}	0.09	<0.01
		$PM_{2.5}$	0.09	<0.01
		NO_X	0.12	0.01
		CO	0.72	0.04
		SO_2	<0.01	<0.01
		VOC	0.16	0.01
TK-1801	Used Lube Oil Tank	VOC	<0.01	<0.01
TK-1802	New Lube Oil Tank	VOC	<0.01	<0.01
TK-1803	Open Drain Tank	VOC	<0.01	<0.01
TK-1805A/B	Produced Water Tanks	VOC	0.32	1.60
TK-1812	Lube Oil Drain Sump	VOC	<0.01	<0.01
TK-1813	Open Drain Sump	VOC	<0.01	<0.01
TK-2801	Lean Amine Tank	VOC	<0.01	<0.01
TK-2802	Lean Amine Tank	VOC	<0.01	<0.01
TK-2803	Deionized Water Tank	VOC	<0.01	<0.01
TK-3801	New TEG Tank	VOC	<0.01	<0.01
TK-4801	Lube Oil Supply – Methanol	VOC	<0.01	<0.01
TK-4802	Lube Oil Supply – Refrigeration	VOC	<0.01	<0.01
TK-4901	Methanol Supply Tank	VOC	2.84	0.02
TK-4902	AGI Well – Methanol Supply Tank	VOC	1.42	0.02
TK-8100	Lube Oil Supply – VRU	VOC	<0.01	<0.01
L-1	Produced Water Loading	VOC	0.62	0.12

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		H_2S	0.01	0.01
MSS-FUG	MSS Fugitives – Routine WC1	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
		VOC	213.04	8.68
		H_2S	<0.01	<0.01
FLARE-1	MSS Flaring – Routine WC1	NO_X	20.61	1.31
		CO	71.69	7.57
		SO_2	51.55	3.91
		VOC	119.88	12.86
		H_2S	0.72	0.05
FLARE-1	Flare 1 – AGI Downtime WC1	NO_X	295.27	3.82
		CO	2531.71	29.79
		SO_2	11,755.93	87.09
		VOC	100.03	11.63
		H_2S	125.07	0.93
FLARE-1	Flare 1 - Purge Gas Startup	NO_X	400.40	0.05
		CO	3433.09	0.43
		SO_2	89.51	0.01
		VOC	144.83	0.02
		H_2S	0.95	0.01
FLARE-2	MSS Flare – AGI Well Comp. BD WC1	NO_X	2.63	0.54
		CO	21.79	1.40
		SO_2	147.43	2.99
		VOC	0.02	0.01
		H_2S	1.56	0.03
MSS-FUG	MSS Fugitives – Turnaround Blowdown	VOC	398.00	0.20
		H_2S	<0.01	<0.01
MSS-FUG	MSS Fugitives – Turnaround Startup	VOC	70.00	0.11
		H_2S	<0.01	<0.01
FLARE-1	MSS Flaring – Turnaround Blowdown WC1	NO_X	86.47	0.04

Emission Sources - Maximum Allowable Emission Rates

		CO	172.63	0.09
		SO_2	0.22	<0.01
		VOC	439.51	0.22
		H_2S	1.61	<0.01
FLARE-1	MSS Flaring – Turnaround Startup WC1	NO_X	97.25	0.05
		CO	194.17	0.10
		SO_2	0.13	<0.01
		VOC	383.90	0.49
		H_2S	1.06	<0.01
FLARE-3	Flare-3 Pilot Gas and Controlled Tank Truck Venting	NO_X	0.74	1.69
		CO	5.66	11.54
		SO_2	0.02	0.06
		VOC	10.23	20.02
		H_2S	0.02	0.02
FLARE-2	MSS Flare - AGI Well Comp. BD WC2	NO_X	2.63	0.54
		CO	21.79	1.40
		SO_2	147.43	2.99
		VOC	0.02	0.01
		H_2S	1.56	0.03
EG-3	Emergency Generator	PM	0.44	0.02
		PM_{10}	0.44	0.02
		$PM_{2.5}$	0.44	0.02
		NO_X	0.74	0.04
		CO	3.85	0.19
		SO_2	0.01	0.01
		VOC	0.21	0.01
H-3910	Hot Oil Heater (Train C)	PM	0.34	1.50
		PM_{10}	0.34	1.50
		$PM_{2.5}$	0.34	1.50
		NO_X	1.35	5.91
		CO	2.25	9.86

