Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 9403B and PSDTX627M2

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)
WG-CAP	Waste Gas Combustion Annual Emissions Cap	PM	---	202.9
		PM_{10}	---	121.74
		$PM_{2.5}$	---	87.25
		NO_x	---	628.3
		SO_2	---	5,821.2
		CO	---	1,307.5
		VOC (5)	---	50.7
		H_2S	---	52.6
		COS	---	13.9
		CS_2	---	20.7
		HCN	---	9.63
		BZ	---	0.51
1 INC	VOC Incinerator	PM	29.3	(6)
		PM_{10}	17.58	(6)
		$PM_{2.5}$	12.6	(6)
		NO_x	95.2	(6)
		SO_2	968.8	(6)
		CO	204.0	(6)
		VOC (5)	8.3	(6)
		H_2S	8.8	(6)

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		COS	2.3	(6)
		CS_2	3.5	(6)
		HCN	1.5	(6)
		BZ	<0.1	(6)
1A	Waste Heat Boiler	PM	29.3	(6)
		PM_{10}	17.58	(6)
		$PM_{2.5}$	12.6	(6)
		NO_x	95.2	(6)
		SO_2	968.8	(6)
		CO	204.0	(6)
		VOC (5)	8.3	(6)
		H_2S	8.8	(6)
		COS	2.3	(6)
		CS_2	3.5	(6)
		HCN	1.5	(6)
		BZ	<0.1	(6)
2	Dryer Filter No. 1	PM	1.0	(6)
		PM_{10}	0.6	(6)
		$PM_{2.5}$	0.43	(6)
		NO_x	1.2	(6)
		SO_2	12.3	(6)
		VOC (5)	0.1	(6)
		CO	2.6	(6)
		H_2S	0.1	(6)
		COS	<0.1	(6)

Emission Sources - Maximum Allowable Emission Rates

		CS_2	<0.1	(6)
		HCN	<0.1	(6)
		BZ	<0.1	(6)
2a	Dryer Filter No. 2	PM	1.0	(6)
		PM_{10}	0.6	(6)
		$PM_{2.5}$	0.43	(6)
		NO_x	1.2	(6)
		SO_2	12.3	(6)
		VOC (5)	0.1	(6)
		CO	2.6	(6)
		H_2S	0.1	(6)
		COS	<0.1	(6)
		CS_2	<0.1	(6)
		HCN	<0.1	(6)
		BZ	<0.1	(6)
3	Dryer Filter No. 3	PM	1.0	(6)
		PM_{10}	0.6	(6)
		$PM_{2.5}$	0.43	(6)
		NO_x	1.2	(6)
		SO_2	12.3	(6)
		VOC (5)	0.1	(6)
		CO	2.6	(6)
		H_2S	0.1	(6)
		COS	<0.1	(6)
		CS_2	<0.1	(6)

Emission Sources - Maximum Allowable Emission Rates

		HCN	<0.1	(6)
		BZ	<0.1	(6)
4	Dryer Filter No. 4	PM	1.0	(6)
		PM_{10}	0.6	(6)
		$PM_{2.5}$	0.43	(6)
		NO_x	67.5	(6)
		SO_2	12.3	(6)
		VOC (5)	0.1	(6)
		CO	2.6	(6)
		H_2S	0.1	(6)
		COS	<0.1	(6)
		CS_2	<0.1	(6)
		HCN	<0.1	(6)
		BZ	<0.1	(6)
9	Process Steam Boiler Stack	PM	3.0	(6)
		PM_{10}	1.8	(6)
		$PM_{2.5}$	1.29	(6)
		NO_x	12.1	(6)
		SO_2	123.3	(6)
		CO	26.0	(6)
		VOC (5)	1.1	(6)
		H_2S	1.1	(6)
		COS	0.3	(6)
		CS_2	0.4	(6)
		HCN	0.2	(6)

Emission Sources - Maximum Allowable Emission Rates

		BZ	<0.1	(6)
20	Carbon Black Dryer No. 1 Stack	PM	3.0	(6)
		PM_{10}	1.8	(6)
		$PM_{2.5}$	1.29	(6)
		NO_x	12.1	(6)
		SO_2	111.0	(6)
		CO	26.0	(6)
		VOC (5)	1.0	(6)
		H_2S	1.0	(6)
		COS	0.3	(6)
		CS_2	0.4	(6)
		HCN	0.2	(6)
		BZ	<0.1	(6)
21	Carbon Black Dryer No. 2 Stack	PM	3.0	(6)
		PM_{10}	1.8	(6)
		$PM_{2.5}$	1.29	(6)
		NO_x	12.1	(6)
		SO_2	111.0	(6)
		CO	26.0	(6)
		VOC (5)	1.0	(6)
		H_2S	1.0	(6)
		COS	0.3	(6)
		CS_2	0.4	(6)
		HCN	0.2	(6)
		BZ	<0.1	(6)

