Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 18999, PSDTX755 and N210
FINAL DRAFT

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)
4061-JT	Gas Turbine 4061 MSS	NO_X	70.00	2.16
		CO	30.00	0.72
		SO_2	0.68	0.02
		PM (13)	1.32	0.05
		PM_{10}	1.32	0.05
		$PM_{2.5}$	0.57	0.05
		VOC	0.42	0.06
4062-JT	Gas Turbine 4062 MSS	NO_X	70.00	2.16
		CO	30.00	0.72
		SO_2	0.68	0.02
		PM (13)	1.32	0.05
		PM_{10}	1.32	0.05
		$PM_{2.5}$	0.94	0.03
		VOC	0.42	0.06
4063-JT	Gas Turbine 4063 MSS	NO_X	70.00	2.16
		CO	30.00	0.72
		SO_2	0.68	0.02
		PM (13)	1.32	0.05
		PM_{10}	1.32	0.05
		$PM_{2.5}$	0.94	0.03
		VOC	0.42	0.06
4064-JT	Gas Turbine 4064 MSS	NO_X	70.00	2.16
		CO	30.00	0.72
		SO_2	0.68	0.02
		PM (13)	1.32	0.05
		PM_{10}	1.32	0.05
		$PM_{2.5}$	0.94	0.03
		VOC	0.42	0.06

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4065-JT	Gas Turbine 4065 MSS	NOx	70.00	2.16
		CO	30.00	0.72
		SO2	0.68	0.02
		PM (13)	1.32	0.05
		PM10	1.32	0.05
		PM2.5	0.94	0.03
		VOC	0.42	0.06
4061-JT	Gas Turbine 4061 Bypass Valve	NOx	0.23	0.87
		CO	0.10	0.29
		SO2	0.01	0.01
		PM	0.01	0.01
		PM10	0.01	0.01
		PM2.5	0.01	0.01
		VOC	1.52	0.01
		Ethylene	0.01	0.01
		Propylene	0.01	0.01
4062-JT	Gas Turbine 4062 Bypass Valve	NOx	0.23	0.87
		CO	0.10	0.29
		SO2	0.01	0.01
		PM	0.01	0.01
		PM10	0.01	0.01
		PM2.5	0.01	0.01
		VOC	1.52	0.01
		Ethylene	0.01	0.01
		Propylene	0.01	0.01
4063-JT	Gas Turbine 4063 Bypass Valve	NOx	0.23	0.87
		CO	0.10	0.29
		SO2	0.01	0.01
		PM	0.01	0.01
		PM10	0.01	0.01
		PM2.5	0.01	0.01
		VOC	1.52	0.01
		Ethylene	0.01	0.01
		Propylene	0.01	0.01
4064-JT	Gas Turbine 4064 Bypass Valve	NOx	0.23	0.87

Emission Sources - Maximum Allowable Emission Rates

		CO	0.10	0.29
		SO2	0.01	0.01
		PM	0.01	0.01
		PM10	0.01	0.01
		PM2.5	0.01	0.01
		VOC	1.52	0.01
		Ethylene	0.01	0.01
		Propylene	0.01	0.01
4065-JT	Gas Turbine 4065 Bypass Valve	NOx	0.23	0.87
		CO	0.10	0.29
		SO2	0.01	0.01
		PM	0.01	0.01
		PM10	0.01	0.01
		PM2.5	0.01	0.01
		VOC	1.52	0.01
		Ethylene	0.01	0.01
		Propylene	0.01	0.01
4026-U	Waste Heat Boiler/SCR1 Normal Operations	NO_X	41.86	169.7
		CO	38.07	166.71
		VOC (6)	10.97	47.99
		SO_2	9.33	40.88
		PM (13)	10.46	45.35
		PM_{10}	6.67	29.18
		$PM_{2.5}$	5.27	23.04
		NH_3	17.64	54.07
		H_2S	0.01	0.01
		Ethylene	0.91	4.04
		Propylene	0.65	2.83
	Waste Heat Boiler/SCR1 Maintenance, Startup, and Shutdown (MSS) Activities	NO_X	5.78	1.30
		CO	1.13	0.25
		VOC (6)	0.07	0.02
		SO_2	0.28	0.06
		PM_{10}	1.93	0.43
		$PM_{2.5}$	1.45	0.32
		NH_3	13.07	0.31