Emission Sources - Maximum Allowable Emission Rates

		SO_2	0.03	0.13
		VOC	0.25	1.08
H-3950	Hot Oil Superheater	PM	0.02	0.10
		PM_{10}	0.02	0.10
		$PM_{2.5}$	0.02	0.10
		NO_X	0.09	0.39
		CO	0.15	0.66
		SO_2	0.01	0.01
		VOC	0.02	0.07
H-5000	Stabilizer Heater	PM	0.10	0.42
		PM_{10}	0.10	0.42
		$PM_{2.5}$	0.10	0.42
		NO_X	0.38	1.66
		CO	0.63	2.77
		SO_2	0.01	0.04
		VOC	0.07	0.31
TK-C3901	Amine Sump	VOC	0.01	0.01
TK-6970	Used Oil Tank	VOC	0.01	0.01
TK-6971	New Oil Tank	VOC	0.01	0.01
TK-6975	Used Oil Tank	VOC	0.01	0.01
TK-3922	Glycol Tank	VOC	0.02	0.01
TK-2909	Lean Amine Tank	VOC	0.01	0.01
TK-2911	Lean TEG Tank	VOC	0.01	0.01
TK-2902	Open Drain Sump	VOC	0.01	0.01
TK-2912	Deionized Water	VOC	0.01	0.01
TK-1805C	Produced Water	VOC	0.32	1.60
TK-1805D	Produced Water	VOC	0.32	1.60
FUG-3	Fugitives (WC 2) (5)	VOC	1.40	6.15
		H_2S	0.17	0.75
FUG-4	Pressurized Truck Loading	VOC	1.76	3.47

Emission Sources - Maximum Allowable Emission Rates

L-2	Produced Water Loading	VOC	0.62	0.12
		H_2S	0.01	0.01
MSS-FUG-1	MSS Fugitives - Routine WC2	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
		VOC	16.18	0.70
		H_2S	1.74	0.01
FLARE-3	MSS Flaring (Flare-3) - Routine WC2	NO_X	20.61	1.89
		CO	71.69	12.54
		SO_2	17.38	0.25
		VOC	33.22	20.66
		H_2S	0.72	0.04
FLARE-1	Flare 1 – AGI Downtime WC2	NO_X	1.88	0.01
		CO	15.71	0.11
		SO_2	7718.31	87.09
		VOC	13.79	0.01
		H_2S	82.11	0.92
FLARE-3	Flare 3 - Purge Gas Startup	NO_X	400.40	0.05
		CO	3433.09	0.43
		SO_2	89.51	0.01
		VOC	144.83	0.02
		H_2S	0.95	0.01
FLARE-2	MSS Flare - AGI Well Comp. BD WC2 (Phase I)	NO_X	2.63	0.54
		CO	21.79	1.40
		SO_2	147.43	2.99
		VOC	0.02	0.01
		H_2S	1.56	0.03
MSS-FUG-2	MSS Fugitives - Turnaround Blowdown (Phase I)	VOC	14.00	0.01
		H_2S	0.03	0.01
MSS-FUG-2	MSS Fugitives Turnaround Startup (Phase I)	VOC	23.00	0.11
		H_2S	0.26	0.01

Emission Sources - Maximum Allowable Emission Rates

FLARE-3	MSS Flaring – Turnaround Blowdown (Phase I)	NO_X	14.06	0.01
		CO	28.06	0.01
		SO_2	0.05	0.01
		VOC	13.61	0.01
		H_2S	0.18	0.01
FLARE-3	MSS Flaring – Turnaround Startup	NO_X	1.58	0.01
		CO	3.16	0.01
		SO_2	0.01	0.01
		VOC	8.53	0.01
		H_2S	0.17	0.01
FLARE-3	Flare - 3 (AGI Well Downtime) (Phase I)	NO_X	440.96	3.97
		CO	3780.85	34.03
		SO_2	5948.49	53.54
		VOC	2.21	0.02
		H_2S	63.28	0.57
FLARE-3	Flare – 3 Turnaround Purge Gas Startup (Phase I)	NO_X	<0.01	0.05
		CO	<0.01	0.43
		SO_2	<0.01	0.01
		VOC	<0.01	0.01
		H_2S	<0.01	0.01
H-4711	AGE Hot Oil (Phase II)	PM	0.46	2.00
		PM_{10}	0.46	2.00
		$PM_{2.5}$	0.46	2.00
		NO_X	1.80	7.88
		CO	3.00	13.14
		SO_2	0.33	0.17
		VOC	0.04	1.45
H-4701	Regen Gas Heater (Phase II)	PM	0.07	0.33
		PM_{10}	0.07	0.33
		$PM_{2.5}$	0.07	0.33
		NO_X	0.29	1.28