Emission Sources - Maximum Allowable Emission Rates

22	Carbon Black Dryer No. 3 Stack	PM	3.0	(6)
		PM_{10}	1.8	(6)
		$PM_{2.5}$	1.29	(6)
		NO_x	12.1	(6)
		SO_2	111.0	(6)
		CO	26.0	(6)
		VOC (5)	1.0	(6)
		H_2S	1.0	(6)
		COS	0.3	(6)
		CS_2	0.4	(6)
		HCN	0.2	(6)
		BZ	<0.1	(6)
23	Carbon Black Dryer No. 4 Stack	PM	3.0	(6)
		PM_{10}	1.8	(6)
		$PM_{2.5}$	1.29	(6)
		NO_x	12.1	(6)
		SO_2	111.0	(6)
		CO	26.0	(6)
		VOC (5)	1.0	(6)
		H_2S	1.0	(6)
		COS	0.3	(6)
		CS_2	0.4	(6)
		HCN	0.2	(6)
		BZ	<0.1	(6)
7	Rerun Line 2	PM	0.09	0.36

Emission Sources - Maximum Allowable Emission Rates

		PM_{10}	0.05	0.22
		$PM_{2.5}$	0.04	0.16
8	Rerun Line 1	PM	0.04	0.15
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.06
19	Packaging and Shipping	PM	0.56	2.34
		PM_{10}	0.33	1.4
		$PM_{2.5}$	0.24	1.01
24	Rerun Line 3	PM	0.04	0.15
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.06
25	Rerun Line 3	PM	0.04	0.15
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.06
26	Packaging and Shipping	PM	0.04	0.15
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.06
27	Rerun West System	PM	0.04	0.15
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.06
28	Sealed Bin Transloading	PM	0.09	0.40
		PM_{10}	0.06	0.24
		$PM_{2.5}$	0.04	0.17
16	Fugitives (7)	PM	2.13	8.93
		PM_{10}	1.28	5.36

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	0.91	3.84
11	CBO Tank 1	VOC	1.79	0.20
12	CBO Tank 2	VOC	1.79	0.20
13	CBO Tank 3	VOC	1.29	0.30
WG-FUG	Waste Gas System Fugitives (7)	NO_x	<0.01	<0.01
		SO_2	<0.01	0.03
		CO	0.41	1.72
		VOC (5)	0.02	0.10
		H_2S	<0.01	0.02
		COS	<0.01	0.01
		CS_2	<0.01	0.02
BLR-VENT	Cogen Boiler Planned Startup, Tailgas Vent to Atmosphere - MSS (8)	PM	0.22	<0.01
		PM_{10}	0.13	0.01
		$PM_{2.5}$	0.09	0.01
		NO_x	0.16	<0.01
		SO_2	1.41	0.02
		CO	123.43	1.85
		VOC (5)	4.99	0.04
		H_2S	1.12	0.02
		COS	0.68	0.01
		CS_2	0.86	0.01
		HCN	0.58	0.01
		BZ	0.03	<0.01
RX1-VENT, RX2-VENT, RX4-VENT, ~~RX5-VENT, and RX9-~~ VENT	Reactor Planned Startup, Combusted Natural Gas Vent to Atmosphere - MSS (9)	PM	0.27	0.10
		PM_{10}	0.27	0.1

Emission Sources - Maximum Allowable Emission Rates

		$PM_{2.5}$	0.27	0.1
		NO_x	3.60	1.30
		SO_2	0.02	0.01
		CO	3.02	1.09
		VOC	0.20	0.07
L1-VENT, L2-VENT, and L3-VENT	Unit Bagfilter Planned Startup, Combusted Natural Gas Vent to Atmosphere - MSS (9)	PM	0.27	0.10
		PM_{10}	0.27	0.1
		$PM_{2.5}$	0.27	0.1
		NO_x	3.60	1.30
		SO_2	0.02	0.01
		CO	3.02	1.09
		VOC	0.20	0.07
BAGFILTFUG	Bagfilter Changeout Fugitives - MSS (10)	PM	0.57	0.01
		PM_{10}	0.34	0.01
		$PM_{2.5}$	0.24	0.01
BRICKFUG	Re-bricking Fugitives - MSS (11)	PM	2.10	0.05
		PM_{10}	2.1	0.05
		$PM_{2.5}$	0.53	0.01
TG-FUG	Reactor Area Fugitives (7)	NO_x	0.01	0.01
		SO_2	0.01	0.02
		CO	0.33	1.37
		VOC	0.3	1.25
		H_2S	0.01	0.02
		COS	0.01	0.01
		CS_2	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

		BZ	0.01	0.01
		HCN	0.01	0.01
		Ethane	0.03	0.11
		Propane	0.01	0.01
		Acetylene	0.01	0.05

(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 to or less than 2.5 microns in diameter
CO - carbon monoxide
H_2S - hydrogen sulfide
COS - carbonyl sulfide
CS_2 - carbon disulfide
HCN - hydrogen cyanide
BZ - benzene
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 and a maximum operating schedule of 8400 hours per year.
(5) VOC includes (but is not limited to) Acetylene, COS, CS_2, HCN, and BZ.
(6) Annual emissions are regulated under the waste gas combustion annual emissions cap, WG-CAP.
(7) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(8) MSS emissions from Cogen Boiler startup do not occur simultaneously with production emissions from the boiler and are captured by EPN 1A.
(9) Startup and shutdown emissions of products of natural gas combustion are captured in the emission rates for EPNs 1 INC and WG-CAP.
(10) PM emissions from bagfilter changeouts do not occur simultaneously with production emissions from the corresponding unit and are captured by EPNs 1 INC and WG-CAP. Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(11) PM emissions from re-bricking are captured by EPNs 1 INC and WG-CAP. Production rates will be reduced to stay within the PM emission limits. Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: December 5, 2014