Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 1867A and PSDTX1032M1

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 (8)
1	Plant 1 No. 1 and No. 2 Dryer Purge Stack (7)	NO_x	1.58	6.49
		CO	3.39	13.94
		VOC	0.56	2.30
		PM_{10}	0.82	3.37
		SO_2	78.43	322.06
		H_2S	0.40	1.64
		CS_2	0.40	1.64
		COS	0.13	0.55
2	Plant 1 Secondary Filter Stack	PM	1.18	4.86
3	Plant 1 No. 3 and No. 4 Dryer Purge Stack (7)	NO_x	1.58	6.49
		CO	3.39	13.94
		VOC	0.56	2.30
		PM_{10}	0.87	3.56
		SO_2	78.43	322.06
		H_2S	0.40	1.64
		CS_2	0.40	1.64
		COS	0.13	0.55
103	Plant 1 Pulse Filter No. 1 Vent	PM	0.14	0.59
104	Plant 1 Pulse Filter No. 2 Vent	PM	0.14	0.59
106	Plant 1 Pulse Filter No. 3 Vent	PM	0.14	0.59
105	Plant 1 Pulse Filter No. 4 Vent	PM	0.14	0.59
107	Plant 1 Pulse Filter No. 5 Vent	PM	0.14	0.59

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (8)
74	Plant 2 No. 1, No. 2 and No. 3 Dryer Purge Stack (7)	NO_x	1.73	7.11
		CO	3.72	15.27
		VOC	0.56	2.30
		PM_{10}	0.88	3.58
		SO_2	78.43	322.06
		H_2S	0.40	1.64
		CS_2	0.40	1.64
		COS	0.13	0.55
76	Plant 2 Secondary Filter Stack	PM	1.37	5.61
78	Plant 2 No. 4, No. 5 and No. 6 Dryer Purge Stack (7)	NO_x	1.73	7.11
		CO	3.72	15.27
		VOC	0.56	2.30
		PM_{10}	0.98	4.02
		SO_2	78.43	322.06
		H_2S	0.40	1.64
		CS_2	0.40	1.64
		COS	0.13	0.55
108	Plant 2 Pulse Filter No. 1 Vent	PM	0.14	0.59
109	Plant 2 Pulse Filter No. 2 Vent	PM	0.14	0.59
110	Plant 2 Pulse Filter No. 3 Vent	PM	0.14	0.59
111	Plant 2 Pulse Filter No. 4 Vent	PM	0.14	0.59
112	Plant 2 Pulse Filter No. 5 Vent	PM	0.14	0.59

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (8)
119	Boiler Stacks Boiler 1 and 2 Common Stack (4)	NO_x	222.44	-
		CO	477.57	-
		VOC	21.03	-
		PM	59.03	-
		PM_{10}	41.79	-
		$PM_{2.5}$	41.79	-
121	Plant 1 Dryer Stack (7)	NO_x	46.60	-
		CO	322.03	-
		VOC	4.64	-
		PM	38.64	
		PM_{10}	26.86	-
		$PM_{2.5}$	26.86	-
122	Plant 2 Dryer Stack (7)	NO_x	84.84	-
		CO	322.03	-
		VOC	8.44	-
		PM	44.80	
		PM_{10}	31.14	-
		$PM_{2.5}$	31.14	-
119, 121, 122 Flare-1, Flare-2, Flare-3, and Flare-4	Cap for Boiler Stacks, Flares, and Dryer Stacks (4,6)	NO_x	-	1226.30
		CO	-	2632.76
		VOC	-	132.35
		PM		624.00
		PM_{10}	-	437.09
		$PM_{2.5}$	-	437.09