Emission Sources - Maximum Allowable Emission Rates

		CO	0.49	2.14
		SO_2	0.05	0.03
		VOC	0.01	0.24
H-3920	Hot Oil Heater (Train D) (Phase II)	PM	0.34	1.50
		PM_{10}	0.34	1.50
		$PM_{2.5}$	0.34	1.50
		NO_X	1.35	5.91
		CO	2.25	9.86
		SO_2	0.25	0.13
		VOC	0.03	1.08
H-5001	Stabilizer Heater (Phase II)	PM	0.10	0.42
		PM_{10}	0.10	0.42
		$PM_{2.5}$	0.10	0.42
		NO_X	0.38	1.66
		CO	0.63	2.77
		SO_2	0.07	0.04
		VOC	0.01	0.31
TK – 4909	Lean Amine Tank	VOC	0.01	0.01
TK-6801	AGE Sump	VOC	0.01	0.01
TK-2901	Lube Oil Drain Sump	VOC	0.01	0.01
TK-2903	Used Lube Oil Tank	VOC	0.01	0.01
TK-2904	New Lube Oil Tank	VOC	0.01	0.01
TK-2905	Open Drain Storage Tank	VOC	0.01	0.01
TK-2906	Regeneration Lube Oil Tank	VOC	0.01	0.01
TK-4910	Demineralized Water Tank	VOC	0.01	0.01
TK-4911	Methanol Supply Tank	VOC	0.28	0.01
TO	Thermal Oxidizer	PM	0.05	0.23
		PM_{10}	0.05	0.23
		$PM_{2.5}$	0.05	0.23
		NO_X	0.05	2.19
		CO	0.43	1.88

Emission Sources - Maximum Allowable Emission Rates

		SO_2	3.56	15.57
		VOC	0.03	0.13
		H_2S	0.01	0.01
MSS-FUG-2	MSS Fugitives – Routine WC2	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
		VOC	0.46	0.01
		H_2S	0.14	0.01
FLARE-3	MSS Flaring (Flare-3) – Routine WC2 with AGE (Phase II)	NO_X	0.74	6.24
		CO	5.65	50.58
		SO_2	0.01	196.80
		VOC	10.23	20.04
		H_2S	0.01	2.09
FLARE-1	Flare-1 – AGI Downtime WC2 (Phase II)	NO_X	697.05	4.46
		CO	5975.9	35.3
		SO_2	11845.45	91.16
		VOC	265.29	20.04
		H_2S	126.02	0.97
FLARE-1	Flare-1 – AGI Downtime WC2 w/AGE (Phase II)	NO_X	0.74	1.11
		CO	5.65	6.58
		SO_2	0.01	0.05
		VOC	10.23	10.71
		H_2S	0.01	0.01
FLARE-2	MSS Flare - AGI Well Comp. BD WC2 (Phase II)	NO_X	2.63	0.54
		CO	21.79	1.40
		SO_2	147.43	2.99
		VOC	0.01	0.01
		H_2S	1.56	0.03
MSS-FUG-2	MSS Fugitives – Turnaround Blowdown (Phase II)	VOC	0.46	0.01
		H_2S	0.14	0.01
MSS-FUG-2	MSS Fugitives – Turnaround Startup (Phase II)	VOC	1.00	0.01

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		H_2S	0.01	0.01
FLARE-3	MSS Flaring – Turnaround Blowdown (Phase II)	NO_X	65.40	0.03
		CO	130.56	0.07
		SO_2	0.17	0.01
		VOC	136.41	0.07
		H_2S	0.86	0.01
FLARE-3	MSS Flaring – Turnaround Startup (Phase II)	NO_X	46.6	0.05
		CO	92.75	0.11
		SO_2	0.08	0.01
		VOC	127.06	0.15
		H_2S	0.38	0.01
FLARE-3	Flare-3 (AGI Well Downtime) (Phase II)	NO_X	308.65	4.46
		CO	2,645.74	35.30
		SO_2	10,124.15	91.16
		VOC	11.95	20.04
		H_2S	107.71	0.97
FLARE-3	Flare-3 (AGI Well Downtime w/ AGE) (Phase II)	NO_X	506.63	6.24
		CO	50.58	50.58
		SO_2	21,861.70	196.80
		VOC	12.90	20.04
		H_2S	232.58	2.09
FLARE-3	Flare-3 Turnaround Purge Gas Startup (Phase II)	NO_X	1.58	0.05
		CO	3.16	0.11
		SO_2	0.01	0.01
		VOC	8.53	0.15
		H_2S	0.17	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
CO - carbon monoxide
SO_2 - sulfur dioxide
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

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$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter

(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.

Date: September 20, 2022