Emission Sources - Maximum Allowable Emission Rates

Permit Number 914

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)
PK-1	Cracking Heater BA-100	VOC	1.17	4.58
		CO	13.00	47.82
		NO_x	17.20	63.78
		SO_2	0.13	0.50
		PM	1.10	4.29
		PM_{10}	1.10	4.29
		$PM_{2.5}$	1.10	4.29
PK-2	Cracking Heater BA-101	VOC	1.17	4.58
		CO	13.00	47.82
		NO_X	17.20	63.78
		SO_2	0.13	0.50
		PM	1.10	4.29
		PM_{10}	1.10	4.29
		$PM_{2.5}$	1.10	4.29

Emission Sources - Maximum Allowable Emission Rates

PK-3	Cracking Heater BA-102	VOC	1.17	4.58
		CO	13.00	47.82
		NO_X	17.20	63.78
		SO_2	0.13	0.50
		PM	1.10	4.29
		PM_{10}	1.10	4.29
		$PM_{2.5}$	1.10	4.29
PK-4	Cracking Heater BA-103	VOC	1.17	4.58
		CO	13.00	47.82
		NO_X	17.20	63.78
		SO_2	0.13	0.50
		PM	1.10	4.29
		PM_{10}	1.10	4.29
		$PM_{2.5}$	1.10	4.29
PK-5	Cracking Heater BA-104	VOC	1.17	4.58
		CO	13.00	47.82
		NO_X	17.20	63.78
		SO_2	0.13	0.50
		PM	1.10	4.29
		PM_{10}	1.10	4.29
		$PM_{2.5}$	1.10	4.29
PK-6	Cracking Heater BA-105	VOC	1.17	4.58
		CO	13.00	47.82
		NO_X	17.20	63.78
		SO_2	0.13	0.50

Emission Sources - Maximum Allowable Emission Rates

		PM	1.10	4.29
		PM_{10}	1.10	4.29
		$PM_{2.5}$	1.10	4.29
PK-8	Superheater BA-111	VOC	0.32	1.42
		CO	0.06	0.26
		NO_X	4.26	18.66
		SO_2	0.04	0.15
		PM	0.45	1.96
		PM_{10}	0.45	1.96
		$PM_{2.5}$	0.45	1.96
PK-9	Cracking Heater BA-106	VOC	1.17	4.58
		CO	13.00	47.82
		NO_X	17.20	63.78
		SO_2	0.13	0.50
		PM	1.10	4.29
		PM_{10}	1.10	4.29
		$PM_{2.5}$	1.10	4.29
PK-10	Cracking Heater BA-107	VOC	1.17	4.58
		CO	13.00	47.82
		NO_X	17.20	63.78
		SO_2	0.13	0.50
		PM	1.10	4.29
		PM_{10}	1.10	4.29
		$PM_{2.5}$	1.10	4.29

Emission Sources - Maximum Allowable Emission Rates

PK-11	Cracking Heater BA-108	VOC	1.17	4.58
		CO	13.00	47.82
		NO_X	17.20	63.78
		SO_2	0.13	0.50
		PM	1.10	4.29
		PM_{10}	1.10	4.29
		$PM_{2.5}$	1.10	4.29
PK-12	Cracking Heater BA-109, 190 MMBtu/hr, maximum	VOC	0.38	1.64
		CO	5.70	24.59
		NO_x	2.09	8.23
		SO_2	0.11	0.48
		PM	0.48	2.05
		PM_{10}	0.48	2.05
		$PM_{2.5}$	0.48	2.08
		NH_3	0.76	3.28
PK-14	Cracking Heater BA-99	VOC	1.23	4.81
		CO	13.7	50.22
		NO_X	23.38	60.35
		SO_2	0.13	0.52
		PM	3.13	12.07
		PM_{10}	3.13	12.07
		$PM_{2.5}$	3.13	12.07
PK-16	Flare CB-801 (6)	VOC	1125.57	18.40
		CO	628.86	25.91
		NO_X	159.06	40.83

Emission Sources - Maximum Allowable Emission Rates

		SO_2	0.01	0.01
PK-16M	Flare CB-801 SSM (6)	VOC	1773.00	11.95
		CO	1794.00	11.51
		NO_X	345.00	2.37
		SO_2	47.59	0.12
PK-19	Regeneration Heater BA-201	VOC	0.03	0.07
		CO	0.39	1.14
		NO_X	0.47	1.36
		SO_2	0.01	0.01
		PM	0.01	0.03
		PM_{10}	0.01	0.03
		$PM_{2.5}$	0.01	0.03
PK-23	Methanol Tank	VOC	2.24	0.06
PK-24	Analyzers	VOC	0.50	2.19
PK-30	Steam Stripper Carbon Beds	VOC	0.14	0.05
PK-33	Biocide Tank	VOC	0.26	0.01
PK-34	Dispersant Tank	VOC	0.23	0.01
PK-35	Inhibitor Tank	VOC	0.23	0.01
PK-36	Coke Separator Stack	PM	0.55	0.72
		PM_{10}	0.55	0.72
		$PM_{2.5}$	0.55	0.72
PK-37	Coagulant Tank	VOC	0.23	0.01
PK-38	Cooling Tower (5)	VOC	3.44	15.09
		PM	0.54	2.37