Emission Sources - Maximum Allowable Emission Rates

		H_2S	0.01	0.01
		Ethylene	0.01	0.01
		Propylene	0.01	0.01
1-103B	Regenerator Heater	NO_X	0.25	0.33
		CO	0.22	0.29
		VOC (6)	0.01	0.01
		SO_2	0.04	0.05
		PM_{10}	0.02	0.02
		PM2.5	0.02	0.02
		Ethylene	0.01	0.01
		Propylene	0.01	0.01
2205-1	Process Water Tanks	VOC	2.89	0.06
		Benzene	0.22	0.01
2205-2	Process Water Tanks	VOC	1.45	0.01
		Benzene	0.11	0.01
2300-1	Process Water Tanks	VOC	5.15	0.14
		Benzene	0.39	0.01
2300-2	Outfall Water Tanks	VOC	1.50	0.05
		Benzene	0.14	0.01
M-222	Storage Tank	VOC	0.08	0.23
		Butadiene	0.01	0.03
		Benzene	0.01	0.01
M-223	Storage Tank	VOC	0.08	0.23
		Butadiene	0.01	0.03
		Benzene	0.01	0.01
M-1002	Storage Tank	VOC	0.67	1.92
		Butadiene	0.21	0.61
		Benzene	0.11	0.32
T-136A	Storage Tank	VOC	1.89	0.08
T-136B	Storage Tank	VOC	1.21	0.04
4000-B	Charge Gas Heater/SCR2	NO_X	2.98	13.05
		CO	16.53	72.39
		VOC (6)	2.60	11.40
		SO_2	3.72	16.31
		PM (13)	1.86	8.16

Emission Sources - Maximum Allowable Emission Rates

		PM_{10}	1.40	6.12
		$PM_{2.5}$	1.05	4.59
		NH_3	2.01	8.80
		H_2S	0.01	0.01
		Ethylene	1.83	8.03
		Propylene	0.46	2.01
4000-B	Charge Gas Heater/SCR2 MSS Activities	NOx	29.80	1.07
		CO	2.80	0.10
		VOC (6)	2.00	0.07
		SO2	3.73	0.13
		PM (13)	1.86	0.07
		PM10	1.40	0.05
		PM2.5	1.05	0.04
		NH3	1.82	0.07
		H2S	0.01	0.01
		Ethylene	1.33	0.05
		Propylene	0.34	0.02
1-104BD	Auxiliary Boiler (227.5 MMBtu/hr, LHV)	NO_X (8) (PSD)	30.24	105.96
		CO (PSD)	20.74	72.67
		VOC (6)	1.92	6.71
		SO_2	1.26	4.42
		PM_{10} (PSD)	2.10	7.36
		PM2.5	2.10	7.36
		Ethylene	1.35	4.73
		Propylene	0.24	0.83
1-105A	Main Flare Normal Operations	NO_X	171.51	2.71
		CO	883.53	15.57
		VOC (12)	809.89	11.72
		SO_2	46.41	0.07
		H_2S	0.50	0.01
		Ethylene	84.03	1.54
		Propylene	419.9	6.22
		Butene	50.27	0.48
		Butadiene	33.51	0.08
		Benzene	28.49	0.08
	Main Flare MSS Activities	NO_X	87.70	11.50

Emission Sources - Maximum Allowable Emission Rates

		CO	447.00	58.60
		VOC (12)	670.00	44.88
		SO_2	24.00	2.77
		H_2S	0.27	0.02
		Ethylene	62.22	3.99
		Propylene	488.00	19.94
		Butene	48.80	6.38
		Butadiene	40.26	0.80
		Benzene	30.50	0.80
TO-STK	RTO Stack (10) Normal Operations	NO_X	0.10	0.28
		CO	0.08	0.23
		VOC	0.13	0.48
		SO_2	0.01	0.05
		PM_{10}	0.15	0.58
	RTO Stack (10) MSS Activities	NO_X	0.10	0.01
		CO	0.08	0.01
		VOC	5.21	0.01
		SO_2	0.01	0.01
		PM_{10}	0.01	0.01
DC-TANK	Fuel Tank	VOC	0.06	0.01
TO-TANK	Fuel Tank	VOC	0.06	0.01
185-F	Fuel Tank	VOC	0.02	0.01
187-F	Fuel Tank	VOC	0.02	0.01
F-1-101-U	Cooling Tower (5)	VOC (12)	2.72	2.98
		PM_{10}	0.08	0.36
		$PM_{2.5}$	0.04	0.18
		Ethylene	0.68	0.30
		Propylene	2.69	1.49
		Butene	0.01	0.01
		Butadiene	0.01	0.01
		Benzene	0.01	0.01
F-2401-UL	Cooling Tower (5)	VOC (12)	1.32	1.45
		PM_{10}	0.04	0.18
		$PM_{2.5}$	0.02	0.09
		Ethylene	0.13	0.15