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (8)
119, 121, 122 Flare-1, Flare-2, Flare-3, and Flare-4	Cap for Boiler Stacks, Flares, and Dryer for Combined Sulfur (4,5,7)	SO_2	3607.88	14,814.84
		H_2S	18.42	75.62
		CS_2	18.42	75.62
		COS	6.14	25.21
C-1	Emergency Generator Engine 1	NO_x	5.57	2.44
		CO	3.87	1.70
		VOC	0.07	0.03
21	No. 1 Oil Preheater Stack	NO_x	0.09	0.40
		CO	0.08	0.40
		VOC	0.01	0.03
		PM_{10}	0.01	0.03
		SO_2	0.01	0.01
31	Carbon Black Oil Tank 1	VOC	0.01	0.02
32	Carbon Black Oil Tank 2	VOC	0.01	0.02
33	Carbon Black Oil Tank 3	VOC	0.01	0.02
34	Carbon Black Oil Tank 4	VOC	0.01	0.02
CBO SAMPLE	Feedstock (carbon black oil) Sampling	VOC	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (8)
BLACK SAMPLE	In-situ Carbon Black Sampling	PM	0.02	0.02
		PM_{10}	0.01	0.01
Maintenance, Startup, and Shutdown (MSS) Emissions				
Flare-1	Plant 1 Unit 1 Primary Bag Filter Flare (4,6)	NO_x	11.55	-
		CO	156.98	-
		VOC	12.11	-
		PM_{10}	15.47	-
Flare-2	Plant 1 Unit 2 Primary Bag Filter Flare (4,6)	NO_x	13.86	-
		CO	188.38	-
		VOC	14.53	-
		PM	18.56	-
Flare-3	Plant 2 Unit 3 Primary Bag Filter Flare (4,6)	NO_x	15.71	-
		CO	213.49	-
		VOC	16.47	-
		PM	21.04	-
Flare-4	Plant 2 Unit 4 Primary Bag Filter Flare (4,6)	NO_x	13.86	-
		CO	188.38	-
		VOC	14.53	-
		PM	18.56	-
		PM_{10}	18.56	-
		$PM_{2.5}$	18.56	-
RVS	Cap for Small Reactor Vents	NO_x	4.20	3.29
		CO	3.53	2.77
		VOC	0.23	0.20
		PM_{10}	0.32	0.25
		$PM_{2.5}$	0.32	0.25
		SO_2	0.03	0.02

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (8)
RVL	Cap for Large Reactor Vents	NO_x	2.50	4.04
		CO	2.10	3.40
		VOC	0.14	0.23
		PM_{10}	0.19	0.31
		$PM_{2.5}$	0.19	0.31
		SO_2	0.02	0.03
119	Boiler Stacks Boiler 1 and 2 Common Stack MSS (4)	NO_x	6.50	0.67
		CO	5.46	0.56
		VOC	0.36	0.04
		PM_{10}	0.50	0.05
		$PM_{2.5}$	0.50	0.05
		SO_2	0.04	0.01
121 and 122	Cap for Plants 1 and 2 Dryer Stacks MSS (7)	NO_x	3.50	1.02
		CO	3.00	0.86
		VOC	0.20	0.06
		PM_{10}	0.30	0.08
		$PM_{2.5}$	0.30	0.08
		SO_2	0.10	0.01
124	Tail Gas Fugitives	CO	4.62	18.38
		SO_2	<0.01	<0.01
		H_2S	0.03	0.13
		CS_2	0.01	0.04
		COS	0.01	0.02
		HCN	0.01	0.03
125	Carbon Black Fugitives	PM	0.68	2.70
		PM_{10}	0.03	0.10
		$PM_{2.5}$	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (8)
MSS Fugitive Emissions				
CanMSS	Solvent and Aerosol Can Usage	VOC	6.40	1.40
ORIFICE	Orifice Changeout	VOC	0.01	0.02
REFRACTORY	Recasting Furnace Refractory	PM	0.03	0.01
		PM_{10}	0.02	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) NO_x - total oxides of nitrogen
CO - carbon monoxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
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
SO_2 - sulfur dioxide
H_2S - hydrogen sulfide
CS_2 - carbon disulfide
COS - carbonyl sulfide
(4) Annual emissions from the boiler and dryer stacks and each flare must also comply with the annual cap of emissions for these sources. Annual emission caps were based upon a maximum production rate of carbon black not to exceed 391.7 million pounds per year.
(5) These emissions are the reduced sulfur compounds associated with combustion of the tail-gas. The combined reduced sulfur compounds from EPNs 119, 121, 122, Flare-1, Flare-2, Flare-3, and Flare-4 shall not exceed these rates. As previously authorized, the Dryers (EPNs 121 and 122) may burn up to 40 percent of the tail gas that flows to EPN 119 in addition to the natural gas-based emissions. The routed tail-gas may be burned in either Plant 1 or Plant 2 or both. **(1/06)**
(6) The flares are authorized only as backup control devices to the boilers during planned shutdown, maintenance, and startup of the steam turbine, boilers and tail-gas fans as authorized by the special conditions. Emission rates are based on and the facilities are limited by 840 hours per year at each flare. **(8/10)**
(7) Emission values for Dryer Purge Stacks (EPNs 1, 3, 74, and 78) have been altered to reflect increases in emissions that correspond with decreases in emissions in EPNs 121, 122, and 119/121/122 Flares due to rerouting of hot exhaust gases. **(1/08)**
(8) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

Date: July 21, 2020