Emission Sources - Maximum Allowable Emission Rates

		PM_{10}	0.54	2.37
		$PM_{2.5}$	0.54	2.37
PK-39	Seal Tank	VOC	0.03	0.01
PK-41	Lube Oil Tank	VOC	0.01	0.01
PK-45	Anti-Foulant Tank	VOC	0.02	0.01
PK-49	Red Oil Inhibitor Tank	VOC	1.57	0.01
PK-51	Anti-Foulant Tank	VOC	2.26	0.02
PK-53	Dispersant Tank	VOC	0.01	0.01
PK-54	Dispersant Tank	VOC	0.12	0.01
PK-61	Storm Water Carbon Canister	VOC	0.15	0.23
PK-62	Tar Removal System	VOC	0.39	0.28
PK-63	DEHA Tank	VOC	0.03	0.01
PK-64	MOPA	VOC	0.09	0.01
PK-65	Brine Tank	VOC	0.01	0.01
PK-66	Bio-Surfactant Tank	VOC	1.63	0.01
PKA-8A	LAD Tank	VOC	0.80	1.29
PKA-8B	HAD Tank	VOC	0.60	0.49
PKA-12	Railcar Loading/Unloading	VOC	0.23	1.00
PKF-F13	Fugitives (5)	VOC	26.19	115.02
		NH_3	0.03	0.12
PKF-F33	Fugitives (5)	VOC	0.37	1.64
		SO_2	0.13	0.50
		PM	1.10	4.29
		PM_{10}	1.10	4.29

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	1.10	4.29
VAC-LOAD	Vacuum Loading of Tanks	VOC	1.17	0.01
TANK-DEGAS	Degassing of Tanks and Vessels	VOC	34.76	0.04
LOVOC-DEGAS	Degassing of Quench Tower, Quench Settler, and Caustic Units	VOC	0.51	0.01
LINE-DEGAS	Degassing of Lines in Railcar Unloading Area	VOC	0.01	0.01
VESSEL-DEGAS	Degassing of Vessels, Towers, Reactors, Heat Exchangers, and Process Lines	CO	0.01	0.01
		VOC	5.14	0.05
CARB-LOAD	Carbon Bed Changeouts	VOC	7.11	0.02
CARB-LOAD	Carbon Bed Changeouts	PM	0.24	0.01
		PM_{10}	0.12	0.01
CAT-LOAD	Catalyst and Mole Sieve Changeouts	PM	1.99	0.09
		PM_{10}	0.86	0.05
SLUDGE-LOSS	Standing and Purge Losses from Tanks and Vessels with a Sludge Heel	VOC	2.32	0.02
SLUDGE-LOAD	Vacuum Loading of Sludge and Wastewater	VOC	0.09	0.01
		NO_X	0.10	0.01
		CO	0.89	0.01
DRUM -LOAD	Loading of Sludge Solids from the Tar Box (PK-62) Into Drums	VOC	4.91	0.04
FUG-OELS	Fugitive Emissions from Open Ended Lines During Maintenance Activities	VOC	3.04	0.03
PKA-8AM	Roof Landing Loss Emissions from LAD Storage Tank and Tank Cleaning	CO	0.89	0.02
		NO_X	0.10	0.01

Emission Sources - Maximum Allowable Emission Rates

		VOC	8.54	0.10
PKA-8BM	Roof Landing Loss Emissions from HAD Storage Tank and Tank Cleaning	CO	0.89	0.02
		NO_X	0.10	0.01
		VOC	2.87	0.04
PK-16M	Flare CB-801 MSS (6)	CO	1794.16	93.74
		NO_X	383.56	19.94
		SO_2	49.55	4.69
		VOC	1772.94	94.64

(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
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 or less than 2.5 microns in diameter
CO -carbon monoxide
NH_3 -ammonia
(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 rates for the modes of flare operation are not additive. Annual allowable emission rates are additive. Flare CB-801SSM includes the emissions associated with cases outlined in the Table 8 of permit amendment application received on December 9 2014. Those cases are labelled on Table 8 as SHUTDOWN1, SHUTDOWNII, SHUTDOWNIII and STARTUP.

Flare CB-801MSS includes those emissions from the following MSS activities that were outlined in the January 2008 MSS application: MEOH injection, Regeneration of Ethylene Fractionator Feed Drier and the Purge Ethylene Fractionator Feed Drier, Regeneration/Swapping of Purifiers (FA-2204 A-B), Initial Shutdown (SD1), Taking feed out of the Heaters and System Clearing (SD2), Refrigeration Losses (SD3), and Startup (SU-1).

Date: January 4, 2016