Emission Sources - Maximum Allowable Emission Rates

Permit Number 55464

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 (4)	TPY (5)
Hourly Emission Rates for Phase I (Import/Export Operations)				
B-1A	Johnstone Heaters 155 MMBtu/hr	NO_x	1.71	-
		CO	2.79	-
		CO (SS)	3.63	-
		VOC	0.31	-
		PM_{10}	1.09	-
		$PM_{2.5}$	1.09	-
		SO_2	0.78	-
		H_2SO_4	0.06	-
B-1B	Johnstone Heaters 155 MMBtu/hr	NO_x	1.71	-
		CO	2.79	-
		CO (SS)	3.63	-
		VOC	0.31	-
		PM_{10}	1.09	-
		$PM_{2.5}$	1.09	-
		SO_2	0.78	-
		H_2SO_4	0.06	-
B-1C	Johnstone Heaters 155 MMBtu/hr	NO_x	1.71	-
		CO	2.79	-
		CO (SS)	3.63	-
		VOC	0.31	-
		PM_{10}	1.09	-
		$PM_{2.5}$	1.09	-
		SO_2	0.78	-
		H_2SO_4	0.06	-

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B-1D	Johnstone Heaters 155 MMBtu/hr	NO_x	1.71	-
		CO	2.79	-
		CO (SS)	3.63	-
		VOC	0.31	-
		PM_{10}	1.09	-
		$PM_{2.5}$	1.09	-
		SO_2	0.78	-
		H_2SO_4	0.06	-
B-1E	Johnstone Heaters 155 MMBtu/hr	NO_x	1.71	-
		CO	2.79	-
		CO (SS)	3.63	-
		VOC	0.31	-
		PM_{10}	1.09	-
		$PM_{2.5}$	1.09	-
		SO_2	0.78	-
		H_2SO_4	0.06	-
B-1F	Johnstone Heaters 155 MMBtu/hr	NO_x	1.71	-
		CO	2.79	-
		CO (SS)	3.63	-
		VOC	0.31	-
		PM_{10}	1.09	-
		$PM_{2.5}$	1.09	-
		SO_2	0.78	-
		H_2SO_4	0.06	-
B-1G	Johnstone Heaters 155 MMBtu/hr	NO_x	1.71	-
		CO	2.79	-
		CO (SS)	3.63	-
		VOC	0.31	-
		PM_{10}	1.09	-
		$PM_{2.5}$	1.09	-
		SO_2	0.78	-

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		H_2SO_4	0.06	-
B-1H	Johnstone Heaters 155 MMBtu/hr	NO_x	1.71	-
		CO	2.79	-
		CO (SS)	3.63	-
		VOC	0.31	-
		PM_{10}	1.09	-
		$PM_{2.5}$	1.09	-
		SO_2	0.78	-
		H_2SO_4	0.06	-
B-1J	Johnstone Heaters 155 MMBtu/hr	NO_x	1.71	-
		CO	2.79	-
		CO (SS)	3.63	-
		VOC	0.31	-
		PM_{10}	1.09	-
		$PM_{2.5}$	1.09	-
		SO_2	0.78	-
		H_2SO_4	0.06	-
K-7A	Waukesha 1,380 bhp	NO_x	0.61	-
		NO_x (SS)	3.00	-
		CO	6.08	-
		VOC	0.15	-
		PM_{10}	0.10	-
		$PM_{2.5}$	0.10	-
		SO_2	0.01	-
		H_2SO_4	<0.01	-
K-7B	Waukesha 1,380 bhp	NO_x	0.61	-
		NO_x (SS)	3.00	-
		CO	6.08	-
		VOC	0.15	-
		PM_{10}	0.10	-
		$PM_{2.5}$	0.10	-

Emission Sources - Maximum Allowable Emission Rates

		SO_2	0.01	-
		H_2SO_4	<0.01	-
K-7C	Waukesha 1,380 bhp	NO_x	0.61	-
		NO_x (SS)	3.00	-
		CO	6.08	-
		VOC	0.15	-
		PM_{10}	0.10	-
		$PM_{2.5}$	0.10	-
		SO_2	0.01	-
		H_2SO_4	<0.01	-
FLR (7)	Flare Normal Operations (Pilot + Purge Gas)	NO_x	0.80	-
		CO	4.00	-
		VOC	<0.01	-
		PM_{10}	<0.01	-
		$PM_{2.5}$	<0.01	-
		SO_2	0.01	-
		H_2SO_4	<0.01	-
FLR	Flare Export Operations	NO_x	67.93	-
		CO	367.52	-
		VOC	11.14	-
		PM_{10}	<0.01	-
		$PM_{2.5}$	<0.01	-
		SO_2	0.67	-
		H_2SO_4	0.05	-
FLR	Flare Gaseous Fuel Venting MSS	NO_x	0.81	-
		CO	4.40	-
		VOC	0.70	-
		SO_2	0.01	-
Annual Emission Rates for Phase I (Import/Export Operations)				
B-1 (A-H, J) K-7 (A-C)	Annual Emission Rate for Heaters, Compressors, and Flare	NO_x	-	23.10
		CO	-	80.01

