Emission Sources - Maximum Allowable Emission Rates

Permit Number 97022

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)
HTR1	Regeneration Heater No. 1 (6)	VOC	0.10	0.44
		NO_X	0.65	2.87
		CO	1.12	4.91
		PM_{10}	0.14	0.61
		$PM_{2.5}$	0.14	0.61
		SO_2	0.03	0.12
HTR2	Regeneration Heater No. 2 (6)	VOC	0.10	0.44
		NO_X	0.65	2.87
		CO	1.12	4.91
		PM_{10}	0.14	0.61
		$PM_{2.5}$	0.14	0.61
		SO_2	0.03	0.12
HTR3	Regeneration Heater No. 3 (6)	VOC	0.10	0.44
		NO_X	0.65	2.87
		CO	1.12	4.91
		PM_{10}	0.14	0.61
		$PM_{2.5}$	0.14	0.61
		SO_2	0.03	0.12
	Regeneration Heaters 1,2&3 Cap (6)	VOC	0.20	0.88
		NO_X	1.30	5.74

Emission Sources - Maximum Allowable Emission Rates

		CO	2.24	9.82
		PM_{10}	0.28	1.22
		$PM_{2.5}$	0.28	1.22
		SO_2	0.06	0.24
HTR4	Regeneration Heater No. 4	VOC	0.09	0.38
		NO_X	0.40	1.75
		CO	0.96	4.20
		PM_{10}	0.12	0.52
		$PM_{2.5}$	0.12	0.52
		SO_2	0.02	0.10
HTR5	Regeneration Heater No. 5	VOC	0.39	1.69
		NO_X	1.79	7.84
		CO	4.30	18.82
		PM_{10}	0.53	2.34
		$PM_{2.5}$	0.53	2.34
		SO_2	0.11	0.46

Emission Sources - Maximum Allowable Emission Rates

HTR6	Regeneration Heater No. 6	VOC	0.09	0.38
		NO_X	0.40	1.75
		CO	0.96	4.20
		PM_{10}	0.12	0.52
		$PM_{2.5}$	0.12	0.52
		SO_2	0.02	0.10
HTR7	Regeneration Heater No. 7	VOC	0.39	1.69
		NO_X	1.79	7.84
		CO	4.30	18.82
		PM_{10}	0.53	2.34
		$PM_{2.5}$	0.53	2.34
		SO_2	0.11	0.46
WSAC1	WSAC System	PM_{10}	0.03	0.15
		$PM_{2.5}$	0.03	0.15
WSAC3	WSAC – Train 3	PM_{10}	0.27	1.20
		$PM_{2.5}$	0.01	0.01
WSAC4	WSAC – Train 4	PM_{10}	0.27	1.20
		$PM_{2.5}$	0.01	0.01
FUG	Process Fugitives (5)	VOC	0.90	3.95
FUG2	Expansion Process Fugitives (5)	VOC	0.91	3.98
FUG 4	Process Fugitives – Train 3 (5)	VOC	1.73	7.56
FUG 5	Process Fugitives – Train 4 (5)	VOC	1.73	7.56

Emission Sources - Maximum Allowable Emission Rates

FL-WARM	Flare	VOC	2.35	0.49
		NO_X	0.65	0.15
		CO	1.29	0.29
	Flare pilot and purge gas	VOC	0.14	0.03
		NO_X	2.56	0.62
		CO	2.15	0.52
		PM_{10}	0.19	0.05
		SO_2	0.02	0.01
FL-WARM-MSS	MSS	VOC	1142.17	4.26
		NO_X	314.12	1.19
		CO	627.10	2.37
FL-COLD	Flare	VOC	0.32	0.03
		NO_X	1.81	0.15
		CO	3.61	0.31
	Flare pilot and purge gas	VOC	0.10	0.03
		NO_X	1.78	0.45
		CO	1.49	0.38
		PM_{10}	0.13	0.04
		SO_2	0.01	0.01
FL-COLD-MSS	MSS	VOC	11.82	0.11
		NO_X	102.62	0.56
		CO	204.88	1.11