Emission Sources - Maximum Allowable Emission Rates

		Propylene	0.66	0.73
		Butene	0.01	0.01
		Butadiene	0.01	0.01
		Benzene	0.01	0.01
F-1-L4	Loading Flare K/O	VOC	0.57	0.01
LD-SLUDGE	Loading CPI Sludge	VOC	0.24	0.01
LD-TAR	Loading Tar	VOC	2.63	0.08
ENG-R	RTO Compressor	NO_X	2.43	10.62
		CO	0.24	2.12
		VOC	0.08	0.34
		SO_2	0.49	0.99
		PM_{10}	0.23	1.06
BLOW-VENT	Blow Down Vents (11)	VOC	4.94	0.98
ANA-VENT	Process Analyzers Vent (9)	NO_X	0.01	0.01
		CO	0.01	0.01
		VOC (6)	0.05	0.23
		Propylene	0.02	0.08
V-1-L4	Propylene Truck Loading	VOC	0.24	0.40
V-2-L4	Propylene Rail Loading	VOC	0.12	0.03
267-F	Storage Tank	VOC	0.02	0.01
M-102A	Storage Tank	VOC	0.19	0.01
M-102B	Storage Tank	VOC	0.26	0.01
137-F	Storage Tank	VOC	0.01	0.01
179-F/797F	Fuel Tank	VOC	0.21	0.01
F-1-GB	Stormwater System	VOC	5.43	1.25
MAINT-METER	Meter Calibrations	VOC	0.01	0.01
PLANT	Plant Fugitives (5)	VOC (12)	11.51	49.06
		Ethylene	0.58	2.46
		Propylene	5.75	24.52
		Butene	0.11	0.49
		Butadiene	0.01	0.05
		Benzene	0.01	0.05
A-206	Regenerator Scrubber	VOC	0.67	0.01
TOTES	Containers	VOC	1.51	0.15
WTC	Containers	Caustic	1.39	0.14

Emission Sources - Maximum Allowable Emission Rates

LD-CAT	Catalyst Handling	PM_{10}	0.04	0.03
		$PM_{2.5}$	0.03	0.02
CAT-TRANSFER1	Catalyst Transfer	PM10	0.09	0.02
		PM2.5	0.06	0.02
CAT-CLEAR1	Catalyst Clearing	PM10	11.14	0.13
		PM2.5	8.35	0.10
PLANT NH_3	Ammonia Handling	NH_3	0.17	0.56
DEGR	Cold Solvent Cleaner	VOC	0.01	0.05
PLANT MSS	Process Systems MSS	VOC (12)	43.84	8.00
		Ethylene	2.83	0.52
		Propylene	18.84	3.44
		Butene	12.50	0.05
		Butadiene	0.50	0.01
		Benzene	1.00	0.01
PLANT MSS	Transfer System MSS	VOC	0.19	0.01
PLANT MSS	Storage System MSS	VOC	0.11	0.47
PLANT MSS	Tank M-1002 MSS	VOC	294.39	0.69
PLANT MSS	Tank M-223 MSS	VOC	31.25	0.04
PLANT MSS	Tank M-224 MSS	VOC	31.25	0.04
PLANT MSS	Blasting	PM (13)	0.12	0.02
		PM_{10}	0.03	0.01
		$PM_{2.5}$	0.01	0.01
PLANT MSS	Painting	VOC	13.01	1.59
		PM	0.25	0.06
		PM10	0.25	0.06
		$PM_{2.5}$	0.25	0.06
4030-EJ	Steam Eductor Maintenance, Startup, and Shutdown (MSS)	NO_X	2.00	0.01
		CO	191.00	1.15
		SO_2	0.10	0.01
		VOC (12)	260.00	1.56
		Ethylene	13.00	0.08
		Propylene	39.00	0.23
		Butene	2.60	0.02
		Butadiene	0.13	0.01
		Benzene	0.26	0.01

Emission Sources - Maximum Allowable Emission Rates

(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
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
NH_3 - ammonia
H_2S - hydrogen sulfide
(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) The VOC includes HRVOC chemicals; ethylene and propylene.
(7) Emissions vent to carbon canister when RTO is not in operation.
(8) The NO_X emission rate is based on the boiler firing plant fuel gas containing hydrogen.
(9) Emissions for analyzer vents AT9056, AT9057, AT9058, AT9059, AT9090, and AT9095 are included in EPN ANA-VENT.
(10) The following vents are routed to the RTO when the RTO is in operation: 2004-1 and 2004-2.
(11) The EPN BLOW-VENT (Facility Identification Nos 102C, 116J, 117J, 157F, and 210F) emissions represent normal operation values. Startup, shutdown, and maintenance emissions are not authorized from this EPN.
(12) The VOC includes HRVOC chemicals; ethylene, propylene, butene, and butadiene.
(13) The PM includes PM_{10} and $PM_{2.5}$.

Date: June 14, 2012
MAERT + Previous PBRs+Existing Source Changes Retained from 2013 MAERT