Emission Sources - Maximum Allowable Emission Rates

		VOC	-	4.50
		PM_{10}	-	6.30
		$PM_{2.5}$	-	6.30
		SO_2	-	2.10
		H_2SO_4	-	0.16
B-1 (A-H, J) K-7 (A-C)	Annual SS Emission Rate for Heaters and Compressors	NO_x	-	0.48
		CO	-	0.61
		VOC	-	0.012
		PM_{10}	-	0.01
		$PM_{2.5}$	-	0.01
		SO_2	-	<0.01
		H_2SO_4	-	<0.01
Z-10 (8)	Emergency Air Compressor 200 bhp	NO_x	1.32	0.07
		CO	1.15	0.06
		VOC	0.50	0.025
		PM_{10}	0.07	<0.01
		$PM_{2.5}$	0.06	<0.01
		SO_2	0.41	0.02
		H_2SO_4	0.03	<0.01
Z-10TK	Diesel Tank for Emergency Air Compressor (EPN: Z-10) 100 gallon	VOC	0.52	<0.01
FUG (6)	Fugitives	VOC	0.16	0.71
FUG-BOGLIQ (6)	BOG Liquefication System Fugitives	VOC	0.01	0.05
Emission Rates for Phase II (Import Operations)				
Z-210 (8)	Emergency Air Compressor 400 bhp	NO_x	2.63	0.13
		CO	2.3	0.12
		VOC	1.0	0.05
		PM_{10}	0.13	0.01
		$PM_{2.5}$	0.12	0.01
		SO_2	0.82	0.04

Emission Sources - Maximum Allowable Emission Rates

		H_2SO_4	0.06	<0.01
Z-210TK	Diesel Tank for the Emergency Air Compressor (EPN: Z-210) 300 gallon	VOC	0.15	<0.01
FUG-PHII (6)	Phase II Fugitives	VOC	0.27	1.18
Ancillary Equipment for Phase I and II				
EG-1 (8)	Emergency Generator Process Area 755 bhp	NO_x	7.24	0.36
		CO	0.90	0.04
		VOC	0.10	0.01
		PM_{10}	0.08	<0.01
		$PM_{2.5}$	0.07	<0.01
		SO_2	0.31	0.02
		H_2SO_4	0.02	<0.01
EG-1TK	Diesel Tank for the Emergency Generator Process Area (EPN: EG-1) 400 gallon	VOC	0.40	<0.01
EG-ADMIN (8)	Emergency Generator Admin. Area 399 bhp	NO_x	3.12	0.16
		CO	0.19	0.01
		VOC	0.04	<0.01
		PM_{10}	0.03	<0.01
		$PM_{2.5}$	0.03	<0.01
		SO_2	0.82	0.04
		H_2SO_4	0.06	<0.01
EG-ADMINTK	Diesel Tank for the Emergency Generator Admin. Area (EPN: EG-ADMIN) 300 gallon	VOC	0.48	<0.01
EG-DOCK (8)	Emergency Generator Dock Area 364 bhp	NO_x	2.72	0.14
		CO	0.28	0.01
		VOC	0.04	<0.01
		PM_{10}	0.03	<0.01
		$PM_{2.5}$	0.03	<0.01
		SO_2	0.75	0.04

Emission Sources - Maximum Allowable Emission Rates

		H_2SO_4	0.06	<0.01
EG-DOCKTK	Diesel Tank for the Emergency Generator Dock Area (EPN: EG-DOCK) 200 gallon	VOC	0.52	<0.01
FWP (8)	Firewater Pump 660 bhp	NO_x	12.19	0.61
		CO	0.55	0.03
		VOC	0.07	<0.01
		PM_{10}	1.24	0.06
		$PM_{2.5}$	1.12	0.05
		SO_2	0.27	0.01
		H_2SO_4	0.02	<0.01
FWPTK	Diesel Tank for the Firewater Pump (EPN: FWP) 830 gallon	VOC	0.46	<0.01
MSS-FUG	Inherently Low Emitting Maintenance Activities	NOx	0.02	<0.01
		CO	0.01	<0.01
		VOC	0.19	0.03
		PM	0.05	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
MSS-FUG-GFV	Gaseous Fuel Venting to Atmosphere	VOC	154	0.30

(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
$PM_{2.5}$ - total particulate matter equal to or less than 2.5 microns in diameter
Note - PM, PM_{10}, and $PM_{2.5}$ emission limits are not additive.
CO - carbon monoxide
H_2SO_4 - sulfuric acid
(4) Planned startup and shutdown (SS) lbs/hour emissions for all pollutants are authorized even if not specifically identified as SS.

Emission Sources - Maximum Allowable Emission Rates

(5) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. Annual emission rates for each source include planned SS emissions unless separately noted.
(6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(7) Normal flare emissions are based on the pilot gas combustion emissions for 8,760 hours per year (hr/yr).
(8) Emission rates are based upon and the facilities limited to 100 hr/yr.

Date: October 28, 2014