Emission Sources - Maximum Allowable Emission Rates

FLARE2	Flare	VOC	2.77	10.30
		NO_X	1.00	4.49
		CO	1.97	8.80
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
		SO_2	0.01	0.01
	MSS (9)	VOC	437.06	1.31
		NO_X	44.24	0.13
		CO	319.57	0.94
		SO_2	0.01	0.01
MSS Flare (9)	Portable Flare	VOC	437.06	1.31
		NO_X	44.24	0.13
		CO	319.57	0.94
		SO_2	0.01	0.01
Flare2 and MSS Flare Cap (9)	Flare controlled MSS hourly and annual cap	VOC	437.06	1.31
		NO_X	44.24	0.13
		CO	319.57	0.94
		SO_2	0.01	0.01
MSS-ATM	MSS	VOC	437.06	1.31
MSS-ATM2	MSS	VOC	16.24	0.06

Emission Sources - Maximum Allowable Emission Rates

ENG1	Emergency Fire Pump Engine	VOC	1.11	0.28
		NO_X	2.97	0.74
		CO	2.58	0.64
		PM_{10}	0.15	0.04
		$PM_{2.5}$	0.11	0.03
		SO_2	0.92	0.23
ENG2	Emergency Backup Generator	VOC	1.48	0.37
		NO_X	6.31	1.58
		CO	3.45	0.86
		PM_{10}	0.19	0.05
		$PM_{2.5}$	0.15	0.04
		SO_2	1.23	0.31
HTR1-MSS	Regeneration Heater No. 1 Startup and Shutdown Emissions (7)	NO_X	1.31	(8)
		CO	2.24	(8)
HTR2-MSS	Regeneration Heater No. 2 Startup and Shutdown Emissions (7)	NO_X	1.31	(8)
		CO	2.24	(8)
HTR3-MSS	Regeneration Heater No. 3 Startup and Shutdown Emissions (7)	NO_X	1.31	(8)
		CO	2.24	(8)
HTR1-MSS HTR2-MSS HTR3-MSS	Regeneration Heater Startup and Shutdown Emissions Cap (7)	NO_X	2.62	(8)
		CO	4.48	(8)
HTR4-MSS	Regeneration Heater No. 4 Startup and Shutdown Emissions	NO_X	0.80	(8)
		CO	1.92	(8)
HTR5-MSS	Regeneration Heater No. 5 Startup and Shutdown Emissions	NO_X	3.58	(8)

Emission Sources - Maximum Allowable Emission Rates

		CO	8.60	(8)
HTR6-MSS	Regeneration Heater No. 6 Startup and Shutdown Emissions	NO_X	0.80	(8)
		CO	1.92	(8)
HTR7-MSS	Regeneration Heater No. 7 Startup and Shutdown Emissions	NO_X	3.58	(8)
		CO	8.60	(8)
SITEWIDE	Sitewide Sources	Individual HAP Total HAPs		<10 <25

(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
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
HAP - hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
(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) Hourly and annual routine and MSS emissions from heater EPNs HTR1, HTR2, and HTR3 (excluding hourly NO_X and CO during MSS activities) shall not exceed the hourly and annual Regeneration Heater Cap.
(7) Hourly NO_x and CO emissions during MSS activities from heater EPNs HTR1, HTR2, and HTR3 shall not exceed the Regeneration Heater Startup and Shutdown Emissions Cap.
(8) Annual MSS NO_X and CO emissions from heater EPNs HTR1-MSS, HTR2-MSS, HTR3-MSS, HTR4-MSS, HTR5-MSS, HTR6-MSS, and HTR7-MSS shall not exceed the routine annual emissions (EPNs HTR1, HTR2,HTR3, HTR4, HTR5, HTR6, and HTR7).
(9) Controlled MSS emissions may be routed to Flare2 or MSS Flare, but combined flare MSS emissions may not exceed hourly and annual cap.

Date: August 20, 2014